

SCOPE:

This standard pertains to the response, placement, and operation of aerial apparatus in structure fire or rescue situations.

PURPOSE:

To identify certain parameters for responding aerial apparatus, including structure fires with an identified water source, or to a rescue situation where the elevated ladder may be a benefit. It will also identify placement issues when an aerial device responds to structure fires. Consideration must be given to such apparatus by earlier arriving vehicles. Operation of aerial apparatus must be consistent throughout the department, and proper fire ground operations will be outlined. Truck company operations will be outlined with the understanding that any or all functions may be performed by other crews and, other than rescue, they may be performed in any order.

SAFETY:

Having set standards regarding how aerial apparatus shall be operated helps ensure that a common knowledge base exists among all SVFD members. This SOP encourages training to meet and stay current on this standard. Safety is paramount on every emergency scene. Following this policy shall help to minimize or manage the amount of risk involved in aerial operations. A primary concern when raising any ladder must be the location of power lines. **No aerial shall be raised within 10' of power lines, energized or not.**

POLICY:

Response

Aerial apparatus may be used to effect rescue, entry, search, and ventilation. It may also be used to stretch hose lines to upper floors, for ladder pipe operations, or as an observation post to assess conditions. Finally, since it may be first-due, it may operate as an engine company and make initial fire attack.

When responding an aerial apparatus to a structure fire, one thing to consider is whether the area has a water supply. Several areas in the community are without hydrants. Generally, these areas will require fairly low fire flows, as the occupancies are mostly single-family mobile homes. SVFD aerial apparatus have rather limited water capacities that may be insufficient to fully extinguish a fire in

these occupancies. It is also doubtful that the aerial device would be needed in such cases. The best response to these areas is an engine that carries more water and is better suited to the more rural setting. Responding an aerial third-due may be appropriate if fire control is impeded due to high winds, dry conditions, or other issues that warrant ladder pipe operations.

The captain on the aerial apparatus must be aware of the response of engine companies. The first-due company should advise over the radio the direction of approach to the scene and suggest the alternate routes for second- and third-due apparatus. All officers should consult map books before responding or while enroute to determine cross streets/intersections and hydrant locations, thus confirming travel routes of all incoming apparatus.

Chiefs, ambulances, brush trucks, and any other department vehicles must be parked out of the way of incoming engines or aerial apparatus.

If an aerial arrives at the incident before the first due engine, if possible and conditions warrant, the aerial shall leave access for the first-due engine to pass. The engine should catch a hydrant prior to the arrival on scene. The operating position of any engine on scene shall not obstruct the aerial apparatus operation or the removal of ground ladders from the apparatus.

Apparatus Placement

Aerial apparatus, whether the ladder or tower, must be placed in the most advantageous area for aerial ladder use. This may include rescue operations, firefighter access to the roof or upper floors, and elevated master streams. First, and foremost, make room for the aerial apparatus on the fire ground. The aerial Engineer has the responsibility for proper placement of the apparatus. Consulting with Command and/or the apparatus Captain should ensure the apparatus is located for its best use. The apparatus should be placed the proper distance from the building with the turntable aligned with the objective. Generally, the aerial apparatus should be placed in front of the building, with the turntable near a corner to allow access to two sides of the building. When the need is evident upon arrival, the aerial should be raised immediately. When the need is anticipated for later use, the apparatus should be positioned and set up for aerial operations. The Engineer must remain in the vicinity of the turntable until it is evident that the aerial will not be required.

There are obviously many factors that must be addressed in placement – the size of the building, location and intensity of the fire, wind direction, etc. The first-due engine(s) must take a pessimistic approach to the fire and consider the worst-case scenario that would need the aerial device to reach the building. Do not place engine companies in front of the building where it will block the

incoming aerial. Engines can be placed virtually anywhere near the fire building; they do not need to be directly in front. The only adverse effect is the need to pull extra hose. Consider the old saying, “you can stretch hose a mile, but you cannot stretch a ladder one inch.”

Aerial apparatus will be sent to all multi-story buildings. Upon arrival, take the extra time to get the ladder to a window, the roof, etc. Do not wait until it is needed. Setting up and raising, extending, and positioning an aerial is time consuming. The ladder may play a pivotal role in the rescue of a firefighter or victim when seconds count.

Depending on the location of the fire, try to cover two sides of the building. Optimum placement of the turntable is at the corner of the building.

