
	Cincinnati Fire Department Fire Training Supplement DRILL BOOK	SECTION #1 General Fire Fighting
Date: January 2006	TOPIC TITLE:	Total # of Pages: 16
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TOPIC #5: Salvage & Salvage Covers


INTRODUCTION

- A. Salvage is defined as the saving of possessions in danger of being lost by a fire. Salvage is a definite function of a fire department and particularly of a ladder company.
- B. It requires awareness of the effect of our operations on a building and its contents, and of the necessary action to prevent or minimize damage.
- C. It begins with the initial attack and continues throughout operations and overhaul. The ladder company officer in his overhauling size-up must include a salvage size-up. He must note what is already heavily damaged by fire, what is partly damaged and might be salvageable, and what will be damaged if something is not done before the opening of walls and ceilings commences.
- D. Proper ventilation, and decisions on size and type of stream, are part of salvage operation. Care results in a reduction in breakage and in smoke and water damage, and also reduce exposure of the interior of the building to the elements.
- E. Some damage is unavoidable, namely, forcible entry, venting and extinguishment, however, proper salvage procedures can greatly reduce this type of loss.
- F. Although something may appear to have little value to you, it may have great value to the owner.
- G. Economical purposes:
 - a. Maintain lower insurance rates.
 - b. Keep building habitable.
 - c. Avoiding cost of relocating families.
- H. Public Relations purposes:
 - a. Saves occupants from personal hardship.
 - b. Reserves articles of financial or personal value.
 - c. Displays efficiency.
 - d. The protection of contents by care, the use of plastic sheeting, tarpaulins, etc. will require little additional time. The owner will remember it for a lifetime.

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DUTIES OF FIRE FIGHTERS ASSIGNED TO PERFORM SALVAGE OPERATIONS

- A. In the course of operations all personnel are, in essence, Salvage Firefighters.
- B. Duties of Salvage Firefighters are:
 - a. Perform essential assigned fire duties, initially - venting, searching, laddering, etc.. When fire conditions permit, they shall:
 - i. In residential buildings cover or move furniture on floors below the fire floor to prevent water damage.
 - b. After the fire is under control, salvage operations are carried out in the fire area.
 - i. Move or protect furniture, clothing, machinery, stock, etc., to prevent damage from overhauling operations.
 - ii. Relieve water from floors and protect objects on stories below.
 - iii. Cover openings, broken windows, outer doors, to reduce exposure to weather.
 - iv. Articles of value such as jewelry, papers, money, and documents are to be removed and turned over to the Officer in Command of the operation. Work in teams to eliminate unnecessary suspicion.
 - v. Secure premises on taking up by locking or sealing them, leaving Police, occupant or responsible person in charge.
- C. During operations all members are Salvage Firefighters. One of your objectives is to extinguish, vent, overhaul, and examine in a manner that avoids unnecessary damage to the premises and contents.


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PLANNING

- A. The need for salvage work at operations is always present, and, as in fire operations, planning is part of salvage.
 - a. **Strategy** - What has to be done?
 - b. **Tactics** - How to do it
- B. Planning leads to efficiency. Factors to be considered:
 - a. Location of the Fire.
 - b. Total area involved.
 - c. Nature and value of contents.
 - d. Presence of a sprinkler system.
 - e. Personnel available.
 - f. Salvage equipment available.
 - g. Presence of vertical openings and drains.
 - h. **SAFETY** - always a part of our overall plan.

PREPAREDNESS

- A. In addition to our normal complement of tools the following equipment should be available in order to properly protect property.
 - a. Plastic sheeting.
 - b. Staples and staple guns.
 - c. Hammers and nails.
- B. The condition and the inventory of this additional equipment is also a part of preparedness.
 - a. Staple guns are to be examined and maintained in proper working order.
 - b. Inventory of plastic sheeting, is to be keep up to date. Have enough on hand.

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TOOLS AND EQUIPMENT

SALVAGE COVERS

A. GENERAL INFO


- a. Salvage covers are canvas, 12' x 18', weighing approximately 25# or they are plastic, 12' x 18', weighing approximately 17#. Ladder companies are issued 12 covers; the company commanders determine the number carried on the apparatus. Engine companies are issued 4 covers, two are carried on the apparatus and two are kept in quarters.

