



Tips from Training & Safety

Wearing Your Helmet



The Morning Pride Ben Franklin 2 Helmet is worn by FDNY members

New York City firefighters have been wearing helmets for over two hundred years. A firefighter's helmet protects the skull, brain, neck, ears, eyes, nose, mouth and face. The helmet also serves as a symbol that a professional is on scene. **Wearing your helmet displays that you have pride in your profession.** Consider the following points.

- For the helmet to be most effective, it must be properly worn.
 - The chin strap is an integral part of the helmet. It will prevent the helmet from falling off the head. **FDNY members have been seriously injured and killed when their helmets have dislodged from their heads.**
 - Make certain the helmet fits with a good center of gravity, which is established by the intersection of the front and back suspension straps with the side straps.
 - **There should be little to no “play” either from side-to-side or front-to-back.** Make certain the profile or height of the helmet is as low as possible. This keeps it from being top heavy, adding greater strain to your neck.
 - The helmet should not interfere with creating a seal with the SCBA facepiece. Adjust the rear of the headband to sit below the occipital lobe or the knot at the base of your skull.
 - The helmet should fit low and evenly with a good center of gravity and with enough height so that your helmet isn't rubbing the tops of your ears.
- Objects, including bottles and bricks, have been thrown from rooftops at firefighters during routine responses. **Do not let your guard down during routine responses.**
- In 2021 an FDNY firefighter was struck by a falling AC window unit during a fire; **the member was properly wearing his helmet and did not suffer significant head/neck trauma.** [See Tips from Training – Member Struck by Falling AC Unit.](#)

Note: Some of the information in this tip was taken from [Fire Engineering: Know Your Gear – The Fire Helmet](#), by Cpt. Alex Langbell.

#31 of 2023 – 3/17/2023



Upper Floor Fires in High Rise Buildings – Supplying the Standpipe



Manhattan Box 124 – 2/19/23



Bronx Box 2-2 2478 – 2/20/23

Recent upper floor fires in HRFPM D's have emphasized the need for rapid water supply to augment the house supply. **A gravity tank system may not provide adequate water pressure at the standpipe outlet for an upper floor fire.** Ladder companies conducting searches should anticipate a possible delay in hoseline advancement and operate accordingly.

First alarm ECC's should team up to augment the system and take the following steps to supply a wet system:

- Hook-up to a serviceable hydrant with a large diameter hydrant connection
- Stretch and connect 3 ½" supply line to the buildings supply inlet. Primarily the FDC, or the first-floor outlet if the FDC is unserviceable.
- Connect supply line to suitable discharge on pumper apparatus.
 - #4 or #7 4 ½" discharges on standard pumpers.
 - #6 on high pressure equipped pumpers, when higher pressures are required.
 - #8 or #9 on Third stage pumpers when the Third stage will be required.
- Engage the pump.
- Prime the pump.
- Operate the transfer valve to engage the second stage (pressure).
- When required and if so equipped pull 3rd stage handle.
- Open selected discharge **Prior to engaging the Pro-Pressure Governor**, to fill the supply hose and dry part of the standpipe system while at 'IDLE' to prevent running away from water or damaging the system with a water hammer.
- Communicate to operating unit that the system will now be pressurized.
- Engage the Pro-Pressure Governor and set to proper pressure.
 - 105psi plus 5psi for every floor above grade.



Natural Gas Detectors



Detectors installed where service enters building

Recently FDNY units responded to a Con Ed Natural Gas Detector indicating that the 10% LEL (lower explosive limit) had been reached. Units arrived and discovered fire in the building and transmitted signal 10-75; an all-hands assignment was used to control this fire. There was no indication that a gas leak was present. Consider the following points regarding these responses.

- **There have been several responses to natural gas detectors that have turned out to be structure fires. While designed to alarm for natural gas leaks, these devices have been known to alarm when exposed to smoke conditions as well. Do not let your guard down; wear all of your PPE including SCBA.**
- Upon confirmation of 10% LEL from a Con Ed natural gas detector the dispatcher will make an announcement for all units on the response ticket to respond in emergency mode.
- If a detector is not discovered in the given address, it might be in a nearby occupancy/exposure. There are often several addresses associated with a commercial occupancy, especially if they front on more than one street.
- FDNY units have forced entry to investigate these alarms and discovered occupants sleeping in the upper floors, unaware of the alarm. After forcing entry into the building, we must announce our presence VERY LOUDLY.
- Methane from sewer gas has been known to trigger these detectors, especially during/after periods of heavy rain.
- Natural Gas Detectors are designed to detect gas leaks in the immediate area of the service pipe. The detector's alarm may not sound in the event of a natural gas leak in a remote area of a home or building. Doors or other obstructions may also affect the rate at which natural gas reaches the Natural Gas Detector.



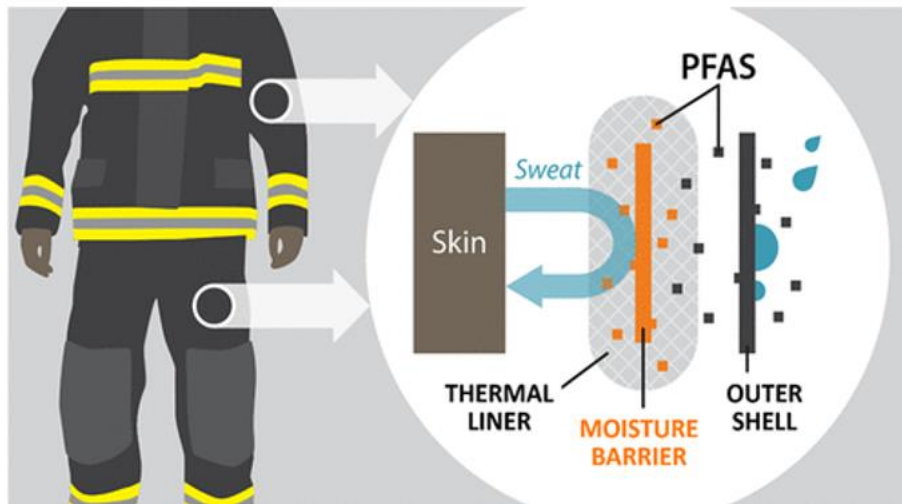
Tips from Training & Safety



Know Your Gear – Pathways for Exposure - PFAS



[Link to Study](#)



Note: This tip was first issued on July 7th, 2020, shortly after a scientific study was released confirming the presence of polyfluorinated alkyl substances (PFAS) in turnout gear. PFAS are added to the textiles that are used in turnout gear to provide water and oil resistance. Textiles used as firefighter turnout gear were found to have high levels of total fluorine (up to 2%), and individual PFAS were identified and measured on new and used firefighting turnout gear. **Importantly, exposures to PFAS's have been linked to several types of cancer firefighter's contract more often than the general public.**

Listed below are some simple common-sense contamination reduction strategies firefighters can take today:

- Respect and better understand your gear.
- Wash your hands after you use or touch your bunker gear and before eating.
- Never transport bunker gear in your vehicle unless it is in your department issued gear bag.
- Shower and change into clean station wear following a fireground exposure to smoke.
- Keep bunker gear out of living areas of the firehouse.
- Do not store bunker gear in your home.
- Regularly send your bunker gear out for cleaning.
- Properly store your bunker gear - including your 2nd set of bunker gear.
- Wear bunker gear when required - not while picking up the meal, during hydrant or building inspection.