Aerial Operations

Make sure to check the surrounding area before raising the ladder. Overhead wires, power poles, signs, light standards, etc., are examples of hazards that may prohibit use of the aerial device. Care must be taken to ensure that the aerial does not get within 10' of energized power lines, as arcing can occur within that distance. Proper placement of the apparatus the first time ensures it will be safe to raise the aerial. Repositioning apparatus should not be an option.

Firefighters ascending the ladder or working in the bucket of the tower must have full PPE, including SCBA and a ladder belt. Ladder belts must be secured while members are operating in the tower bucket, or when operating on the ladder. While climbing aerial apparatus during training evolutions the fall arrestors shall be used. Use of these devices during actual fireground operations may not be feasible.

When positioning the aerial ladder for window entry, place the ladder 2-6 inches out from the bottom of the windowsill, even with the bottom, and toward the leeward, or upwind, side. This allows for easier access by firefighters wearing SCBA. Make sure to completely clean out the window with a tool.

When positioning the tower for entry, place the top rail of the bucket 2-6 inches out from the bottom of the windowsill, even with the bottom, and toward the leeward side. This simplifies rescue operations as the victim can be helped or pulled out the window directly into the bucket.

When ascending the ladder, if the angle is low enough to walk up the ladder, bend down and keep both hands on the rails, and slide them along while climbing. The firefighter can even place a tool on the rail and slide it up as well. Make sure to look forward while ascending and not down at your feet. Many

firefighters have a tendency to stare down at the ladder rungs as they walk up the ladder.

The aerial operator shall remain on the turntable when members have entered the building by aerial ladder and are in precarious positions, such as a floor over a fire or ventilating the roof of a building with a heavy fire condition. The operator must be alert to whom ascended the ladder, when, and where the members are operating. The operator must not move the aerial once firefighters have dismounted the ladder, as doing so may disorient them if a rapid evacuation is necessary.

When operating the aerial ladder with the nozzle pinned back the ladder can be used to ventilate windows. Place the tip of the aerial at the top one-third of the window and extend it through the window a few inches. Once the tip is through the glass, bring it down to the bottom of the sill. This will keep glass from riding down the rails of the aerial. Never use a side-to-side motion as aerial devices are not built to take these lateral loads. This type of ventilation can be very effective and is a quick way to assist interior crews on upper floors with horizontal ventilation.

Truck Company Duties

There are seven basic duties usually assigned to a truck company:

- 1) Search and Rescue
- 2) Forcible Entry
- 3) Ventilation
- 4) Ground/aerial ladders
- 5) Salvage/overhaul
- 6) Ladder pipe operations
- 7) Utilities

Except for rescue, the duties may not necessarily be performed in the given order, and it may not be necessary to perform all of the duties at every fire. Engine companies or another truck company may perform some duties as needed.

Search and rescue should, ideally, be done in conjunction with the engine company making the initial fire attack. However, the truck company may make entry first, utilizing a search rope. This rapid entry and search may be necessary to preserve life, especially if an engine's arrival, or the hose evolution, is delayed.

Prior to performing forcible entry on a closed door to an involved or suspected involved area, members shall consider the interior conditions. The probability of survival should dictate the need for a rapid search without a hoseline. The time of

day, possibility of occupants, and the stage of fire should dictate the attack mode. When in doubt, a hose line should be used as a precaution.

Ground Ladders

The main advantage of a ground ladder is its portability. It can be used in positions that cannot be reached by an aerial apparatus. Ground ladders can also be used for lower story operations, freeing the aerial ladder for upper story work.

Whenever a crew is engaged in any type of roof operation, a minimum of one ground ladder will be raised to the roof, thus establishing a secondary means of egress. The safety ladder should be raised to the same side of the roof as the aerial, at a point, if possible, away from the fire. If the roof is pitched, an additional roof ladder should be raised to the ridge of the roof for footing.

Master stream operations

The master stream device on aerial apparatus will be utilized as necessary for the extinguishments of fire, exposure protection, or other duties as assigned by the Incident Commander.

Whenever the ladder pipe is in operation it may be beneficial to have at least one fire fighter at the tip to direct the stream. It is imperative that the monitor be properly secured, ideally at the end of the ladder and not in the rescue position, when operating the master stream.

Whenever the master stream on the tower is in operation there should be two fire fighters in the bucket.

In all cases, firefighters in such positions must be in full PPE, including SCBA, and utilizing ladder belts.