

	TRAVIS COUNTY ESD #5 MANCHACA FIRE RESCUE Department Best Practices	A103
	Authorized by:  Fire Chief Chris Barron	Effective: 7/18/2017 Rescinds: NA Reference: AFD A103.1 Application: Shift Personnel
Search and Rescue at Fires		

I. Purpose

To provide guidelines for search and rescue on the fireground.

II. Background

Search and rescue of trapped or threatened individuals is a priority at all fire and emergency scene operations.

This document is a direct adaptation of the Austin Fire Department SOG on search and rescue at fires. It has been adopted by Manchaca Fire Rescue as an Auto Aid partner to maximize standardization between partner agencies. Variations and additions to the language from the parent AFD document will be signified by text in italics. Generic changes that do not affect content such as formatting and changing "AFD" to "MFR" will not be noted.

III. Policy

- A. **Search operations.** After firefighter Life Safety, fireground operations will focus on occupant/victim Life Safety. If a search is initiated, a primary search shall be conducted to quickly survey the interior for readily accessible occupants. A thorough, detailed secondary search shall be conducted when practical to ensure no trapped or threatened individuals were missed.
- B. **Two-In, Two-Out.** State Law stipulates that unless there is an immediate need for rescue, no interior operations will begin until there are two members available outside the structure who can affect rescue of firefighters, if necessary.

IV. Best Practices

The following best practices should be followed at all firefighting and emergency scene operations, except where deviation can be justified by Fire Officers. Any significant deviation should be communicated to responding/on-scene units as soon as possible.

In addition to quick extinguishment of a fire, rescue of trapped or threatened individuals is a primary strategy for satisfying the number one fire service incident priority: Life Safety.

- A. **Responsibility.** Ladder Companies generally have the primary responsibility to perform the search and rescue function at fire and emergency scene operations. However, all Companies should be prepared to undertake immediate rescue, if needed, in order to ensure the life safety of trapped and threatened individuals.
- B. **Risk/Benefit of search operations.** Search and rescue operations at fire and emergency incidents are inherently risky and shall be undertaken only after deliberate risk/benefit analysis of the situation.
- C. **Two-in, two-out.** State Law stipulates that interior firefighting operations should not be initiated without adhering to the “two in/two out” principle. “Two in/two out” means the initial fire attack handline crew or search and rescue team must be comprised of a minimum of two personnel. Additionally, two personnel should be staged outside of the structure to undertake immediate rescue of the firefighting personnel should the need arise. The only industry accepted deviation to this principle is the immediate need for rescue of trapped or threatened occupants.
- D. **Need for search.** Often the presence of trapped or threatened individuals is uncertain and search operations are necessary to ascertain whether or not persons are present. Experience, judgement and training assist in determining the likelihood of trapped or threatened individuals. Generally, residential structure fires at night with evidence of occupancy but no additional information have a greater need for aggressive search operations than do other reported fires. Any structure fire with a first hand report of unaccounted-for-occupants also generally necessitates a search and rescue operation.
- E. **Handline protection.** Ideally, a separate handline crew should accompany search and rescue teams. This crew can provide protection to the search team.
- F. **Thermal Imaging.** Search teams should utilize the Thermal Imaging Camera (TIC) while conducting searches. The TIC gives searchers the ability to “see through the smoke” and assists them in conducting a thorough search (refer to MFR Best Practices B302 Use of Thermal Imaging Camera).
- G. **Minimum equipment for search.** At a minimum, search and rescue team members should be equipped with a portable radio, hand lights and forcible entry tools. The utilization of a search line should be strongly considered. The search line provides a means to quickly locate the entry point should search team members have to exit the structure.
- H. **Target Exit Device.** Searches of the large open spaces often found in showrooms, warehouses and other commercial structures, in low visibility or potentially deteriorating conditions, should be conducted utilizing personal search lines tethered to hose lines or main search lines. The use of Target Exit Devices (TEDs) at exits should be considered of high importance.

- I. **Search patterns.** Searches should be patterned in a deliberate, logical fashion. The optimal approach to a search pattern is to start in the area immediately adjacent to the fire area (the area where persons may be most at risk). In very low visibility, it may be necessary to initiate a right or left-hand search pattern immediately upon entry.
- J. **Orientation.** Search team members should remain constantly aware of their location and surroundings. Keeping contact with the wall when conducting searches assists the search team in staying oriented. Search team members should recognize and be aware of familiar landmarks and possible points of escape, such as windows, doors and exterior walls
- K. **Marking search progress.** Areas or rooms already searched should be conspicuously marked so that redundancy while conducting the initial search can be avoided. Marking doors or walls with chalk or tying surveyor's tape in a prominent place are effective means of marking searched areas or rooms. Room doors should be closed and marked after the area is searched to help prevent fire extension.
- L. **Use of positive pressure ventilation.** Positive pressure ventilation may improve visibility, allowing the search to be conducted in a quick and efficient manner. Search team members may need to ventilate by opening windows and exterior doors as they search. The creation of additional flow paths must be considered before venting and limited by the closing of interior doors.
- M. **Thoroughness.** Thorough searches must be conducted, as occupants may become disoriented and may be found almost anywhere, such as under beds, in closets, in cabinets, or in bathtubs. A common search tactic is for one search team member to remain oriented at the door of a room while the other search team member conducts the room search. Sweeping with tools, arms, or legs to feel around and under objects ensures that as much area is covered as is practical.
- N. **Secondary egress.** A secondary means of egress for search team members should always be considered. Exterior doors and windows should be opened when practical and flow paths can be controlled by the closing of interior doors. Ladders should be placed at windows and access points above grade. Search team members should carefully observe the exterior of a structure prior to entry to identify possible secondary egress points.
- O. **TED use.** TEDs may be placed at egress points when available so that firefighters operating on the interior of a structure have an audible and visible beacon to help guide them out if necessary.
- P. **VEIS.** When a complete primary search of a structure is not possible due to fire and/or ventilation-controlled fire conditions, the Vent-Enter-Isolate-Search (VEIS) method is an effective technique for safely searching high life hazards individually. The steps for proper VEIS include:
 - a. **Vent.** From the exterior and with firefighters ready to make entry, the firefighters completely ventilate the window to one room (unless other information about the location of a victim is provided, this is usually a bedroom window).

- b. **Size-up.** Once the window has been vented, firefighter must size-up the smoke and heat conditions present in that room. The occupant survivability profile based on the conditions present and the risk to firefighters must be considered before entering the window.
 - c. **Enter and isolate.** If the decision to enter the window is made, one firefighter enters the room and immediately closes the interior door to isolate the room and prevent the creation of a flow path from the fire toward that room and the window vent opening. If conditions are appropriate, a quick tool length search in the immediate hallway area just outside the interior door may be conducted.
 - d. **Orientation maintenance.** While one firefighter is inside, another firefighter must provide voice contact at the window.
 - e. **Search.** The entry firefighter performs a primary search of the room and then immediately exits the window he or she entered.
 - f. **Ladder placement.** Ladder positioning (if one is needed) should be set for rescue from the window.
 - g. **TIC use.** A TIC should be used during VEIS operations whenever possible.
- Q. **Communications.** Search and rescue teams shall report when the primary search is complete, and the time noted on the IAP. Communications with interior search and rescue teams is a critical safety component. Command should ensure that radio contact is maintained and monitored.