

Department of Fire and Rescue Services



Standardized **T**raining **P**rogram

Topic: OPERATIONS AT GARDEN APARTMENT FIRES
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Standardized Training Program

OPERATIONS AT GARDEN APARTMENT FIRES

INTRODUCTION:

When operation at garden apartment fires, coordinated Initial company operations are critical in providing the basis for a safe, quick and effective fire attack at garden apartment fires. The engine company is primarily responsible for establishing a water supply; performing a proper size up, advancing an appropriate size hand line based on size up, fire load and occupancy, confinement and extinguishment. The truck company is responsible for ventilation, forcible entry, ladders, rescue, salvage and overhaul. The rescue squad is primarily responsible for ensuring all searches are complete as well as controlling utilities. Several factors affect decisions leading to the accomplishment of the above tasks, all of which is based on specific tactical objectives relating to:

RA – RECEO - VS

Risk Assessment

Rescue

Exposure

Confinement

Extinguishment

Overhaul

Ventilation

Salvage

OVERVIEW:

This Standardized Training Program will require operational personnel to identify garden apartment construction in their first due area then participate in basic skills that related to the successful deployment of hand lines and the position of suppression apparatus at those locations. In addition, operational personnel will discuss the tactics of combating fires at garden apartments as they relate to the following strategic objectives:

- Life Safety (firefighters and civilian)
- Incident Stabilization
- Property conservation

OBJECTIVE:

Operational personnel will be able perform the listed practical evolution with proficiency:

- Advance a hand line for initial attack to an apartment set back greater than 200 feet.
- Advance a hand line to an upper floor of a structure via a ground ladder.
- Standpipe pack deployment utilizing additional hose when you come up short to complete the hose advancement.
- Alternative method to deploy a hand line to an upper floor of a building that does not have standpipe.
- Position engine company (first of fourth due) to facilitate aerial placement of the access of later arriving units.
- Position engine company to take water from hydrants with reduced road access.

Operations at Garden Apartment Fires

Discussion Points

1) Construction

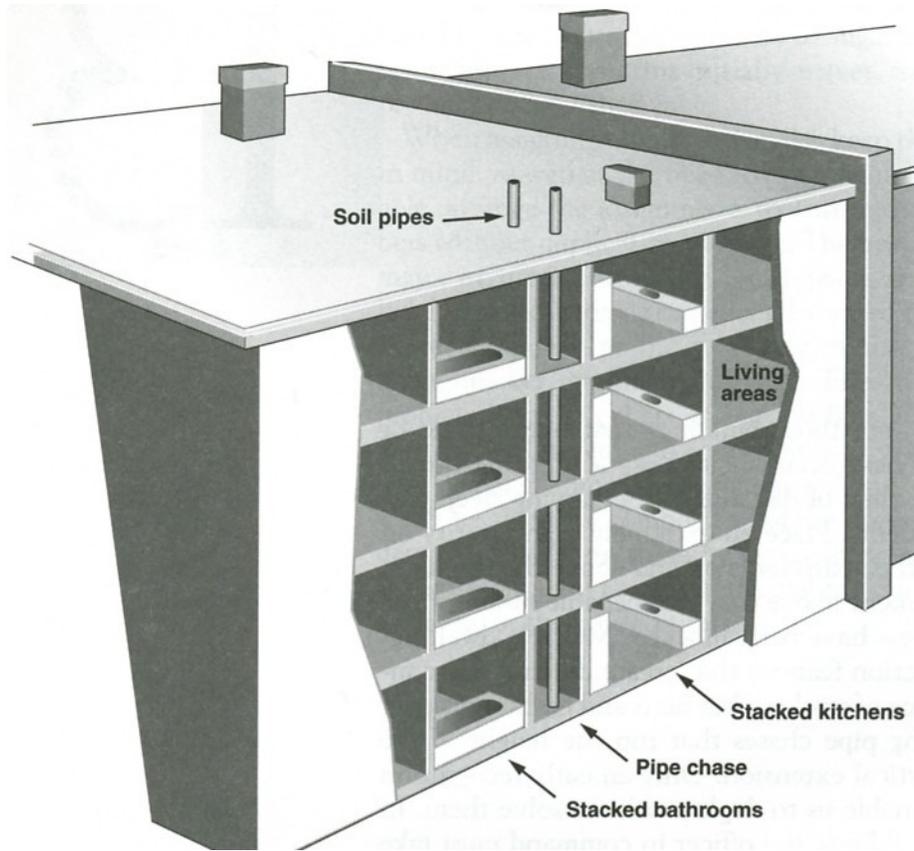
- a. Garden apartments are usually type III construction, but more are built as type V.
- b. They can be three stories or greater in height.
- c. Newer construction can have a brick veneer.
- d. Usually built in sections of four apartments per floor.
- e. Interconnections of buildings can create major fire spread from building to building.
- f. Wall assemblies typically have wood studs.
- g. The wall between adjoining sections can be of masonry construction or other fire-rated material and should not have any breaches.
- h. Stack construction creates inherent void spaces that allow for fire spread.
- i. Combustible siding (wood or vinyl) may aid in fire spread to adjoining floors or buildings.
- j. Plumbing fixtures are vertically aligned from floor to floor creating a route for fire and smoke spread from the ground floor to the attic.



