Fireground Search

Training Drills by Green Maltese
Fire Attack is usually performed by the first arriving engine company. The goal of fire attack is a rapid tactical assault on the fire inside the structure.

Rescue is a systematic process used to safely locate, protect, and remove occupants and fire victims from a structure and convey them to a place of safety.

How does 1st arriving decide between fire attack or rescue?

“No other action taken on the fire ground saves more lives than the proper size attack line, stretched to the correct location, and placed into service at the proper time.”

If you can’t accomplish fire attack and rescue simultaneously due to lack of resources then you must choose attack to take the fire away from victims.
Search Operations

Search is considered a fundamental operation in the fire service, searching for potential occupants of a structure requires coordination and lots of practice in order to make sure it’s safe and effective. Many search methods exist for various fire conditions and situations. The officer must decide which method is appropriate for each operation and coordinate the search often while completing other fireground tasks such as suppression. A search operational plan must be agreed upon prior to entry and must include a primary and secondary search.

Review procedures for conducting search and rescue operations.

- What factors are considered when determining the location(s) of a primary search?
- What areas of a building are searched first?
- What incident factors may help you determine a direction or location to begin your search?
- What methods does your department use when conducting a primary search in order to keep your crews oriented and together?

Primary Search: Quick attempt to locate and remove those who are in danger.

- Time is critical.
- Check all areas where victims might be.
- Rely on sight, sound, and touch.
- Use hand tools to extend your reach.
- Check probable areas that are tenable and safe for you to search quickly

Secondary Search: Thorough search conducted after the situation is under control.

- Locates victims not discovered in primary search
- Completed when conditions improve but may still present hazards; IDLH?
- Slow and methodical covering all areas
- Use several teams of firefighters
- Include all areas of the building

Discuss the use of Thermal Imaging Cameras during primary and secondary search operations.
Since most rural fire departments have limited staffing most fireground searches will be done with a charged hoseline.

<table>
<thead>
<tr>
<th>Hoseline Search Guidelines:</th>
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<tr>
<td>- Nozzle person should bleed air from hose and check water before entering.</td>
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<td>- Search should be systematic in direction of fire.</td>
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<td>- Team communicates where doors may be or victims found.</td>
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<td>- Crew must chase all kinks and pinch points.</td>
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<tr>
<td>- Nozzle person can be placed in hallway between adjunct rooms, if an oriented search is being used.</td>
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<td>- TIC can assist the search but never take the place of actually searching.</td>
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<td>- Crews must NEVER pass up fire!</td>
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If nozzle is taken into the room, it should be taken just inside the door to give searcher a point of orientation.

Taking the hoseline around the wall will result in you getting tangled up and slow you down. Have the searchers use the wall NOT the nozzle person.
Most commonly used for residential fires.

How is it done?

- One firefighter crawls along the wall, another grabs onto the first firefighter’s boot and crawls alongside the firefighter following the wall. Crew members crawl along until they hit another wall, then they work down the second wall in a synchronized manner and continue on wall by wall.
- This search method is also referred to as the right or left hand search.

Advantages: The team concept is maintained. The crews enter together and remain together. All members are searching.

Disadvantages: Safety is not the crew’s foremost concern. With all members searching, including the search officer, no one really is focused on the crew’s safety, fire conditions, and where they are in the building.

Only one room gets searched at a time, No one is concentrating on egress.
**Oriented Search**

**Search Operations Skills**

**Oriented Firefighter Search Method**

- Emphasizes team search methods
- Must have a predetermined plan and this must be practiced before use
- This method is ideal for use when small rooms are involved
- Search leader remains oriented to one place in the structure.
  - On hose or rope line
  - In entry way to room
  - In hallway
- Oriented persons job is to guide the searching firefighter back to them
- Searching firefighter will use traditional search methods while working inside a room
  - Right hand, left hand, quick primary search sweeps

**Oriented Person Tips**

- Communicate with searchers
- Pound on floor to make reference point for searcher
- Consider Thermal Imager
- Place light into doorway
- Monitor fire, heat, smoke conditions at all times

**Advantages**: The crew’s safety is in focus at all times. Searchers are allowed to focus on finding victims, not on ropes or hoselines. Searches are conducted faster. Several rooms are searched at the same time, thus increasing the amount of victims that can be found.

**Disadvantages**: It requires much concentration on the part of the oriented person.
Fireground Operations

Team (Large Area) Search

Search Operations Skills

Team (Large Area) Search

Most commonly used for large commercial fires.