B. PRECAUTIONS

- a. To prolong the life of salvage covers and to reduce the need for repairs, some precautions must be taken when they are placed in service.
- b. Avoid unnecessary walking on covers and remove them from floors and stairways when no longer needed.
- c. When removing covers, use caution to prevent puncturing, tearing or ripping of covers. Lift covers over nails, sharp metal edges, broken glass and burning debris rather than dragging them.
- d. Remove debris from covers at the scene of the fire or other emergency; do not roll debris in the covers.
- e. Do not attempt to fold covers by stamping on them immediately after they have been exposed to freezing temperatures.
- f. If it is necessary to nail a cover in place, nail through the grommets.

C. MAINTENANCE:

- a. Spread the cover on a clean area of the apparatus floor or other suitable area and sweep the exposed side.
- b. Use a hose to squirt remaining dirt and debris from the cover. Use a stiff broom to dislodge the dirt.
- c. If the cover has come into direct contact with oil, grease or dye etc., use a mild detergent to remove the stain.
- d. Repeat the process for both sides.
- e. Hang the cover to dry: hang green covers with the treated side out.
- f. After covers are dry a strong light should be used on one side, as a fire fighter on the other side will check for light penetration through holes.

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(Holes are to be marked with chalk, with all marks to be located on the untreated side.)

- g. Large tears or rips should be repaired by Central Stores (include a F-40), while small holes can be patched at the company level using the repair kit issued to all truck companies.
- h. Salvage covers are to be inspected every six months on June 1st and December 1st, followed by a Chiefs report (F-47) stating the number, type and condition of each issued cover

D. OTHER TYPES OF COVERING

- a. Disposable plastic. Comes in large rolls and is supplied from Central Stores
- b. Many companies cut them to sizes to fit common openings:
 - i. They cover roof openings.
 - ii. They form catch basins for water on floor below.
 - iii. Smaller sheets, 4½ x 6 ft. can be used to cover window openings.
- c. Tar Paper. Comes in rolls and is supplied from Central Stores.
 - i. Used to cover roof openings and to cover window and door openings in place of plastic paper.


E. FOLDING CFD SALVAGE COVERS

Salvage covers can be folded in any listed method from a commercial basic fire training manual or the CFD method, according to the company commander's directions.

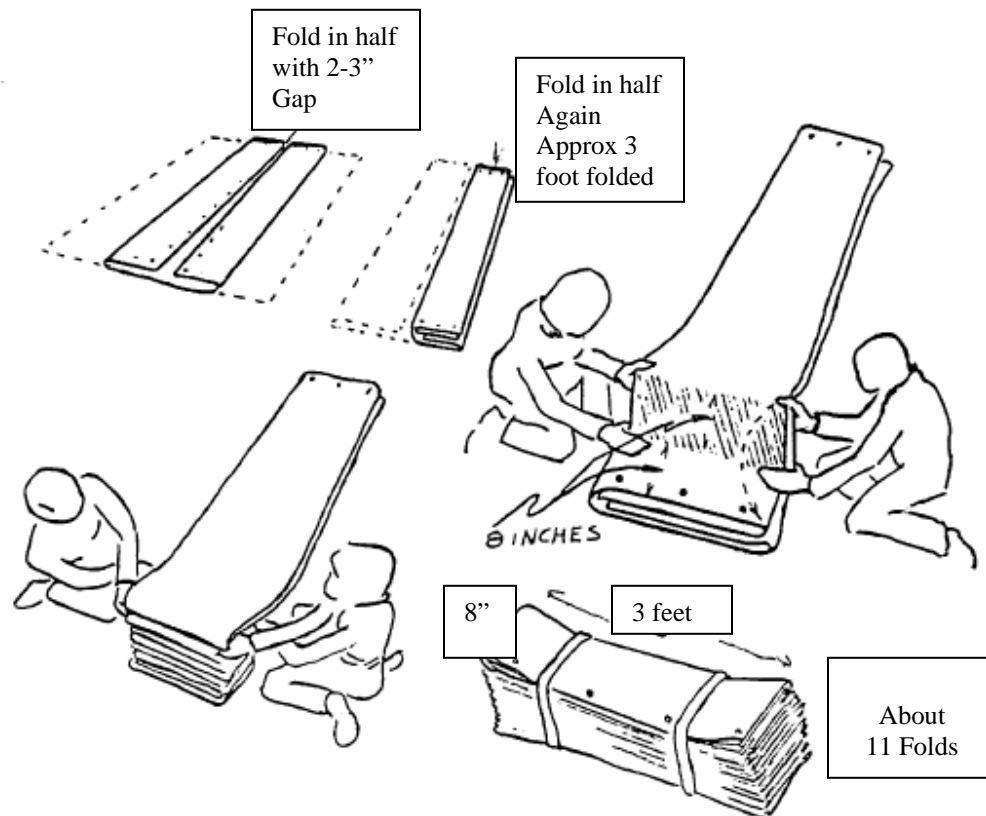
CFD Folding Directions (refer to illustration "E" below):