REDUCE YOUR RISK - CANCER IS THE NUMBER ONE KILLER OF FIREFIGHTERS



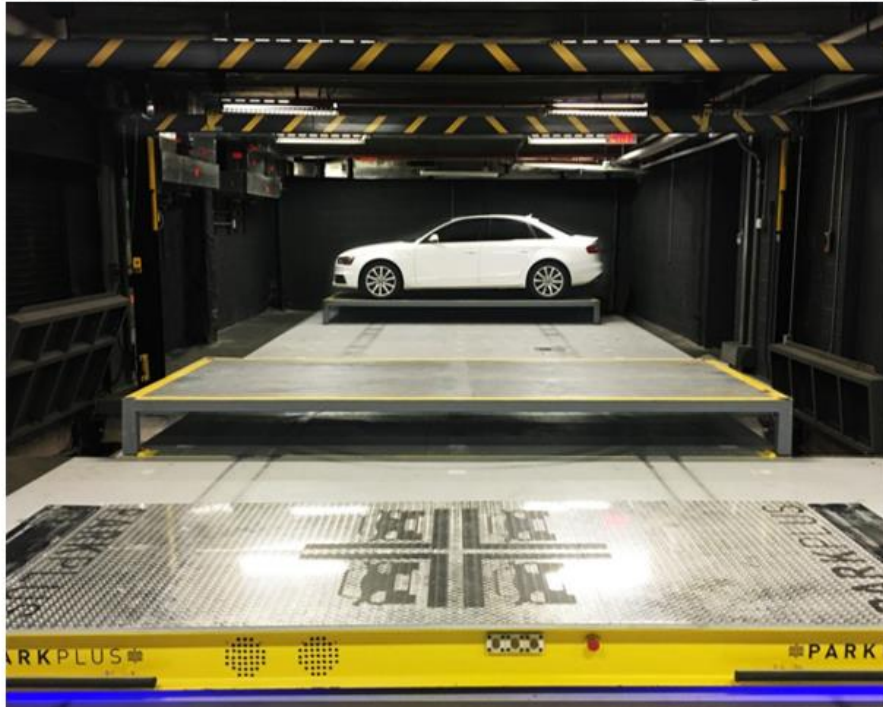
Tips from Training & Safety



Automated Guided Vehicle Parking Systems



[AGV Locations in NYC](#)



[Video of AGV System](#)

Automated guided vehicle (AGV) based parking systems are increasingly being installed in NYC. These systems are 100 percent automated; the vehicle is parked without the assistance of a parking attendant. The AGV system uses self-charging battery operated robotic devices to deliver vehicles from a booth (near the entrance) into a secure storage vault. Consider the following points:

- Drivers pull into the garage to a private vehicle booth that is outfitted with an array of lasers, scanners, cameras, and display monitors to assist drivers coming in. After shutting the vehicle off and getting out, the system is activated at the touch-screen kiosk in an adjacent private lobby; the car is then transferred to the vault via a lift and AGV. Drivers do not have access to the vault area.
- Vehicles are retrieved in a similar manner; the driver simply requests the vehicle to be brought to the private booth via the kiosk. Video display screens allow the driver to view the entire process.
- Firefighting concerns/recommendations:
 - Although these systems are fully automated and have various safety features, there always is a chance that they may malfunction and cause a fire/emergency. It can be assumed that these robotic devices are powered by lithium-ion batteries.
 - **No one is on site to direct firefighters to stairwells that access the storage vault.**
 - AGV garages are usually located in luxury MD's. Heavy smoke conditions from a vehicle fire may permeate through to floors above.
 - Expect luxury cars to be stored at these locations, including electric vehicles (EV). **Some AGV garages offer automated charging.** A serious EV fire below grade may be extremely difficult to control and may overwhelm a sprinkler system.
 - It is imperative that these locations are documented on eCIDS; **note access to the storage vault and sprinkler FDC's.** See QR/link above for a list of garages.

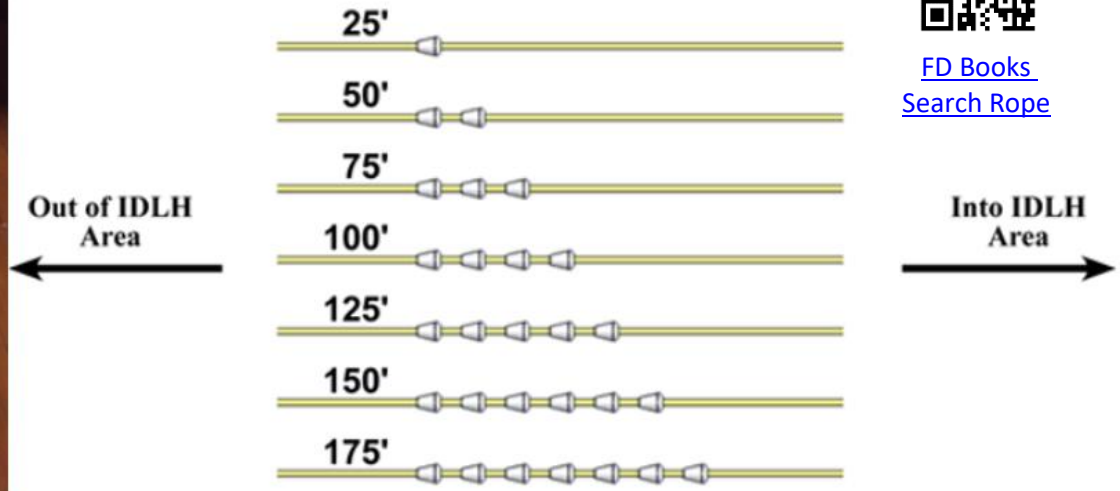
#22 of 2023 – 3/03/2023



Tips from Training & Safety



Search Rope Review



[FD Books Search Rope](#)

The search rope uses a series of plastic markers to identify both direction and distance

The Search Rope is used as a supervisory tool to **maintain search team integrity**. It can be used in, but not limited to the following areas:

- Large areas such as gymnasiums, ballrooms, convention centers, parking garages, etc.
- Complex areas such as schools, banks, office areas, commercial/industrial buildings, etc.
- Below grade areas such as subways, tunnels, cellars.

