



# In-Station Training

## TM 23-30a Residential Fire-Trapped Occupant



### Author

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### Purpose

In 1940 Chief Lloyd Layman authored *Fundamentals of Firefighting Tactics* which outlined eight elements of firefighting operations numbered one through six and two with letter designations: 1) size-up, 2) rescue, 3) exposures, 4) confinement, 5) extinguishment, 6) overhaul, a) ventilation, and b) salvage. These elements of firefighting tactics are commonly represented by the acronym RECEO-VS. Layman stated the first six, identified by number “**may to a certain extent be positive in sequence** [emphasis added]. Ventilation and salvage have not been numbered but have been set forth under the letters a and b for these steps may be required at any time following the initial Size-Up” (Layman, 1940, p. 4). However, the critical factors presented by today’s structure fires often require fire control to be sequenced concurrent with or ahead of primary search and subsequent rescue operations depending on availability of resources (Weinschenk & Stakes, 2022).

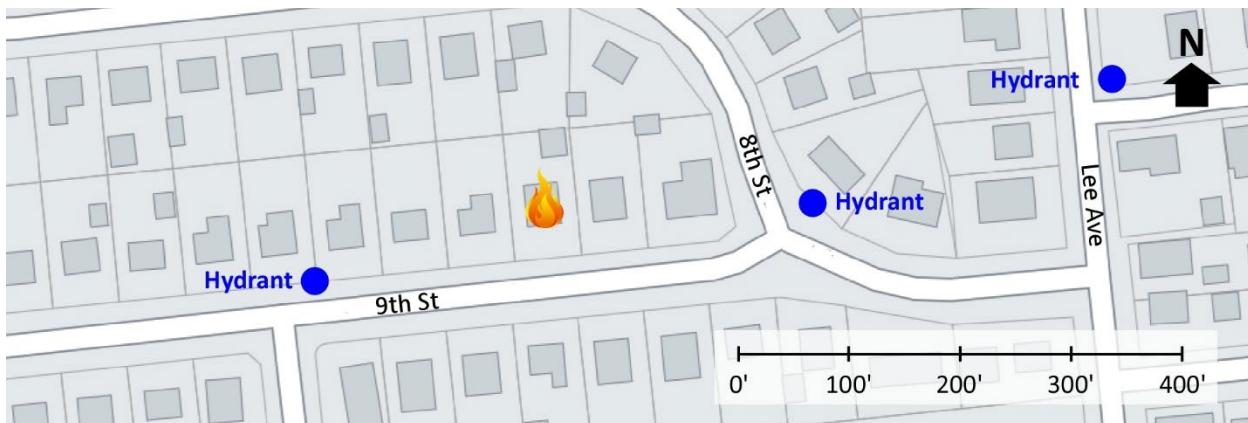
### Learning Outcomes

Command officers perform effective ongoing size-up; select an appropriate strategy, and implement tactics based on the strategic decision-making model.

### Conducting the Drill

This incident involved a fire in a vacant house at 29 Ninth Street in Hicksville, NY on June 28, 2023, at 21:30 (50 Response Videos, 2023 & HFD, 2023). Review the map and photos (Figures 1-5) to gain an understanding of the area and building involved.

Figure 1. Map of the Incident Area



Note: Adapted from Google. (2023a). [Map, 29 Ninth Street, Hicksville, NY]. <https://bit.ly/3rjUb70>.

There are hydrants within 300' to the east and west of the incident location as illustrated in Figure 1.