When the fold lengths are illustrated below, consider the size of your storage compartment and adjust as necessary to allow the cover to fit accordingly.

- a. Lay it flat on the floor, treated side up
- b. Make a fold from each side of the tarp towards the center and leave a (2) to (3) inch gap between the edges
- c. Fold the cover again on itself lengthwise giving you four folds about (3) feet wide
- d. (2) Fire fighters take a firm grasp on the ends of the cover, one hand at each corner and pull the cover towards them (this straightens the cover and removes air between the folds)

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- e. (2) Fire fighters take the following position:
 - i. (1) FF on each side near the end of the cover facing each other
 - ii. Kneel down, place their hands on the top side, about (8) inches from the end with their palms down and thumb under the edge of the cover
- f. Begin folding the cover in approximately (8) inch folds by placing their hands in the positions described above and as illustrated below to make about (11) folds in a 12' x 18' cover, each being about (8) inches in size.




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MISC. TOOLS AND SUPPLIES ESSENTIAL FOR SALVAGE OPERATIONS:

- F. WOODEN LATH
 - a. Used to assist in securing plastic and tar paper to openings to prevent tearing of the material when nails are applied
- G. STAPLE GUNS
 - a. Used with various size staples to fasten plastic covers to windows and other openings.
- H. CLAW HAMMER
 - a. Used to secure roof openings with wood available from fire premises or wood lath before applying plastic covers. Also to secure premises.
- I. NAILS
 - a. Nails for securing boards to roof openings or windows and securing doors.
- J. KNIFE OR SCISSORS
 - a. For cutting plastic sheeting.
- K. AX
 - a. Used to cut hole in floor to relieve water.
- L. BALE HOOKS
 - a. Used when performing salvage work or overhauling to remove baled materials that were or are on fire.
- M. WATER VACUUM
 - a. Used to remove water from a structure or area.
 - b.

OPERATING GUIDELINES

- A. Salvage should begin with the initial parts of the operation.
 - a. **Forcible entry**
 - i. If removing the lock can open door little damage is done to the door frame and door.
 - b. **Ventilation**
 - i. If conditions permit, windows are to be opened without breaking the glass.

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c. Extinguishment

- i. Prudent use of water results in reduced water damage.

B. Let's use a typical fire operation to point out some of the aspects of salvage.


- a. Multiple dwelling fire on top floor, rear apartment. Fire involving the kitchen and living room. Heavy smoke condition on arrival.
 - i. Roof opened over the fire, ceiling pushed down to ventilate fire floor and to examine cockloft for extension.
 - ii. Two windows in living room broken from roof to ventilate fire floor.
 - iii. One window in kitchen broken from rear fire escape to effect quick ventilation and permit entry for search.
 - iv. One hand line advanced via interior stairs to fire apartment and used to extinguish the fire.