The Search Rope shall be deployed to the above locations **even in light to moderate heat/smoke conditions** since conditions can deteriorate rapidly. The Thermal Imaging Camera should be used in conjunction with the search rope.

Advantages of Search Rope Deployment:

- Allows the ladder company to begin a search of the immediate fire area more rapidly and assist the engine company in reaching the fire location.
- Assists in searching more efficiently and safely for fire and/or victims in an IDLH atmosphere.
- **Provides a point of reference to guide members in and out of an area.**
- Allows the FAST unit to quickly locate and assist a member in distress.
- Allows additional members to quickly locate searching members needing assistance with victim removal, additional tools or equipment, etc.

For further review see link/QR above to FD Books: Training Bulletin: Rope 6



Tips from Training & Safety



Chemical Suicide Incidents



FDNY Haz-Mat units operate on East 56th Street in Manhattan – 3/5/23

Yesterday, Manhattan units operated at what appears to be a chemical suicide. The patient was discovered lifeless in an automobile surrounded by an assortment of chemicals. **The first arriving NYPD officers were treated for exposure.** These events pose a significant risk to first responders due to the uncontrolled release or production of toxic fumes. Consider the following points:

- **4 out of 5 chemical suicide calls nationwide result in illness or injury to first responders.**
- Most chemical suicides occur in vehicles; however, homes should never be ruled out. Often, patients post signs to warn first responders of the hazards they may encounter when arriving on scene. **All warnings must be taken seriously.**
- **Hydrogen Sulfide, Hydrogen Cyanide, Carbon Monoxide, Carbon Dioxide, and Helium** are some of the most common chemicals used to assist a chemical suicide.
- Hydrogen Sulfide (**H₂S**) is very easily created by mixing a **strong acid** (sulfuric acid and muriatic acid) and a **sulfur-based product** (dandruff shampoo, lime sulfur).
- The presence of empty containers and a strong odor of **rotten eggs** are an indicator that H₂S is present. Less than 200 ppm can result in death. Any indication that H₂S is present should be considered a threat to first responders, and they should immediately leave the area.
- The use of “**suicide bags**” or “**exit bags**” also pose a significant risk to first responders. Patients will connect tubing to a canister containing a **simple asphyxiant** such as **helium or carbon dioxide**.
- The tubing will run into a bag that has been placed over the patient’s head, resulting in **death by asphyxiation**. It’s important to remember that the **valve on the container will still be open** and can cause harm to responding crews.



Tips from Training & Safety



Roll Down Gate Secured at a Recent 5th Alarm



Queens Box 5-5 7810 – 3/7/2023

Last night in Queens a fast-moving 5th alarm fire quickly spread to several private dwellings. The alley between the two fire buildings contained a roll down gate for security. To secure this gate, units placed a portable ladder under the gate to prevent the possibility of the gate coming down on firefighters or their hose lines (right photo above). Consider the following regarding roll down gates.

- **At an operation, consider placing a portable ladder under an open roll down door to prevent the door from coming down.**
- When possible, members should avoid standing under an open roll down door.
- Roll down gates also pose a danger while in the closed position; frequently, the bolts connecting the gate to the building's brickwork are severely rusted. A gate can collapse outward, potentially crushing anyone in its path of descent. **Upon arrival, examine the integrity of these connection points.**
- We must also secure similar overhead barriers such as garage doors. Electric garage door motors have activated during fires and caused doors to descend, **trapping and killing firefighters**. See tip #51 of 2022 - [Garage Door Hazards](#).

#25 of 2023 – 3/8/2023



Tips from Training & Safety



360-Degree Size Up



Wind Impacted Fire at Queens Box 5-5 7810 – 3/7/2023

Several recent serious private dwelling fires highlight the critical need to take a more cautious approach to these fires when wind is a factor. Wind has long been an important consideration during size up. This has not changed and in fact has become increasingly more important with modern contents with significantly increased energy stored and heat release rates. Consider the following points on size up.

- When entering a structure or initiating a fire attack, knowing the wind direction is a critical fireground factor.
- Knowing whether the wind is at your back (windward side) or if you are going against the wind (leeward side) is a key size-up factor.
- A size up always includes all four sides of the structure. This can be referred to as a 360-degree size up. Exposure 3 should never be “unknown”.
- This does not mean that a single person must see all sides of the structure. In the FDNY this is often not possible or practical due to the diverse urban built environment that is unique to New York City.
- However, this is why FDNY procedures specifically assign our members to critical positions that quickly cover all four sides of the structure to provide a 360-degree size up.
- Radio reports received from members assigned or operating on the sides of the structure are critical to the success of the early operations – especially when wind may be impacting fire operations.
- This size up and the information reported back to the Incident commander – Often the 1st arriving engine or ladder officer arriving before the chief must be used to drive initial tactical decision making.
- When wind is impacting operations we must consider alternate strategies – this includes quickly positioning hoselines to have the wind at our back or from a flanking position. When wind is blowing from the rear of the structure towards the front, a hoseline should attempt access from the rear.

#27 of 2023 – 3/10/2023



Tips from Training & Safety



Keeping the Wind at Your Back – Windward Side Fire Attack



[Video – Keeping the Wind at Your Back](#)



Wind Impacted Fire at Staten Island Box 4-4 3593 – 2/17/2023

Several recent wind impacted private dwelling fires highlight the critical need to take a more cautious approach to these fires. We must ensure that we are entering and/or extinguishing fire from the upwind or windward side. Wind has long been an important consideration during size up. This has not changed and in fact has become increasingly more important with modern petroleum-based contents. Consider the following points on hoseline placement when wind is a factor.

- **Windward is for winners – Leeward is for losers** – Attack the fire in the most effective manner that accounts for member and occupant safety.
- Entering a fire downwind (leeward side) is the equivalent of attempting to push water up the tailpipe of a running vehicle.
- Remember, as the winds increase, the fire growth and speed of spread will increase as well.
- When windy conditions are encountered, we need to implement alternate procedures to put the wind at our backs. Entering with the wind at our backs also protects our members for the possibility of a window failing, which may place members in grave positions within the flowpath.
- Fuels found in the modern fire environment have evolved. This is due to the petrochemical-based plastics used to make most consumer products.
- Low mass synthetic fuels (plastics) have high heat release rates and decompose rapidly during a fire. They produce large quantities of super-heated smoke and gases which rapidly fill the compartment.
- These fires are often air regulated with growth dependent on how much outside air enters the structure. When windy conditions are encountered this will have a major impact on the fires heat release rate and growth.