Type V Construction



Type III Construction



Stacked Construction

2) Roof Assemblies

- a. May be pitched or flat
- b. May be constructed of solid wooden beams, light-weight truss, wooden "I" beams or steel bar joist.
- c. The roof can overhang the side walls creating eaves; this overhang can create an avenue for fire to spread to the attic space.
- d. Each partitioned building may not have fire-stopping of the fire-stopping may be damaged thus creating a common attic.
- e. Fire starting in one apartment can extend to the roof area threatening other apartments and adjoining buildings.
- f. Required fire-stopping in some cases can be breached or removed.

3) Access

- a. Illegal parking can prevent fire apparatus access
- b. The front doors of individual apartments usually open into common hallways with stairs.
- c. Fire and smoke entering the hallways and stairs may threaten civilian evacuation routs and hamper fire attack.
- d. The first floor may be below grade.
- e. Landscaping in the rear may permit a walk out patio for ground floor units.
- f. Buildings are often set back from the streets.
- g. Buildings may have separate entrances to common hallways from the rear; there may be terraces level apartments with separate exterior entrances as well as entrances into the common hallway.
- h. Newer buildings have attached parking structures that can limit access to sides of the building.

4) Problems

- a. Buildings may be occupied at any time with the greatest challenges between 12:00am and 8:00am.
- b. Fire typically has a head start due to delay of notification.
- c. And /or occupants attempting to extinguish the fire themselves.
- d. Tenants fleeing may leave doors open.
- e. Stacked construction permits fire spread through interconnected void spaces throughout the building.
- f. There may be only one exit from the building.
- g. Hydrants may be a considerable distance from the building, or blocked by parked cars or fire apparatus positioning.
- h. Limited resources or rescues may delay fire attack
- i. Storage areas can house heavy fire loads.
- j. Gas and electric meters may be housed in these storage areas.
- k. Buildings can be terraced into the grounds altering building height from side "A" to side "C"
- l. Electrical wiring and cable lines suspended in the ceiling can drop down during operations and present a tangling hazard.

5) Size-up considerations

- a. Has the fire entered the void spaces? Use the **BAG** acronym
 - i. B-Where has the fire **B**een
 - ii. A-Where is the fire **A**t now
 - iii. G-Where is the fire **G**oing
- b. Is there smoke coming from the gable vents?
- c. Are there apparent rescues?
- d. What is your command mode? Offensive or Defensive
- e. Is it an end unit building or middle of the row?
- f. Is there adequate resources and manpower?

6) Strategic and Tactical Considerations

- a. Request sufficient resources early (additional alarms)
- b. Perform primary search immediately
- c. Choose the appropriate line based on the amount of smoke or fire showing; based on the set back of the building a leader line may be your best option.
- d. Ground ladders must be thrown to the building (front and rear) for the rescue of trapped occupants and for firefighters 2nd entrance and exit. 24 foot or greater size ladders may need to be thrown.
- e. A quick coordinated aggressive interior attack should be considered to address the rescue problem as well as confinement.
- f. Consider alternatives to stretching additional lines into the structure to keep the stairway accessible (no more than two lines should go through the entrance if possible).
- g. Coordinated ventilation is a must. Horizontal can be performed quickly. Vertical ventilation should be considered because of the risk of fire spread through pipe chases. Use caution if the roof is of light weight truss construction or fire has entered the attic. Consider using the aerial ladder.