C. RESULT:

- a. Water on the floor of fire apartment.
- b. Water leaking into apartment below through light fixture on ceiling of its living room
- c. Ceiling of private hall of apartment below shows signs of discoloration, indicating water build-up and possible collapse of portion of that ceiling.
- d. Three broken windows in fire apartment.
- e. Large hole in roof.

D. DUTIES-Floor Below – Salvage Operations

- a. Initially, place any receptacle available below the light fixture to catch water.
- b. Cover floor of private hall, with plastic. (See illustration 1)
- c. Provide water chute, using plastic and staples to form chute and channel water out of a window. Punch a small hole in ceiling near light fixture to increase water discharge. (See illustration 2)
- d. Group furniture together, away from fixture, and cover with plastic. (See illustration 3)
- e. Check ceiling in private hall for signs of collapse. Relieve water if necessary.
- f. Shut down electrical supply to apartments.

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- g. Secure apartments before leaving.
- h. Check floors below for possible water.

E. DUTIES – Fire Apartment – Salvage Operations

- a. Remove smaller pieces of furniture, pictures, lamps, etc. to bedroom. Place them on the bed and cover them.
- b. Remove water from floor with squeegees or shovels. Push it out to the public hall. Use rag or papers to prevent water from entering apartments on the same floor and floors below.
- c. Large pieces of furniture are to be moved and grouped together in an area of the room where they will be least exposed to overhauling operation and covered. (See illustration 3)
- d. Note: If not equipped with material to cover furniture, move it and use a blanket, sheet, carpet, rug, or shower curtain from the fire apartment as a cover.

F. CLOSING OPERATION – Fire Apartment – Salvage Operations

- a. Windows covered with plastic sheeting. (See illustration 4)
- b. Roof opening covered. Use wood from fire building, nailing it across the opening to prevent persons from falling into hole. The wood used must be able to support the weight of a firefighter in case of another fire in the building. Consider using interior doors from fire apartment. The plastic cover is then applied, using available wood cleats, furring strips and nails to hold plastic in place. (See Illustration 5)
- c. Plastic sheeting is to be stapled over skylight of public hall if glass has been broken. (See illustration 6)
- d. Get building superintendent to help
- e. Secure all apartments before leaving.

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SPRINKLER DISCHARGE

A large discharge of water before the arrival of the Fire Department is usually the result of a sprinkler discharge.

- A. Water damage can be minimized by:
 - a. Use of wood wedges to plug the open sprinkler heads until the system is shut down and returned to service.(See illustration 7)
 - b. Furniture moved and/or covered.
 - c. Plastic sheeting can be used on the floors below, covering the floor with the edges stapled to the walls and to other articles, with the edges raised, thereby forming a pool. Water can be removed later.
 - d. A ladder, a door, or boards can be used to form a plastic chute to catch water from above and channel it out a window, or into a sink or bathtub or other receptacle. (See illustration 8)
 - e. Elevator shafts shall NOT be used for removal of water, and every effort shall be made to prevent water from entering the elevator shaft. Water could cause a malfunction of the elevator.
 - f. If plastic covers are not available, the standard tools shall be used to channel the water. For example shovel it into a public hall or out a window, and consider removing or breaking a toilet if this drain is conveniently located. It is sometimes necessary to relieve floors of water for the safety of operating forces but every effort should be made to avoid causing additional damage, if at all possible.

ELECTRICAL POWER

When water has seeped through several floors or through or around electrical outlets, the possibility of a short circuit exists. Circuit breakers should be thrown off or fuses removed from the circuits serving the affected areas. If necessary the main disconnect should be deactivated.

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SAFETY

- A. When water has been pushed to a public hallway or enters by any means, a safety problem is created in that hall and on the stairs.
 - a. Floors and stairs become slippery and all members should exercise caution.
 - b. Residents should be advised of the conditions before they are permitted into the building and/or use public hall and stairs.
 - c. The building superintendent should be advised to mop dry these areas as soon as possible.
- B. Excessive water load on floors could cause collapse of ceiling below or of the entire floor systems. Rectify the condition and check the safety of the floors before allowing occupants back into their apartments.

The Hydraulics Topic in the Engine Company Operations Section discusses the affects of water and the weight of water on a structure.