Tips from Training & Safety

Wind Advisory Radio Announcement



Wind Impacted Fire at Queens Box 5-5 6068 – 6/17/2022

On February 27th, 2023, the FDNY issued a new fire dispatcher standard operating guideline (guide 400-17). This was in response to several serious private dwelling fires that were negatively impacted by wind. Wind has long been an important consideration during size up. This has not changed and in fact has become increasingly more important with modern contents. ***We must be ever mindful of the wind and the impact on our fire operations. Below are the important points of the new dispatcher guideline.***

- When it has been declared by FDOC that a wind advisory is in effect for the 9x6 or 6x9 tour, the following radio procedure shall be conducted for responses to structural fires (Reporting Fire/Smoke/Odor of Smoke).
- ANNOUNCEMENT OF WIND ADVISORY
- While responding, the 1st Due Battalion Chief shall be notified via the department radio of the following:

“Battalion XX, be advised a wind advisory is in effect; winds of this magnitude can have negative effects at fire operations.”

NOTE: FDOC uses 20 mph gusts (or sustained) as a threshold for this new guideline. When wind speed is 10-20 mph, they will also send out a teleprinter message.

All responding members must be mindful of the impact of wind on fire operations. Wind speeds of 10 mph or greater can severely impact fire operations.



Tips from Training & Safety



Two Fully Involved Vacant Private Dwellings



Bronx Box 4-4 2528 - 3/22/23

Early this morning in the Bronx, units arrived at two fully involved vacant private dwellings; this required an immediate multiple alarm assignment. There was fire extension into an occupied exposure (5-story non-fireproof building). A fourth alarm assignment was used to control this fire. This tip was developed to review operations at vacant building fires.

- We must prepare for fires in vacant buildings by documenting the buildings on eCIDS and by properly marking the building. [See tip #19 of 2022, Vacant Building Markings.](#)
- **When determining an initial attack strategy at vacant building fires a risk assessment must be performed; the highest priorities are members' safety and the life hazard.** [See tip #18 of 2022 – Initial Attack Strategies at Vacant Building Fires.](#)
- Collapse is a major concern when arriving to fully involved wood framed building fires. **Last year in Baltimore, MD, three firefighters were killed during a collapse in a fully involved vacant building fire when they attempted an interior attack.** [See tip #20 of 2022 – Wood Floor Collapse.](#)
- Emphasis should be on protecting occupied exposures while employing LCS's on the fully involved structures. Consider the use of the deckpipe on arrival. [See tip #15 of 2022 – Deck Pipe.](#)
- Whenever tower ladders are operating and members are nearby, extreme caution must be used. The force of TL streams can injure members or precipitate a collapse. [See tip #104 of 2022 – Tower Ladder Stream Safety.](#)

#32 of 2023 – 3/22/2023



Tips from Training & Safety



Fire Duty in Queens



Concurrent multiple alarms in Queens on 3/20/2023

Firefighters in the boro of Queens have operated at approximately 25 all-hands or greater fires in the last week. This includes a 4th alarm cockloft fire in a large H-type MD and a 3rd alarm fire in two private dwellings; these fires occurred within a short period of time from one another. **Several relocated companies have operated at fires during their relocation.** Consider the following points:

- The City of New York contains some of the most diverse types of buildings in the world. From vacant PD's to Mega Hi-Rise buildings, the FDNY covers it. **All members must be prepared to operate in any type of structure.**
- There is a plethora of learning material about fire operations in every building type. DiamondPlate, WNYF, The Learning Management System (LMS) and Tips from Training books are just some of the many resources available. **Strive to be better; this can be achieved by reading something fire related every tour.**
- It is critical that as a member of the FDNY team you stay current in our procedures, **there is a chance that you may start the tour in Lower Manhattan and find yourself operating first due in Northern Queens by noon.**
- Understand that the process along with our procedures drives outcomes - **knowing your job is central to this process.**
- When multiple incidents are occurring at the same time, increased caution must be used while responding to alarms. **Apparatus may be responding out of sequence and from other than normal response routes.**
- Increased fire duty also raises our exposure to fire ground toxins. The FDNY decontamination support unit does a tremendous job with quickly cleaning turnout gear. **Cleaning your gear after every fire will increase your chance of staying healthy.**



Tips from Training & Safety



Water Tank Fire in Midtown



Manhattan Box 3-3 775 – 6/10/2023

Yesterday, units in Midtown Manhattan operated at a fire involving a water tank that was located on the roof of a 3-story setback of a hi-rise building. The fire caused minor extension to an adjoining hi-rise. **The roof tank collapsed but fortunately it did not cause significant damage to the building or injure any members.** A third alarm assignment was used to control this fire. Consider the following points regarding roof tanks.

- **There are over 10,000 roof tanks in New York City.** Most of these tanks are constructed of wood due to ease of installation, lightweight properties and insulating capacity; **even the most modern hi-rise buildings continue to use wood for roof tanks.** The water in the tanks is used for domestic use and for firefighting purposes. Roof tanks pose dangers to firefighters; collapsed roof tanks have caused the death and injury of several NYC firefighters. Dangers include:
 - **Heavy Roof Loads** – A roof tank may contain up to 15,000 gallons of water; this adds a tremendous load to the structure. Many tanks are supported by steel I-beams that sit atop or are attached to the exterior walls of a structure. A top floor fire in a non-fireproof building may expose the steel supports, this can lead to a collapse of the tank. **Do not hesitate to cool the steel supports.**
 - **Abandoned Tanks** – The wood in abandoned tanks is often very dry and can easily ignite. Embers from fires can spread great distances and may require the establishment of brand patrols. Additionally, the lack of maintenance to the supporting framework can lead to an early collapse during a fire.
 - **Electrical Lines** – Tanks are often used to mount cellular phone antennas. Expect high voltage lines to be found on or near the tanks.
- It is important to document the presence of roof tanks on eCIDS.
- Consider using the iPad to gain an aerial view of the roof to check for the presence of heavy roof loads.

#63 of 2023 – 6/11/2023



Tips from Training & Safety



Brooklyn Life Saving Rope Rescue



Brooklyn Box 1206 – 6/20/2023

Earlier today a life saving rope (LSR) rescue occurred in Brooklyn. The fire building was a 4-story non-fireproof multiple dwelling. There was heavy fire in an apartment on the top floor. Members discovered a panicking occupant, from the fire apartment, hanging from a window that was located in an open shaft. **This required FDNY members to quickly initiate a LSR rescue; a tactic of last resort in the FDNY.** Units lowered a member to the window and successfully removed the victim to the ground.