Large Area Search Pattern

- Used for:
  - Warehouses
  - Large Office Buildings
  - Garages
  - Anywhere standard techniques do not apply due to the size of the structure.

**Advantages:**
- Crews remain together. Another advantage is you can search large areas quickly.

**Disadvantages:**
- Safety is not foremost with the crew or officer. The team is relying solely on the rope to find its way out. The rope can burn or be cut through, and the team may not know it until it’s too late.

Watch going more than 150 feet deep into a building!! You may not have enough air to exit the building if you go farther than 150 feet.
The Aisle Search method is used in Grocery Stores or Big Box facilities or any occupancy that has common aisles. This search uses the stationary aisles as landmarks and the team's point of orientation while searching.

Aisle Search

1. Point Man  2. Team Leader  3,4. Search Firefighters

Equipment needed:
- Full PPE & SCBA
- Radio
- TIC
- Flashlight
- Forcible entry tools
- Search rope/Hoseline

Safety Note:
Once the searching FF makes it to the end of the aisle they proceed across the aisle and search down the same aisle. DO NOT go out of that aisle into another one or the search can lose its focus and you can become lost!
• Always be alert for sounds of a trapped victim (e.g., coughing, moaning, or crying).
• Sweep beds and couches from front to back.
• Check all rooms, closets and bathrooms thoroughly.
• A locked bathroom door is usually an indication that someone is inside.
• When forcing an entrance door, if the night latch chain is in place, this indicates a strong possibility that victims will be present.
• Try to avoid moving furniture, as it may hide a victim or block a doorway to an adjoining room by doing so.
• To find out whether there is a victim under a bed, probe with an arm, tool, or insert a leg under it and sweep gently back and forth.
School searches are physically and emotionally demanding.

From a search perspective a school can usually be divided into 3 main areas of concern.


Each one of these will require different search methods.

Large area search would be the search method of choice for gymnasium.

Center hallways make classrooms idea for using oriented search methods to cover more area quicker.

Count doors to know where you are in the building.

Office area can be searched by standard or oriented methods

Don’t throw or push desks and chairs ahead of you as you go. Eventually, you will create a bottleneck.

A child might be under those desk or chairs.

Always check with school staff for a head count and the last known location of anyone reported missing!
To search a grocery store effectively, you need to follow common features such as checkout lanes and aisles.

If you are ever faced with searching a grocery store, you need to divide the store into two areas and that is based on where is the probability of the most life?

The two highest life hazard areas would be the front cash register area and the back stockroom areas.

Since the front of the store is usually further than 150 feet to the back stockroom, most likely you are going to have another crew be assigned to search that area based on air management point of no return.

Always take a charged hoseline in a stockroom due to huge fuel load and it being all cut up.

Pre-Incident planning is essential to your success.

Aisle Search method can be used to search the center of the store.

Highest Life Hazard

1st area to be searched

2nd area that needs to be searched usually by a different crew from the rear of the store.
There are two basic types of churches: “traditional” (they usually look like churches) and converted.

- **Traditional type**: fixed seating called pews. Aisle search can be used between the pews. Make sure you take a 2 ½ hoseline to combat larger fires that can develop due to large open area with high vaulted ceilings.

- **Converted type**: non fixed seating such as folding chairs. Use caution while attempting to search these buildings. They were not designed to be places of assembly and may be cut up and no specific layout to assist us with landmarks for searching.

- **Don’t forget the basement!** Most churches have many functions such as Sunday classes and daycare in the basement.

- **Church annex’s** can be searched as an office or residential depending on the layout and use of the building.
Campus housing falls into 3 types. University Owned, Greek Units and Off Campus Housing.

Center hallways in Greek units make Oriented Search methods idea due to fact there is large life hazards.

Beware of cold dorms and large numbers of sleeping students in bunk beds. These will be a maze to search.

There are two main types of university own housing: Residence Halls and Apartments.

Oriented search should work great on these due to common hallways.

Access is a huge concern with residence halls.

These can be searched using a standard search method. Beware of these open living concept apartments they all share common kitchens and restrooms however this building would appear to house around 5 people in normal setting but in a campus setting it can have anywhere from 10 to 20 students living in them.

Off campus housing is where the majority of student fire deaths happen. This can usually be contributed to a lack of active and passive fire protection systems. Standard or a modified oriented search can work well in these.