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Illustration 1

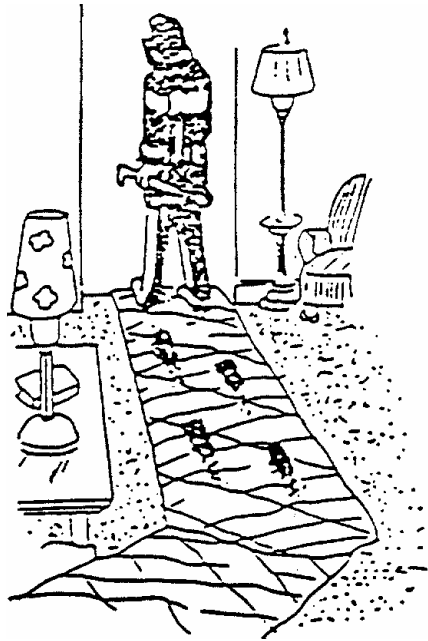
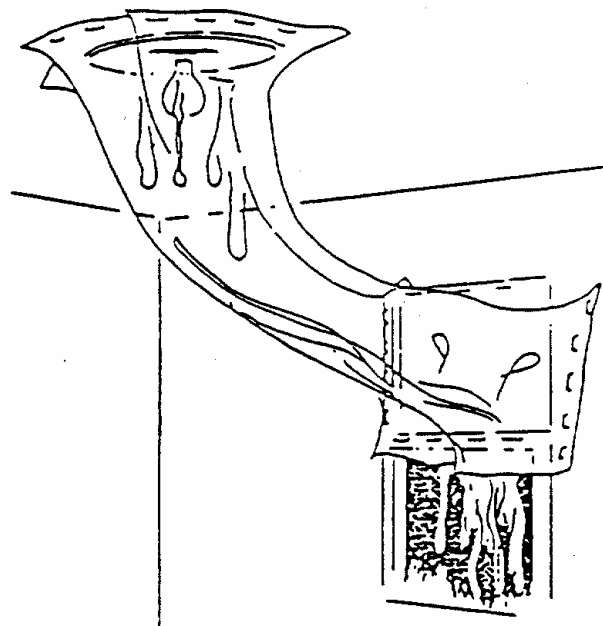


Illustration 2




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Illustration 3

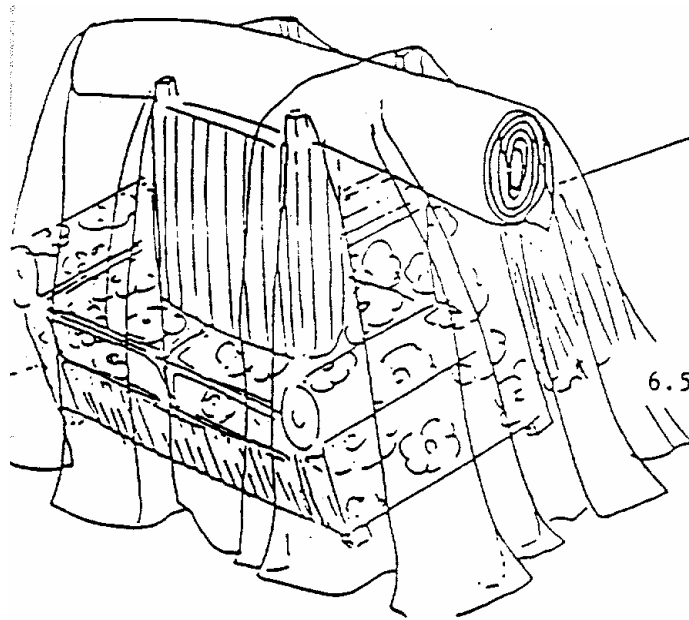
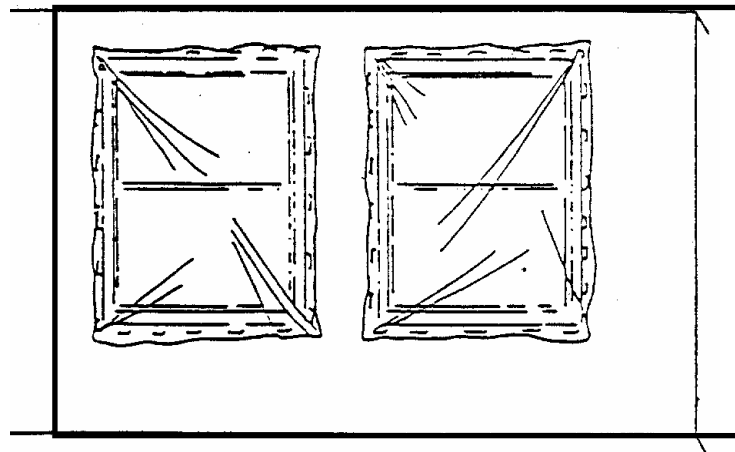


