

BLACKWOOD FIRE COMPANY OPERATING GUIDELINE

9.8 TACTICAL OPERATIONS - Structural Fire Attack

This document will attempt to assist the Company Officer in establishing a basic tactical plan for a number of common types of structure fires. Each general type of structure will have suggested tactics for responding companies and will maintain ICS Incident Priorities.

Tactics Common to Any Structure

On the arrival of apparatus equipped with a Thermal Imaging Camera (TIC) scan the exterior of the building for possible fire location and extent.

The IC should quickly apply the NFA Fire Flow Formula to the structure. Multiply the length and width of the structure and divide by 3 to obtain the fire flow necessary for each floor.

Attack lines and water supply should be established from this information

Make every effort to determine early in the fire whether you have a “contents” fire involving essentially the contents of a building, or a “structure” fire where the fire has breached barriers such as ceilings and walls and is now attacking the structural members of the building.

The goal of the first engine company is to confine the fire and provide a safe exit path for civilians leaving the building and to protect search crews that are not equipped with hose lines, operating in the building.

Water supply to the first engine must be established promptly to allow for uninterrupted fire attack. The first engine should not pass a hydrant unless it is known who will provide their water supply.

The first arriving truck company must start a search of the structure immediately upon arrival and provide horizontal ventilation for the attack crew.

The second arriving truck or rescue should further ventilate the structure to support fire attack and search activities.

Hose	Nozzle	Nozzle Pressure	Flow	Tank Duration	NFA FF
1 3/4"	15/16" SB	50	185 GPM	4 minutes	555 sq. ft.
1 3/4"	TFT	100	180 GPM	4 minutes	555 sq. ft.
3"	1 1/4" SB	50	325 GPM	2:20	975 sq. ft.
Deck Gun	Fog Tip	100	1000 GPM	45 sec.	3000 sq. ft.
Deck Gun	2" SB	80	1000 GPM	45 sec.	3000 sq. ft.
Deck Gun	1 3/4" SB	80	800 GPM	56 sec.	2400 sq. ft.
Deck Gun	1 1/2" SB	80	600 GPM	1:15	1800 sq. ft.
Deck Gun	1 3/8" SB	80	500 GPM	1:30	1500 sq. ft.

Fire Flows and Hose Lays With no Engine on Hydrant

Assuming 60 psi on Hydrant

750 GPM – 800'
1000 GPM – 500'
1250 GPM – 300'
1500 GPM – 200'

9.8.1 Single Family Dwellings - Exterior entrances generally allow access to all areas of structure. Designed for occupancy by usually not more than eight people.

Engine Companies

- 9.8.1.1 The minimum attack line used for this assignment is the 1.75" attack line equipped with a smooth bore or TFT nozzle set to straight stream. (Standard pump pressures for both nozzles provide 185 gpm)
- 9.8.1.3 Pump operators must utilize standard engine pressures when supplying pre-connected attack lines to ensure the line has the desired flow, but can still be maneuvered.
- 9.8.1.5 Unless extraordinary conditions exist the fire attack will normally be through the front door. Crews should plan their attack this way unless otherwise directed.
- 9.8.1.6 Extinguishing the fire will provide the safest situation for others in the dwelling, however, the attack crew can not allow the fire to possibly flank them and move up stairs or into other areas unseen. The officer should

scout the area and decide on the safest tactics.

- 9.8.1.7 Additional hose lines should be placed into position to extinguish the fire and to attack possible fire spread within the building and to exposures.
- 9.8.1.8 In some circumstances, fire conditions on arrival will prevent immediate entry. The company officer may utilize the deck gun in either the portable or apparatus mounted mode or the blitz line (325 GPM). Additional companies should obtain a water supply and prepare for attack with hand lines.