- The member being lowered was detailed from an engine company to a ladder company. It is critical that as a member of the FDNY team you stay current in ALL of our procedures.
- **Make no mistake about it, training is the cornerstone of the success of the FDNY. A civilian is alive today due to the commitment of our members to training. Our preparation to be ready to perform is a hallmark of the FDNY.**
- Prepare for the possible – because on game day, the time to prepare has passed.
- For review on this evolution [see FD Books Evolutions 25.](#)



Tips from Training & Safety



Safety Week



[CSU Info](#)



[Safety Week Booklet](#)

This year's FDNY safety week is titled: Where to Turn: Suicide Prevention. The National Fallen Firefighters Foundation estimates that there are between 100 and 200 firefighter deaths by suicide each year, **double the rate of the general population.** Firefighters, stand on the frontline of disasters and emergencies. The stress they bear comes at a critical cost to their well-being. Repeated exposure to traumatic events can cause cumulative stress as a result of the scenes they attend. **However, suicide is 100 percent preventable. There are many free resources available to all firefighters.** This tip is being released in conjunction with safety week, which is suicide and mental health awareness (See QR/link above for more information regarding suicide prevention).

- **Simply stated, it is OK not to be OK, help is available.**
- The FDNY Counseling Service Unit (CSU) is committed to providing free, effective and **confidential services to FDNY members.** See QR/link above for more information.
- The FDNY CSU is available 24/7 with Satellite Locations in Manhattan, Fort Totten, Brentwood, Staten Island, and Middletown. Their main contact number is 212-570-1693.
- **If you feel more comfortable seeking help outside of the FDNY, dial 988 to speak with a counselor at any time.** The 988 Suicide & Crisis Lifeline is a **national network** of local crisis centers that provides free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week in the United States.

Your Firefighter Family Cares About You

#67 of 2023 – 6/22/2023



Tips from Training & Safety



E Mobility Devices on City Streets



Still shot of an e-scooter passing an FDNY vehicle on an express highway

Over the last few years, the increased use of electric (E) mobility devices has presented several challenges to FDNY members. Many of NYC's 65,000 delivery workers rely on these devices every day. Approximately 6,000 public scooters have been placed on NYC's sidewalks. Private ownership has dramatically increased as well. Several hundred accidents involving these devices, including dozens of fatalities, have occurred. **Navigating the streets of NYC has never been more challenging.** Consider the following points:

- Members must be situational aware, especially near bike and pedestrian lanes.
- E mobility devices capable of high speeds often use bike and pedestrian lanes. Illegal use has been observed on express highways (see photo above).
- Members exiting the apparatus can inadvertently open the door into or step into the path of a fast-moving E mobility device.
- Although E mobility devices are prohibited on sidewalks, this rule is often ignored. When an apparatus is backing into quarters it is imperative that members are properly positioned to prevent a collision.
- Be mindful that traffic lights controlling turns and bike lanes are often disregarded by E mobility device users.
- The storage of E mobility devices/ charging and storage areas create operational challenges - especially in regard to rig placement and hoseline positioning. It may be necessary for members to move devices before or during an incident.



Tips from Training & Safety



Firefighting and American Pride



[Fire Engineering
Article](#)



Today we celebrate Independence Day. On July 4th, 1776, the Second Continental Congress ratified the Declaration of Independence, uniting the original Thirteen Colonies as free independent states from Great Britain. The ideas in the American Declaration of Independence have spread throughout the world, allowing billions of people to enjoy the Inalienable Rights of Life, Liberty and the Pursuit of Happiness.

From America's earliest days, firefighters were true patriots. Many of our Founding Fathers served as volunteer firefighters, including George Washington, Benjamin Franklin, Alexander Hamilton, Thomas Jefferson, John Hancock, Samuel Adams, John Jay and Paul Revere.

Every day, firefighters throughout the nation place themselves in harm's way by protecting their fellow Americans from the ravages of fire. The late Chief Bobby Halton best described American Pride and firefighting in his article titled "Outstanding, Happy to be Here, and Proud to Serve (Fire Engineering-9/1/2022-link/QR above). The below text was taken from his article:

- **The privilege of being an American firefighter is one of the most precious accomplishments one can achieve.**
- Vintage firefighters are patriotic. **We unapologetically love America and all she stands for.** We know our American history, warts and all. We respect and honor the sacrifices made, the accomplishments achieved, the fundamental goodness of our nation and her people. We embrace the effort to be a more perfect union and hope the better angels of our nature will guide us.
- Vintage firefighters recognize and acknowledge that when they joined their local fire department, **they swore an oath to protect and defend the Constitution of the United States,** their state constitution, and local and state laws. Vintage firefighters are constitutionalists.
- **It is a privilege to be an American firefighter, to serve with and among such people; it always has been and always will be.**

BE PROUD TO BE AN AMERICAN AND BE PROUD TO BE A FIREFIGHTER

#69 of 2023 – 7/4/2023



Tips from Training & Safety



Victims in the Water



[Water Rescue](#)
[FD Books](#)



FDNY members conduct a water rescue drill

With the recent warm weather, the FDNY has responded to several calls to assist victims in the water. **NYC contains 520 miles of coastline which borders the ocean, rivers, bays and inlets. All members must be prepared to operate in these waterways.** The following points on water rescues are presented for your consideration.

- When operating at or near a water emergency members must wear a personal flotation device (PFD). **Bunker gear does not float. Tests have shown that members wearing bunker gear with or without SCBA will sink instantaneously.**
- When arriving at the scene, immediately communicate with the victim to determine their **physical and mental condition**. This information will be used to determine if they are capable of assisting in their own rescue.
- **Upon reaching the vicinity of an ambulatory victim, the rescuer shall pass the torpedo to the victim while remaining a safe distance away, if possible.**
- Upon reaching a non-ambulatory victim, the rescuer reaches under the victim's armpits and places torpedo on victim's chest and holds onto the torpedo.
- Pre-determined hand signals have been established to allow the Rescuer and Tether to communicate. All FDNY members should familiarize themselves with these signals.
 - One hand placed on top of the rescuer's head indicates the rescuer is ready to be pulled to shore.
 - One arm waving in the air indicates stop pulling.
- See the QR/Link above for further review.