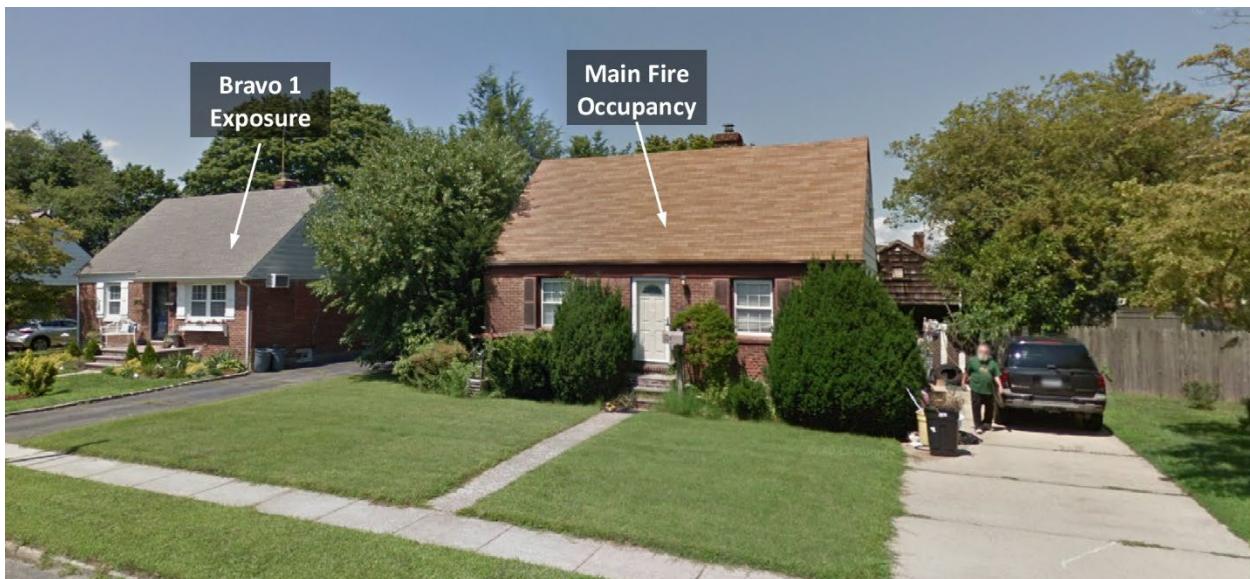
Figure 2. Aerial View



Note: Adapted from Google. (2023b). [Aerial view 29 Ninth Street, Hicksville, NY].

<https://bit.ly/44hxGOv>,

Figure 3. Alpha/Delta Corner



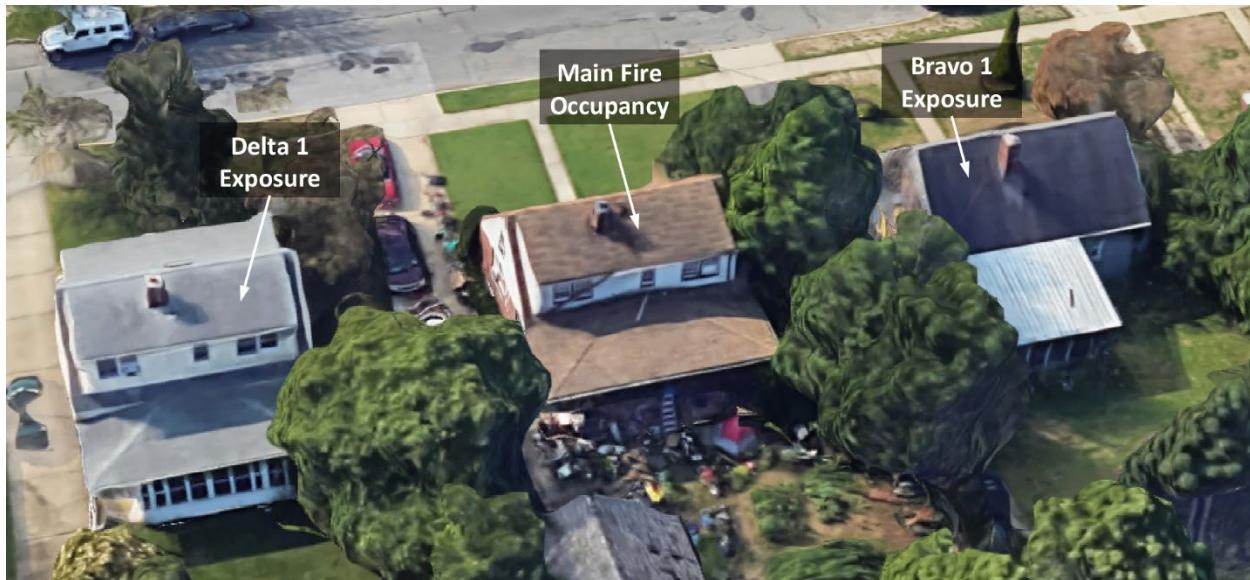
Note: Adapted from Google. (2018a). [Street view 29 Ninth Street, Hicksville, NY]. <https://bit.ly/3NHdZsl>.