- h. Confine the fire to the area of origin; protect the interior stairs. Keep the door closed until you have a charged hose line ready to move in.
- i. Companies must be assigned to check top floors and attic for fire extension early during operations.
- j. If fire has extended into the attic/cockloft consider greater alarms to check exposures for fire extension.
- k. Do not rely on thermal imaging cameras to check for fire extension; open up walls and ceiling to expose stud channels.
- l. Engine drivers should consider a “heavy water hook up” to maximum water supply in the event the operation transitions into a defensive operation.
- m. Leave room for towers and trucks to take a position on the front and rear of the building. Ensure engine drivers are ready to supply trucks and towers if transitioning to a defensive mode.
- n. On additional alarms engines should be prepared to lay additional supply lines from additional hydrants to support water supply operations.
- o. It is clear that unit officers and their drivers must anticipate and understand the need to provide heavy flow (GPM) and elevated streams immediately upon arrival. It also is understood that in this Type V, lightweight, engineered structure with limited access, that transitioning from an exterior high flow defensive attack to stabilize fire growth and rapidly transitioning to an interior offensive attack is becoming an effective strategy. Failure to take into consideration the high thermal heat release and the effects it’s having on structural elements will continue to place firefighters in harms way.

OPERATIONS AT GARDEN APARTMENTS REVIEW QUESTIONS

- 1) List four causes of rapid fire spread in garden apartments.
- 2) What are some signs that fire is in the attic/cockloft?
- 3) List two hazards that are present in storage room fires
- 4) Define the term “stack construction”
- 5) List three access problems associated with garden apartment fires
- 6) List three roof construction features
- 7) If fire is present in a terrace level apartment ,describe the probable route of fire travel for fire extension and why
- 8) Discuss the way fire can travel to the eaves of the roof line
- 9) Discuss firewall material and construction in garden apartments
- 10) Discuss tactical considerations of apparatus placement
- 11) Discuss size-up considerations
- 12) Discuss building constructions.
- 13) What are the dangers associated with fires in new construction?
- 14) What is type III and V construction?
- 15) What does “set back” mean?

OPERATIONS AT GARDEN APARTMENTS

PRACTICAL SKILLS SCENARIOS

- 1) **Objective:** Personal shall demonstrate with proficiency, the deployment of a minimum length 250 foot leader line (2 ½" or 3") with a gated wye and attach a 100 foot stand pipe pack for fire attack.

Scenario: You are dispatched to a garden apartment fire with the unit of origin located at a substantial set back from the location of the engine company.

- a. Unit shall park at a given location to provide best access for attack crews, trucks/towers and later arriving apparatus
- b. The unit officer shall identify the correct building. Shoulder the stand pipe pack while dressed in full PPE and SCBA, and walk towards the front of the building dropping the pack where they want the leader line directed
- c. The E3 person, with the assistance of E4 person or the driver, shall shoulder and stretch the leader line to the location of the stand pipe pack while dressed in full PPE and SCBA, make the connection utilizing the gated wye, call for water to the wye, flack out the stand pipe pack in front of the structure and wait for further instructions from the officer.



The E3 pulls and stretches the leader line.



The Officer carries the standpipe pack and sets it down where the leader line is to be directed



The Driver or E4 assists with the advancement of the leader line



The Officer and E3 work together to connect the standpipe pack to the leader line before advancing into the building. If using a gated wye remember to secure the gate open with rope or webbing to prevent accidental closing.

2) **Objective:** Personnel shall demonstrate the skill of extending an attack line to an upper floor of a structure using a ground ladder with proficiency.

Scenario: you are dispatched as the fourth due engine and given the assignment of stretching an attack line to the floor above the fire. Upon arrival, you see two hose lines going through the front entrance to apt.102 located one flight up.

