



GALENA FIRE DEPARTMENT
Standard Operating Guideline
OVERHAUL

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Purpose: To search out and extinguish hidden fires; to protect the scene after the fire; to preserve evidence of the fire's origin and cause; and to restore premises to safe condition.

Overhaul is intended to follow fire suppression by searching out and extinguishing hidden and spot fires, and preserving the fire scene to the best extent possible.

Personal Considerations

Wear full Personal Protective Equipment including mandatory SCBA. The same possibility of injury and illness exists during overhaul as during firefighting.

Toxic atmospheres exist during overhaul operations. This is actually one of the worst times to remove S.C.B.A. because there is an abundant presence of toxic gases due to incomplete combustion, as well as accumulation of gases leftover from fire.

Overhaul is a strenuous activity. Firefighters should pace themselves during overhaul operations. Firefighters exhausted from firefighting operations are more susceptible to injury. Due to this, these duties should be commenced with fresh, alert crews.

Safety Considerations

Dangerous building conditions should be identified, barricaded and/or corrected. These include:

- Weakened floors and ceilings due to fire.
- Fire damage.
- Water collection.
- Concrete spalled by intense heat.
- Wood-framed stairways weakened by fire.
- Deformed steel roof members (tensile strength is affected at about 500°F).
- Walls pushed outward.
- Due to elongation of steel roof.
- Weakness of supporting member.
- Mortar decomposed in brick joints due to excessive heat.
- Gusset plates pulled out of roof trusses due to intense heat.
- Sharp debris/rubble.
- Wet, icy, or slippery areas.
- Live utilities.
- Tripping hazards.
- Consider heavy roof mounted equipment's effect on continued structural integrity.
- Chimneys present special falling hazards.

Areas Exterior to the Structure May Present Hazards

Hazard considerations include:

- Potential building collapse.
- Isolate and deny entry in an area at least 1 ½ times the height of the tallest wall.



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- Remove valuable property within potential collapse area only if safe to do so.
- Electric transmission lines downed or damaged by the fire should be determined an isolated area and deny entry.
- Minimum 25' exclusion area in all directions marked by yellow flagging.
- Ice buildup in cold weather creates a great trip and fall hazard.

Inspection of the Building

All Portions of the building should be carefully inspected for:

- Sagging floors and sagging ceilings.
- Bulging or cracked walls.
- Weakened roofs.
- Loose cornices.

Structure Safety

Areas of uncorrected weakness should be placed off limits to all personnel.

Correct any conditions that can be corrected by isolating the problem and shoring or bracing the ceiling and walls to provide temporary stability.

Holes in floors and stairways should be marked and barricaded with yellow flagging to prevent accidental access.

Utilities (gas and electrical services) should be disconnected if any safety hazard is suspected. DO NOT restore gas or electric service while on scene.

Sharp exposed objects should be isolated or rendered safe.

Overhaul Safety Considerations

- Routes - Establish clear routes or traffic lanes when hauling debris out of a structure
- Night-time operations require lights that should be placed to illuminate:
- Tripping hazards.
- Holes.
- Stairways and other danger areas.

Prior to pulling ceilings and walls, make sure the area is clear of personnel and ensure portion of structure being pulled is not too large.

Do not freelance, pull structural members only in an effort coordinated and approved by the Incident Commander or Crew Officer.

Exercise care not to inadvertently contact an energized electrical line in a concealed space or break a water line, thereby increasing the amount of water damage and creating additional slip and fall hazards



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Understand the Impact of the Contents

- The damaged contents of a building can present serious safety hazards
- Hoarding
- High piled stock
- Non-palletized storage
- Stock on weakened shelves
- Wet material that absorbs water adding weight to the contents
- Unstable or reactive liquids, solids
- Etiologic or radioactive materials
- Opened or leaking tanks of liquid
- File cabinets, safes
- Heavy machinery especially if mounted above floor level
- Overhead hazards include signs, marquees, decorations, or roof mounted equipment

Extinguishing Hidden Fires

Full PPE including SCBA should be worn during any overhaul operation.

Beware of electrical lines and plumbing when breaching walls in search of fire. Use thermal imaging cameras if available.

Hose-lines

Charged lines should always be readily available. Smaller lines can be used during overhaul.

Depending upon the materials to be extinguished, a straight stream can be used for penetrating tightly packed materials.

Notify investigators before anything is moved or altered.

Wetting Agents

Various wetting agents are very useful on hidden fires involving cotton, baled goods, upholstered goods, and other such materials.

Dust-Laden Areas

Require that overhaul be carried out in a careful and deliberate manner. If care is not exercised, you could dislodge dust, and smoldering fires could cause ignition or re-ignite.

When using water in dust laden areas apply light fog streams and take care to minimize dust movement. Wetting agents can be helpful.

Grain Bins and Product Storage Bins that Emit Dust

If fire extension is suspected wet down sufficiently or immerse in water.



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Hay Bales and Livestock Feeds

Firefighters may have to use heavy equipment to separate. Wetting agents can be very helpful in penetrating materials.

SUMMARY

All firefighters should perform several actions before overhaul operations begin:

- Conduct a collapse danger survey and rope off danger areas
- Set up portable fans to remove toxic smoke and gas
- Set up portable lights and power supply
- Survey walls and ceiling with thermal imaging camera for hidden fire
- Shut off utilities of gas and electricity utilities
- Determine the fitness of firefighters and select those most able to perform overhaul. Rest and rotate the others. If necessary, ask the fire ground commander to call fresh companies for overhaul
- Assign firefighters specific areas large enough to provide safe work areas
- Supervise and coordinate over-hauling in close quarters where two or more firefighters must work together
- Require that SCBA face pieces and eye shields be in place when pulling ceilings
- Notify incident commander if of any smoldering rubble that must be thrown from a window

Extinguishing hidden fires is very important on any fire you may fight. There are a variety of ways to put these fires out. Wetting agents, water and common sense if applied will get the job done. It is important to remember that safety procedures must be maintained throughout this task. Many fire fighters have suffered painful and needless injuries due to negligence or exertion during overhaul.

GFD members must be concerned with removing dangerous conditions in the fire building, and in the area surrounding the fire building. This is done to ensure safety of the public as well as firefighters. All buildings may not be made safe enough for continued occupancy. An investigation shall be done on suspicious fires, and those with complex overhaul conditions before the building is released.

Overhaul procedures require careful preparation before they are performed. The success or failure of overhaul can be directly attributed to the degree of training, planning, applying appropriate safety guidelines.