Figure 4. Alpha/Bravo Corner



Note: Adapted from Google. (2018b). [Street view 29 Ninth Street, Hicksville, NY]. <https://bit.ly/3JKPCsL>.

Figure 5. Side Charlie



Note: Adapted from Google. (2023c). [3d aerial view 29 Ninth Street, Hicksville, NY].

<https://bit.ly/3PRsWL9>.

You were dispatched to 29 9<sup>th</sup> Street for a residential fire at 21:30. You are responding to this incident as the first arriving command officer. Temperature is 75° F with wind from the northwest at 6 mph (Weather Underground, 2023). While responding you hear four engines, an advanced life support (ALS) ambulance, and a second command officer go enroute. The engines have staffing typical of your agency.

*Notes:* If your agency has response of a truck company on residential fires, the third engine can be replaced by a truck for this 10-Minute Training. The tactical action and communications performed by the companies in the narrative of this 10-Minute Training are likely to be somewhat different than those performed by the companies involved in this incident to provide a specific learning context.

While enroute, dispatch provides an update that multiple callers are reporting a fire at 299<sup>th</sup> Street with trapped occupants. The first engine will arrive from the east on Ninth Street. The second engine and ALS ambulance approximately six minutes after the first. The third company (engine or truck) will arrive 12 minutes after the first arriving engine. Make a note of your resource and staffing assumptions prior to continuing with this 10-Minute Training. **You will arrive from the east after the third company.** Any additional resources that have been dispatched (based on your response plan) will arrive later in the incident.

1. What critical factors would you consider when dispatched and during response?

As you were responding Engine 1 provided the following initial radio report:

*On-scene of a small one story, house with a working fire on Side Alpha, stretching an attack line through Side Alpha for fire control and primary search, in the offensive strategy, initiating 9<sup>th</sup> Command, give me a second alarm, Level 2 Staging one block south of Ninth Street on Lee Avenue.*

Engine 1's update report is limited to the following:

*Report of trapped occupants, stretching through Side Alpha.*

Engine 2 and Medic 2 arrive and advises Ninth Command they are Level 1. Ninth Command provides the following orders to Engine 2 and Medic 2 and requests a second ALS ambulance.

*Medic 2, park in front of Engine 1, we have located a victim and will be removing them through Side Alpha.*

*Engine 2, Forward lay to Engine 1 from the hydrant at Ninth Street and Eighth Street, stretch a second attack line off Engine 1, go on-deck Side Alpha, we are through Side Alpha for fire control and primary search.*

Engine 3 (or Truck 1) arrives and advises Ninth Command they are Level 1. Ninth Command provides the following orders to the third arriving company and Engine 2.

*Park out of the way, stretch an attack line off Engine 1, go on deck Side Alpha.*

*Engine 2, stretch through Side Alpha and assist with fire control and primary search.*

Watch the [incident video](#) (50 Response Videos, 2023) from 00:07 to 00:35 and examine Figure 6 illustrating conditions on your arrival.

Figure 6. Conditions on Arrival of Chief 1



*Note: Adapted from 50 Response Videos. (2023). House fire ppl trapped-Hicksville NY.*

<https://bit.ly/44Vh3JW>.

2. What actions will you take prior to contacting IC #1 (Engine 1) to begin command transfer?
  
  
  
  
3. State your command transfer communication after IC #1 acknowledges your radio contact (exactly as you would transmit it).

Watch the [incident video](#) (50 Response Videos, 2023) from 00:35 to 01:05 (changing conditions as you complete the command transfer). You also observe Medic 2 providing care to a patient in the front yard on Side Alpha. Following your confirmation of the location and assignment of Engines 1, 2, and 3 (or Truck 1) and request for a conditions, actions, and needs (CAN) report, IC #1 provides the following CAN:

*That is correct. Removed one occupant, transferred to Medic 2, working on an all-clear and fire control, air status just over 50%, no needs.*

4. State the communication you would have with IC #1 and dispatch to complete the command transfer (exactly as you would transmit it).
  