Tips from Training & Safety



Sub-Cellar Fire in a Hospital



Manhattan Box 2-2 1273 – 7/7/2023

Earlier today, FDNY units operated at a 2nd alarm, 10-76, at Mount Sinai Hospital in Manhattan. The fire occurred in an emergency generator and automatic transfer switch. This was a dangerous sub-cellar (3 levels down) incident with significant potential implications for hospital operations and for firefighters. Upon arrival command worked with first due and SOC units to determine the location and extent of the fire, as well as the best avenue of approach for control. **This could not be accomplished however, without the collaboration and coordination of high voltage shutdown and power off confirmation to attempt extinguishment.** Consider the following points:

- A decision-making team comprised of hospital administrators, hospital engineers, doctors, FDNY chiefs and OEM was assembled and formed a Hospital Command Post. At that post command was able to view overall schematics of the hospital to plan critical areas for potential patient movement and the sheltering of patient areas. A strategy was developed to shut down power to enable fire suppression efforts.
- FDNY units were deployed to the upper floors of the hospital to conduct searches and check for smoke and carbon monoxide (CO). Fortunately, there were no high levels of CO found which supported only limited movement of patients.
- **Power to the emergency generator area was shut down and confirmed off so that fire suppression and searches could be implemented.** A vent support unit was utilized to clear this area, reduce the CO to safe levels, and to enable the cooling of this area.
- Secondary searches were performed on all 3 sub-cellar levels. This allowed hospital mechanical subject matter experts to be escorted to the area to assess the damage to the generation system, chillers and condenser.
- Command was proactive in the early calling for the Rebreather Unit, Purple K Unit, and Communications Engine in anticipation of placing the Kutta radio system into use.







Tips from Training & Safety



Rhabdomyolysis and Firefighters



[YouTube Video Rhabdo](#)

 <p>Heavy physical exertion/work for hours</p>	 <p>Heat exposure</p>	 <p>Increased body temperature</p>	 <p>In rare cases, certain antibiotics, cold or allergy medicines, statins for high blood cholesterol, or dietary supplements</p>
--	---	--	---



[CDC Report Rhabdo in Firefighters](#)

Potential causes of rhabdomyolysis

Structural firefighting and training often involve exposure to heat and prolonged intense exertion. These factors increase the risk for a dangerous condition known as rhabdomyolysis (often referred to as rhabdo). Because exertion in challenging environments and situations is such a fundamental part of firefighting, firefighters need to know the signs and symptoms of rhabdo and quickly recognize the potential danger of this condition. **We must Never Forget that on December 3, 2021, Probationary Firefighter Vincent Malveaux made the Supreme Sacrifice due to rhabdomyolysis. There have been several additional cases of FDNY members who have suffered from rhabdo.** Consider the following points:

- Rhabdomyolysis is a breakdown of damaged muscle tissue that releases proteins and electrolytes into the bloodstream which can cause heart and kidney damage.
- This condition can occur for many reasons, including engaging in the type of extreme physical exertion common with firefighting.

Symptoms include:

- **Muscle cramps, aches, or pain that are more severe than expected.**
- **Exercise intolerance (unable to complete a usual workout routine).**
- **Abnormally dark (tea- or cola-colored) urine and weakness.**

If you experience any of the symptoms listed above: Immediately stop the activity you are performing, cool down, drink fluids and seek medical attention.

Firefighters with no known risk factors can get rhabdo. It can happen following activities you have done in the past without a problem. Even athletes and physically fit firefighters can develop rhabdomyolysis.

Knowing the signs and symptoms of rhabdomyolysis can save your life.



Tips from Training & Safety



Cockloft Fire Extended to the Cornice



[2018 Collapse](#)



Manhattan 2-2 1314 – 7/14/2023

Late last evening Manhattan units operated at a fire in the cockloft of a 5-story non-fireproof MD. Heavy fire extended to the cornice. Units were able to quickly extinguish this fire, preventing the cornice from collapsing. We must remember that there **have been several cornice collapses in recent years**, including a cornice collapse in 2018 that seriously injured a member, ending his career (see video in QR/link above). Consider the following points:

- Older cornices are usually constructed with a wooden framework covered by decorative sheet metal/tin. **They may weigh several hundred pounds.**
- Cockloft fires or flames venting out of a window below can spread into the cornice’s framework and cause it to collapse.
- Metal strapping is sometimes used to secure a cornice to a building’s façade. Fire can weaken this strapping and cause the cornice to collapse.
- When a cornice is exposed to fire, the probability of cornice collapse is increased.
- **Minimize members operating in the front of the building when the cornice is involved in fire.**
- The increased collapse danger exists during and after fire extinguishment.
- **A cornice may collapse suddenly, with little or no warning signs.**

Disclaimer: Tips from Training & Safety learning points are derived from FDNY tactics and procedures. Follow your department’s guidelines in all instances.



Tips from Training & Safety



Multiple Technical Rescues



FDNY members position a Con-Ed vacuum hose at BK Box 361 – 7/18/23

In the last week there have been several technical rescues on construction sites throughout the city, including a worker who fell from a bridge in the Bronx, a worker who fell into a hole in Manhattan and a worker who became trapped in a caved-in trench Brooklyn. **A high point anchor was used at all of these incidents to assist in the removal of victims.** Consider the following points.

Tips for First Arriving Units:

- Keep the front clear for a Tower Ladder (for a high point anchor) and for Con-Ed to position a vacuum truck for soil removal, a vacuum was used during the Brooklyn rescue. **SOC units have specialized training for trench rescue and must be staged close to the rescue area for access to special equipment and shoring.**
- All construction equipment needs to be shut down as soon as possible and it may be necessary to halt nearby subway/train traffic to prevent ground vibration.
- Attempt to locate the site supervisor; all of the workers on site must be accounted for.
- Monitor shoring or other equipment that is used to stabilize the excavation.
- SOC units will need assistance moving equipment into the rescue zone. Units need to stay together and prepare for an extended operation. Multiple units should be staged to provide relief.
- Ensure the response of a Rescue Medic to provide treatment for traumatic injuries including Crush Syndrome.



Tips from Training & Safety



Gas Station Fire Suppression Systems



[Video of an activation of a suppression system](#)



Recently an accidental activation of a fire suppression system occurred at a gas station in Queens. The clerk behind the counter mistakenly pulled the suppression systems manual pull station, releasing the entire contents of nine - 80lb cylinders of Sodium Bicarbonate (located above the canopy section of the fueling area) down on cars and their operators. **A total of 720 pounds of product was discharged.** Occasionally, the FDNY responds to fires at gas stations or accidental discharges of the suppression system. Consider the following points regarding these incidents.