Illustration 4




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Illustration 5

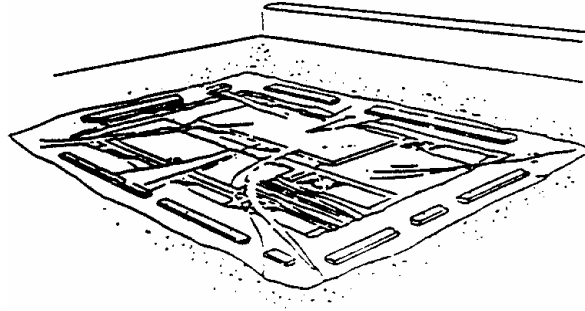


Illustration 6

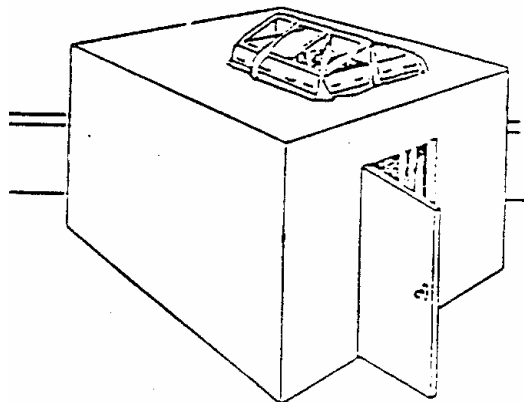
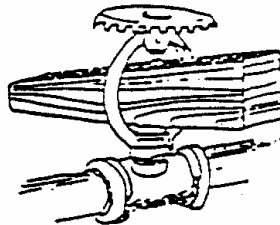


Illustration 7




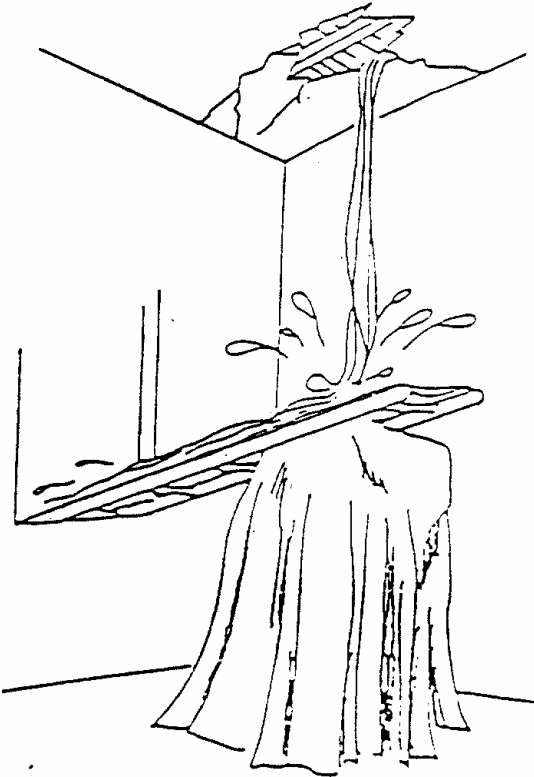

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Illustration 8



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OTHER WATER REMOVAL TECHNIQUES

As illustrated below, fire fighters can also remove a toilet to allow water to drain from the hole made in the floor where the toilet originally was located.