- a. The officer and one firefighter shall retrieve a 24 foot ladder from the engine, carry and raise it to the desired entry point.
- b. A firefighter will stretch a pre-connected attack line from the engine to the base of the raised ladder.
- c. Once the ladder is placed under the ledge of the desired window and is secured with a heel man, the attack shall be advanced up the ladder. **The practical application for the dry line procedure is to stretch line to an area uninvolved with fire giving ample time to complete the stretch before having the line charged.**



Hose is stretched to the base of the ladder





The ladder is heeled while the E3 and Officer climb with the attack line



3) Objective: Personnel shall demonstrate with proficiency, the extension of a standpipe pack with the second standpipe pack carried on engines.

Scenario: After connecting your standpipe pack to your leader line and stretching it through the intended structure; you are redeployed to another part of the building. Your attack line, because of its length, is unable to reach its destination.

- a. The Officer will determine the need for the additional standpipe pack
- b. The Officer or E4(if available) will begin to deploy the additional standpipe pack by unbuckling the straps and removing the reducer.
- c. Working as a team the E3 will remove the breakaway tip from the deployed standpipe pack and the Officer or E4 will connect the second standpipe pack to the bail of the breakaway nozzle.
- d. Once the second standpipe pack is deployed the Officer or E4 will open the bail to charge the second standpipe pack.
- e. The Officer or E4 will secure the bail to prevent accidental closure.
- f. All members will continue to advance the attack line to the desired destination.



The firefighter comes up short. He removes the tip from the breakaway nozzle



The Officer or E4 and the E3 work together to connect the additional standpipe pack



The E3 can advance the additional standpipe pack to the fire. The Officer or E4 will secure the bail.



4) Objective: Personnel shall demonstrate and alternative method in deployment of an attack line to an upper floor of a building that is not stand piped.

Scenario: You are dispatched to an automatic fire alarm. You walk to the third floor of a non-stand piped mid-rise building where you find a fire in apt. 305. You have taken your standpipe pack and you want to connect to a leader line without leaving the building.

- a. The crew retreats to a safe area ensuring the door is closed to the fire apartment.
- b. The officer radios the engine driver and instructs him/her to stretch a leader line to a designated location outside the building.
- c. The officer lowers 50 to 75 feet of utility rope or webbing to haul up a dry leader line to the window of the designated area.

- d. Once the leader line is inside the window and secured, the standpipe pack is hooked up to the gated wye, and flaked out for advancement.

Although there are alternatives to this method, the above procedure helps to ensure the gated wye with all available attack line is kept inside the structure to facilitate the use and advancement of back up line.



Webbing can be kept in container (plastic 1 gal. jug)



The driver is radioed and advised where to advance the leader line.



The officer tosses the line out of the designated window to the engine driver



The webbing is secured to the hose



Then hoisted to the crew



5) Objective: The driver shall demonstrate proper positioning of the engine company (first or fourth arriving) to facilitate aerial placement and the access of later arriving units.

Scenario: As the first or fourth arriving engine, you chose the most convenient hydrant which happens to be directly in front of the dispatched address. Your positioning could have an adverse impact on aerial placement.

- a. If arriving ahead of the aerial, consider a forward lay past the dispatched address as opposed to using your rear soft sleeve. This will ensure the later arriving aerial and additional apparatus will access to the building. Remember, a single 4" supply line 500' long can supply up to 625 gpm (MFRI Pump Operator Student Manual July 1998) Using a heavy water hook up further maximizes water supply capabilities.
- b. Consider other alternatives to get water from a hydrant, such as the side intakes.
- c. Good communications with incoming units will set the tone for good apparatus placement. Give water supply instructions as soon as possible. Advise units if alternative running routes need to be taken.
- d. Engines and Aerials responding from the same station should consider arriving from opposite directions if streets congested with parked cars or the streets are single lane. This ensures the Aerial can set up in front of the dispatched address.



Laying out past the address allows in coming aerial access to the front of the address



An alternative to the rear intake is the side intake. Consider a heavy water hook up



Consider letting the aerial enter the complex ahead of the engine. Remember to leave room for the removal of ground ladders



Units responding from the same station can arrive from opposite directions. Good communication is the key