  
  
  
  
  
5. What action would you take based on the CAN from Engine 1 (IC #1). State the communications you would have with the operating companies exactly as you would transmit them.

Watch the [incident video](#) (50 Response Videos, 2023) from 01:05 to 01:35. You receive the following radio message from the third arriving company that was assigned to go on deck Side Alpha.

*Command, Engine 3 (or Truck 1) with Priority Traffic. This is a one and a half story house with a lookout basement, one story on Side Charlie, basement is not involved, smoke from the windows and eaves on Side Charlie.*

6. Would you change the tactical assignments of the first three companies operating at this incident based on this additional information. If so, state the tactical orders you would provide exactly as you would transmit them.
  
  
  
  
  
  
7. Chief 2 arrives and advises that they are Level 1. State the assignment you will give Chief 2 exactly as you would transmit it.

Watch the [incident video](#) (50 Response Videos, 2023) from 01:35 to 02:35 before answering the next several questions.

8. Did you get out and perform 360° reconnaissance prior to transfer of command or did you task a company to perform this critical task? What factors influenced your decision?

9. The second line stretched into the building performed a quick hit through the window on Side Alpha prior to entry. However, the fire quickly regrew after water application was stopped. What factors may have influenced this quick hit's lack of effectiveness?
  
  
  
  
  
  
10. How might interior conditions have been different if Engine 1 performed an effective quick hit prior to entry? Would this have been a reasonable tactic given the report of trapped occupants? Why or why not?
  
  
  
  
  
  
11. There was no control of the exterior door on Side Alpha or interior door to the fire compartment (evidenced by consistent air track indicators and fire conditions at the window). How might fire conditions and conditions on Floors 1 and 2 have been different if door control had been maintained at the entry point or the door to the fire compartment had been closed to isolate the fire area (which may or may not have been possible depending on condition of the door)?

**Additional Learning:** There are multiple tactical considerations identified in the Underwriters Laboratories Fire Safety Institute's technical report *Impact of Fire Attack Utilizing Interior and Exterior Streams on Firefighter Safety and Occupant Survival: Full Scale Experiments* (Zevotek, Stakes, Willi, 2018) that relate to the conditions encountered in this incident.

- ***Transitional Attack with Fire Showing Near the Entry Point.*** "When there's fire venting from the A side, near the entry door, with no other openings on the structure, it's easy to determine the location of the fire. In this scenario, a transitional attack may be the most effective way to knock-back, confine, and suppress the fire" (Zevotek, Stakes, Willi, 2018, p. 172)
- ***Fire Attack and Search & Rescue Can Occur Simultaneously.*** "Survivability potential decreases as the time of exposure increases. When resources permit, interior search and rescue operations can and should proceed simultaneously regardless of the fire attack tactic selected" [quick hit or interior] (Zevotek, Stakes, Willi, 2018, p. 180).
- ***Water in the Fire Compartment Matters, and so does Timing.*** "Effective application of water, whether from the interior doorway or from the exterior window, into the fire compartment has a positive impact...With all else being equal, the tactical choice on where to apply water from should be based more on the time it takes to knock back the fire and less on the position the water is being applied from. (p. 184)

- ***Suppression Operations, Both Interior and Transitional, Did Not Increase Potential Burn***

***Injuries to Occupants.*** "When fire department intervention occurred, regardless of the tactic chosen, the majority of the time the injury did not escalate...injuries are not as severe when the fire department intervened. (Zevotek, Stakes, Willi, 2018, p. 191-193)

How would you approach post incident analysis of this incident with the companies involved. While the occupant was rescued and the fire controlled, slight changes in conditions could have resulted in a less favorable outcome. Individuals actively interpret the events that occur in their lives using logical and consistent forms of sense-making. They primarily do this to comprehend and manage their environment (Heider, 1958). Consider how might firefighters' and officers' attribution of the causes of successful outcome influence their future behavior?

## References

50 Response Videos. (2023). *House fire ppl trapped-Hicksville NY*. Retrieved July 15, 2023, from <https://bit.ly/44Vh3JW>.

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