- Not all extinguishing agents are the same - try to determine the suppression agent. In this incident the agent was Sodium Bicarbonate (aka baking powder).
- SCBA use is critical. See the photo above and the link/QR to a video of the intense discharge of the suppression agent.
- If fire is encountered, transmit signal 10-75, stage away from the premises and request additional resources if necessary (Haz-Mat, Signal 10-86, etc.) **Activate the Emergency Fuel Shutoffs – See tip #17 of 2023 for further review.**
- Visibility will be difficult due to the amount of product released.
- Use of the thermal imaging camera will assist in detecting a heat source, fire, etc.
- Account for motorist fueling up, and pedestrians walking by. Consider additional EMS resources if necessary.
- If there is no fire, transmit signal 10-31. Consider contacting the Haz-Mat battalion by cell phone for further instructions.
- **Issue FORTHWITH VO # FPS-3 to have the system returned to service.**
- NYC DOB does not require 24-hour gas stations alarm systems to be centrally monitored. There may be several calls for “smoke from a gas station”.
- There are heat sensors located under the canopy, directly above the pump area; the sensor activates the system at 195 degrees.
- Manual pull stations for the system will NEVER be in the hazard area under a canopy.
- **Suppression systems are meant to put out fires from a gas pump hose, they will not extinguish a fire in an engine compartment under a closed hood.**

#76 of 2023 –7/21/2023



Tips from Training & Safety



Properly Changing a Saw Blade

[LMS Video Changing a Saw Blade](#)



The inner bore of the blade must align with the flange properly - as pictured above

There have been incidents where members checking the saw at the change of tours have had the saw blade fly off of the saw. This is an extremely dangerous occurrence. **Members are reminded that they MUST check the saw blade BEFORE starting the saw.** If there is any lateral movement of the blade, it must be removed, seated properly, and re-tightened. The only acceptable direction for movement of the saw blade is around its axis.

• **Steps to remove a saw blade:**

- At a minimum eye protection and gloves must be worn.
- Lay the saw on its side with the engine facing **downwards** and the arm of the saw up.
- Three tension nuts are located in a triangular formation on the arm side of the saw. To the right of the tension nuts there is a small circular receptacle. Place the milled end of the saw's combination spanner tool in this hole, then spin the saw blade (with a gloved hand) until the tool drops into place. This will lock the arbor into place.
- While holding the spanner tool in place position the saw upright. Place another spanner tool (or a 13 mm socket wrench) onto the arbor bolt and rotate it counterclockwise. Once the bolt is loosened remove the outer flange and remove the saw blade.

• **Steps to install a blade:**

- Place the saw with the engine compartment facing **upwards** and the arm of the saw facing downwards. This exposes the inner flange of the bolt receptable.
- **The inner bore of the blade must align with the flange properly or the blade will wobble dangerously, and the arbor bolt will not fully tighten. Place the center hole of the blade over the arbor keeping the blade flush with the inner flange – see photo**
- Place the outer flange over the arbor and properly align the outer flange (or the arbor bolt cannot be fully tightened).
- Insert the arbor bolt and rotate clockwise by hand as tight as possible.
- **Position the saw upright and with a gloved hand attempt to wiggle the saw blade. There should be no lateral movement.**
- Insert the milled end of the spanner tool in the small receptable near the 3 bolts. Spin the blade until the handle of the tool drops into place (locking the arbor in place).
- While holding the tool in place, tighten the arbor bolt with another combination tool or a 13 mm socket and rotate clockwise.



Tips from Training & Safety



Sidewalk Scaffolding



New York City recently announced plans to remove some of its estimated **400 miles of sidewalk scaffolding**. There may be up to 4000 sidewalk scaffolds in Manhattan alone. FDNY members are routinely called to fires and emergencies involving sidewalk scaffolding. Consider the following points.

- **Some sidewalk scaffolding has been in place for decades.** The scaffolding may be structurally unsound due to exposure to the elements and lack of maintenance. There may be an accumulation of garbage or hazardous items (glass, needles, etc.) on top of the scaffold.
- During periods of high winds, the vertically installed plywood panels may become loose and are often observed shaking in the wind. **Loose plywood must be secured or removed.** A sheet of ¾ inch plywood weighs approximately 65 pounds; falling plywood could injure or kill a civilian on the street.
- When the scaffolding is under construction it is very unstable. Some larger sidewalk scaffolds may take days or weeks to complete. Use caution during these times.
- **While conducting building inspection it is important to check that fire escape drop ladders are not blocked by the scaffolding. Check the top of the scaffold for an accumulation of rubbish which may pose a risk of fire extension to the building.**
- Cars striking the scaffolding present a very dangerous scenario. There may be victims trapped under the collapsed material that must be rescued. If the scaffold was secured to the building, it may have been pulled loose from the structure - causing damage to the building's brickwork. **A secondary collapse of the brickwork may occur while rescuers are operating below.**



Tips from Training & Safety



Crane Fire and Partial Collapse



Manhattan Box 5-5 782 – 7/26/2023

Earlier today in Manhattan, FDNY units operated at a tower crane fire and collapse. The crane collapsed when the cables holding 16 tons of concrete were weakened by fire and gave way, causing the boom and load to fall, striking an adjacent building. Crane incidents are low-frequency, high-risk events, but they are always possible with the abundance of construction taking place in NYC. **In the FDNY, we prepare for the possible.**

- Firefighters encounter numerous emergency situations that may not neatly align with our standard operating procedures since each incident is unique.
- Our success heavily relies on our dedication to training and preparation, as it would be impossible to anticipate every possible scenario. Through rigorous training, we acquire the necessary skills, knowledge, and adaptability to effectively handle various situations.
- Training enables us to think critically, make swift decisions under pressure, and employ the best strategies and tactics.
- Today presented another example of an uncommon incident in the FDNY that concluded with a successful outcome. **It is our firefighters' capacity to navigate these uncertain situations that distinguishes them and underscores the value of a well-trained, thoughtful firefighter as our greatest resource.**

Takeaways from this incident:

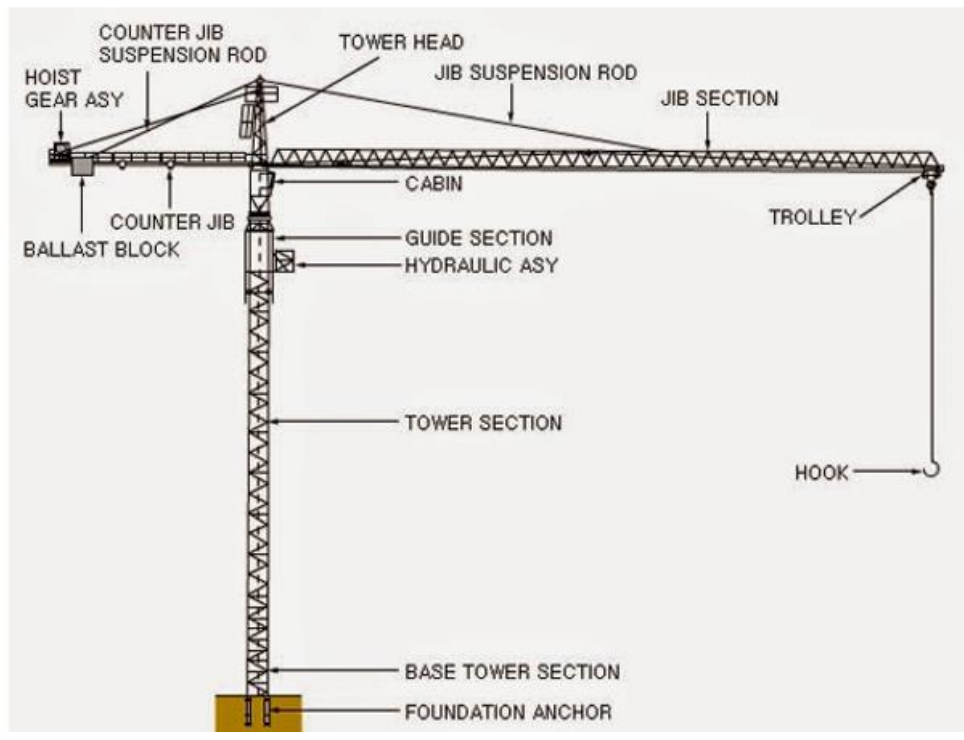
- Consider deploying multiple FAST units.
- Only officers should check in at the command post.
- **The use of the outer stream tip increases the reach of the stream and was used to extinguish fire at this operation.**
- Consider the use of the Blitzfire Oscillating Monitor from the roof of adjoining buildings to reach otherwise inaccessible fire [See tip The Blitzfire Oscillating Monitor.](#)
- Consider the collapse potential and establish a collapse zone.
- Be aware of falling debris throughout the incident. Ensure that appropriate PPE is used including helmets.
- Overload the response early on to stay ahead of the incident; this is completed through the prompt transmission of additional arms.



Tips from Training & Safety



Anatomy of a Tower Crane



[WNYF Article](#)

All FDNY members should have a basic knowledge of the anatomy of a tower crane. Listed below is the terminology used to describe the major elements of a tower crane. See QR/link above to a WNYF article for further review on this topic.

- **Base** - A reinforced concrete pad or grillage, constructed on site, to which the mast/tower is connected. The mast/tower can also be welded or bolted to a steel base structure, the existing building or a cantilever structure.
- **Mast/tower** - The vertical steel framework made of individual sections bolted or pinned together that the crane superstructure rotates on and are added as required to get to the desired height.
- **Operator's cab** - Where the crane operator controls the crane's operation. To access the cab, the operator must climb a ladder in the mast/tower from ground level or access a catwalk higher in the building and climb a shorter distance via the mast/tower ladder.
- **Jib** - As related to a tower crane, the fixed or luffing structure that supports the load. A similar and more familiar term might be "boom," which is used for a crawler crane. A boom moves up and down, similar to a luffing jib. Construction personnel may refer to all of the various jibs as simply "the jib."
- **A hammerhead tower crane** has a long horizontal jib that cannot move up or down. It has a trolley system built into it to move the location of the cable and hook for lifting and moving loads.
- **A luffing jib tower crane** has the capability to move the jib up and down to lift and move loads.
- **Counter jib** - The jib opposite the working jib used to offset the weight being lifted. Concrete slabs can be added to act as counterweights.
- **Tie-backs** - Steel components that provide additional stability to the mast/tower by connecting it to the building at different floor levels.



Tips from Training & Safety



Securing Overhead Garage Doors



During a recent garage fire in New Hampshire, a professional firefighter experienced a close call when the overhead door closed behind him after he entered the garage. Fortunately, the trapped firefighter was rescued by another member. Overhead garage doors pose an extreme danger to firefighters; a [San Francisco Fire Department Lieutenant](#) was killed when an overhead garage door closed behind him in 1995. Consider the following points.

- **Electrical components designed to open and close overhead doors may malfunction during a fire and close while members are operating inside.**
- With an automatic door opener, the door opener will prevent the garage door from being opened up manually unless the door opener device is separated or released from the garage door. The door opener release device is usually operated by pulling a chord, which will most likely be melted away during a serious fire.
- Garage doors are generally very heavy and once closed they may be impossible to reopen under fire conditions (steel door tracks may warp and prevent the wheels on the door from rolling up the track).
- If entry is made through an overhead door, steps must be taken to ensure that the door will not close:
 - To prevent the door from closing, members should secure Vise-Grip pliers to the door track **prior to entering**. With the garage door open, the vice grip should be placed at the bottom of the door on the rail (see photo above).
 - Consider placing an A-Frame ladder under the door's path of descent.
- High heat may cause the entire door to collapse intact. Consider positioning additional A-Frame ladders under the overhead doors to prevent them from forcibly striking members if they fall.
- Companies entering a building should always seek secondary exits; keep in mind that secondary exits within a garage may be obstructed by vehicles, shelving, clutter, etc.



Tips from Training & Safety



Bowstring Truss Roof Dangers



Waldbaum's - Brooklyn Box 3300 – 8/2/1978



Ford Dealership - Hackensack, NJ – 7/1/1988

Today marks the 45th anniversary of the Waldbaum's supermarket fire in Brooklyn. Six FDNY members operating on the roof of the building were killed when the timber bowstring truss roof collapsed – [See Remembrance Bulletin](#) and [Division 7 Newsletter](#). We must also remember that nearly ten years later a bowstring truss roof collapsed during a fire at the [Hackensack, NJ Ford dealership](#) - killing five firefighters operating inside the structure. In honor of those who made the Supreme Sacrifice, the following points are shared.

- **There is no safe area in, on or around a building containing a bowstring truss roof.**
 - Strongly consider outside operations for advanced fires. **If the bowstring truss is involved in fire, we must conduct (or transition to) an exterior attack.**
 - Under **no circumstances** shall any member operate on the roof of any building involved in a content or structural fire with a wooden, metal or combination bowstring truss.
 - When roof trusses collapse, they can push out masonry bearing walls causing it to fall upon firefighters who are operating in the street. **A collapse zone of at least one and a half times the height of the building's walls should be established around the structure.** Walls with large openings are more susceptible to collapse.
- **Hundreds of buildings with bowstring truss roofs exist in NYC.**
 - eCIDS documents most of these structures, however, **this information must be periodically reviewed.**
 - Many of these structures' occupancies may have changed. It was recently discovered that a former bowling alley in the Bronx was converted to a warehouse for smoke shop products, increasing the potential for a devastating fire. Similar dangerous conversions may exist throughout the city.
 - As these buildings age structural deficiencies may occur, increasing the collapse potential. The ends of the trusses may rot due to water leaks and brick walls may develop serious cracks from the freeze-flaw cycle.
 - There is the chance of collapse without a fire; a heavy snow load could cause a collapse. **It is estimated that bowstring truss roofs may only support 40% of their originally designed load-carrying capacity.**