

**GENERAL
ENGINE COMPANY OPERATION**

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Each engine company crew is comprised of an officer and three to five firefighters. Crew positions include nozzle, backup, door, control and forcible entry, and chauffeur. In four-firefighter companies, the control man assumes the door man role after completing his original assignment. Each man carries a hose strap, spanner, door chocks, and flashlight.

Western Reserve Joint Fire District company operations are heavily dependent on order of arrival at the incident. The first arriving engine company officer determines the initial strategy, advises incoming units of his intentions, and begins operations. Second and subsequent arriving companies base their operations on the initial strategy and perform specific tactics depending on their order of arrival.

In order to be aware of arrival order and directions from the first officer on the scene, other company officers monitor the dispatch frequency on their apparatus radio while the chauffeur monitors the primary tactical frequency on a handi-talkie or portable radio. If not first arriving, and if no instructions have been transmitted by radio, company officers report to the incident commander. They normally report in person, advising him of their company number and whether second, third, or fourth due. Conditions, however, may require that the report be made by radio.

If the first due engine and ladder arrive at the scene at the same time, the engine proceeds into the fire block first, followed by the ladder. When specific fire location information is lacking, the company begins to look for signs of fire one block before the reported location.

The first arriving officer conducts a size up, taking into consideration the following 13 factors: time, life hazard, area, building height, construction, occupancy, location and extent of fire, water supply, street conditions, auxiliary appliances (sprinklers, etc.), weather, apparatus and equipment, exposures.

If lives appear threatened upon arrival and no ladder company is yet on the scene, life saving operations must be immediately initiated. Such actions will range from rapid attack on the fire, to physical rescue coordinated with the fire attack, to rescue without coordinated fire attack.

The chauffeur of the first arriving engine company, acting on his officer's instructions, may direct incoming units to assist in stretching the first hose line or to stretch additional lines. He may also transmit further information concerning location of the fire as well as life and exposure hazards.

Hose lines are stretched only after fire is definitely located. The first arriving engine company officer must determine whether to confine or extinguish the fire. That determination usually made in coordination with the officer of the first arriving ladder company, but may have to be made by the engine company officer acting alone. Confinement may be accomplished by nothing more than innovative ventilation. The first hose line may be committed to confinement, and others to extinguishment.

When life safety is a factor, the first line is positioned between the fire and those threatened. Otherwise, the first line is placed between the fire and the most severe exposure. The second line normally backs up the first, and should be of sufficient length to operate on the floor above the fire. The third line, if used, may cover the secondary exit route, protect occupants on the fire escape above the fire, protect exposures, or prevent vertical extension of the fire.

Once the engine company officer determines his course of action and issues his initial orders, his crew performs the following functions without further instruction: the control man estimates length of the required stretch; the crew pulls the line from the engine and completes the stretch; the chauffeur repositions the apparatus if necessary; and the deck gun is activated if required. It is preferred to lay a line from the hydrant to the fire (a “forward lay”) rather than from the fire to the hydrant (a Back@ stretch).

Meanwhile, the engine company officer completes his interior operational survey to determine the location and extent of the fire. He continues to monitor the tactical radio channel to get reports from the first arriving ladder and other units. If no ladder company is yet on the scene, he enters the fire area to locate the fire and search for occupants. However, if the ladder company is on the scene and handling entrance to the fire area, the engine company officer goes to the area immediately below the fire area. There he determines the general layout, examines the ceiling for holes and signs of fire or structural weakness. He then proceeds to the fire area and links up with his attack team which is completing the hose line stretch.

Several types of stretches are employed, including stairwell, fire escape, aerial or portable ladder, outside building, standpipe or sprinkler, and in-line pumping. The 75’ 3/8” utility rope is often used. Standpipe operations are usually conducted from the connection one floor below the fire floor. Second and subsequent arriving companies, when standpipe operation is undertaken, report in with (usually three) folded or rolled hose lengths and a nozzle.

The line is stretched by the entire crew, which may be assisted by second and later arriving companies. Members of the first due company go to the head of the line (with one exception, noted below). The first person on the line is the nozzle man, followed by the backup man who flakes out the line on the fire floor and assists the nozzle man in moving the line forward in the fire area. The third man on the line is the door man, who ensure that the slack is out of the line from the street to where it enters the fire building. He flakes out excess line on the floor below the fire. He then moves to the door leading into the fire area, and ensures unimpeded advance of the line into the fire area. The door man is responsible for keeping in touch with teams using the interior stairs and operating above the fire floor.

The control man of the first arriving company is always the last man on the line, even when the crew is being assisted by other companies. He may also serve as the forcible entry man. Once the stretch is completed, the control man makes sure any doors are chocked open, then makes his way to the half landing or floor below the fire to assist in advancing the line. He and the door man are prepared to relieve the nozzle and backup men. Note that there is no door man in a four (or fewer) firefighter company.

When the first arriving engine company is in position to begin its attack, the officer radios for the line to be charged. The company officer directs the hose line attack. His position is not fixed, but he is normally with his nozzle team. He ensures the team is at floor level when they enter the fire area. Once inside, the officer decides if the team should go to a standing position. He monitors the tactical radio channel, makes frequent radio reports to the incident commander, checks for heat conditions, and is mindful of safety considerations such as potential “flash over” and “back draft”.

During the attack, the hose stream may be directed at the ceiling or at the fire; it may be used to vent windows; it may be changed to a fog stream to help clear away smoke; or it may be used to sweep and cool the floor. The initial advance is usually made using a straight stream directed at the ceiling and moved side-to-side or in a clockwise rotation. Keeping the stream high pushes the superheated gases ahead at ceiling level, prevents both “roll over” and “flash over”. When the main body of fire is within range, the stream is intermittently lowed to achieve maximum reach and penetration. If side rooms are involved, the stream is used to cool the overhead area in the main fire area as well ahead of the entrances to the side rooms. Fire in these rooms is quickly knocked down, but not necessarily fully extinguished, and the effort to reach the main body of fire is maintained.

The officer determines if any venting or searching should be performed by the backup man, and if relief is in order for the nozzle man.

When the fire has been extinguished, the nozzle and backup men usually are relieved by the door and control man during overhaul operations. Overhaul is intended to ensure there is no possibility of rekindle and that the structure is left in as safe a condition as possible. Minimum use of water and safety of members are emphasized in overhaul operations.