9.8.1.9 Truck Companies

- 9.8.1.10 Truck crews should be split into teams to search all areas of the dwelling as quickly as possible. One crew should search between the front door and fire while the other crew searches between the front door and sleeping areas. If fire conditions prevent immediate entrance to all areas or victims are reported in certain areas of the dwelling, the crew can be divided so a search team enters and checks common areas, the probable exit path of victims and then other areas which may have been occupied. The second team may perform Vent, Enter and Search or VES. The outside crew will vent windows from the exterior, enter probable occupied areas via ground ladders and conduct the search. The crew should immediately secure interior doors to prevent fire entry and search the area. If fire conditions dictate, the crew should exit via ladder after the search and check the next area in a similar fashion. If conditions outside the search area permit, the crew can proceed via interior passages to the next area to be searched. (NOTE: VES shall not be performed in conjunction with positive pressure ventilation during the fire attack)
- 9.8.1.11 Ventilation for single family dwellings depends on the fire location. Fire in single family dwellings usually only require horizontal vent of the fire room(s) in front of the advancing attack line. Fires on top floors or in attic spaces may require vertical ventilation. This should be accomplished rapidly where conditions dictate. Crews performing ventilation must verify the fire location prior to venting, for maximum benefit.
- 9.8.1.12 Truck company members should be assigned to the attack hose line also to assist in opening up the fire area to check for extension and to assist with overhaul and local ventilation.
- 9.8.1.13 Available companies should begin salvage efforts as soon as possible to preserve as many of the residents possessions as possible.

9.8.2 Multiple/Attached Dwellings - Exterior entrances lead to individual living units or to interior common areas which have secured access to individual living units.

Newer condo communities have a number of varied floor plans consisting of 1, 2, and 3 story units located within the same structure and the building layout generally can not be determined from the exterior.

Company officers should be aware that many older, large single family dwellings may have been converted to apartments or individual rooms. When arriving at a larger dwelling of this type, be alert for multiple mailboxes and/or electric meters, enlarged parking areas with a number of cars, multiple entrances and fire escapes. These fires require different tactics from single family dwellings.

Townhouses are attached single family dwellings and can generally be treated as such with the obvious exceptions of placing hose lines and truck companies into dwellings to the sides to check for fire extension and victims.

As in all structure fires, locating the fire is of the utmost importance. In this type of structure it is even more important due to the possibility of multiple roofs and void spaces, building entrances remote from apparent fire location and the increased life hazard present.

9.8.2.1 Engine Companies

The goal of the first attack line remains the same, to confine the fire and provide a safe exit path for civilians leaving the building and search crews that are not equipped with hose lines operating in the building.

The IC should assign the first truck company or 2 extra members of the first engine to locate the fire and the best access. The truck crew with the TIC should be best equipped to complete this task. The core of the engine company (officer and 2 firefighters) should obtain a water supply and prepare to deploy the first attack line and should wait until the entrance to the fire location is found. This tactic will allow for a direct attack to the fire and will not cause the crews to deploy lines to areas not involved. If the fire is searched for with the first attack line, crews will be ineffective and time delays will result in trying to redeploy charged lines from one unit to another.

9.8.2.3 When the fire is located, the first line should be deployed to confine the fire and extinguish as possible.

When the fire is located, the IC should be notified immediately. The IC should deploy attack lines to all exposed units, prioritizing based on probable routes of fire spread.

Crews should be sent to all sides of the located fire, especially below the fire. Undetected fire in a lower floor can result in collapse, flashover or other rapidly deteriorating fire conditions.

Truck Companies - Fires in MOD generally require multiple truck companies. It is essential that the fire be located, all areas searched and ventilation performed nearly simultaneously.

Garden Apartments

Fire Apartment - The fire apartment must be identified as rapidly as possible and initial attack efforts concentrated there. A hazard in these buildings is not identifying the lowest floor involved.

Floor Above - The apartment directly above the involved apartment must be addressed by the 2nd hand line. Rapidly check for and cut off extension.

Top Floor - If fire has spread to the floor above the fire, check the top floor apartments and then work down looking for extension.

Lateral Spread - Lateral spread between units on the fire is possible, but not the norm in these complexes. Lateral spread on floors above the fire floor is a real possibility due to fire entering common floor areas.

Common Area Protection/Ventilation - In large complexes, like Fountainview, protection of the common exit areas is essential. While no combustibles should be stored in the stairways, be aware of residents exiting and being trapped by fire and gases as the fire apartment is entered. A short delay in fire attack to ensure victims can exit on their own is preferable to performing rescues or assisting residents from the building.

Roof - The roof construction of these buildings varies from flat, built up roofs which provide little or no means of fire spread to lightweight "A" frame trusses which offer avenues of fire spread plus the potential for early collapse.

Small Commercial Occupancies

Stock

Haz Mat

Construction

Forcible Entry

Large Commercial Occupancies

Water Flow

Fire Spread