

VERTICAL REMOVAL THROUGH A HOLE IN A FLOOR

Rescuing an unconscious firefighter who has fallen into an opening in a floor or roof to a lower level is a serious challenge. While as many routes to the victim as possible should be attempted, the most direct route is often through the same opening into which the victim has plunged. Access to the victim could be attained via portable ladder placed into the hole, or it could require a member to be lowered or rappel via rope to the victim.

Once rescuers have reached the victim, the most appropriate available removal route should be taken, i.e., up or down stairways, out a window, etc. In some cases, the best method of removal will be back up through the hole that the firefighter fell through.

If a vertical removal is considered because a firefighter has fallen through a fire weakened floor or roof, then the area around the perimeter of the hole must be surveyed by the rescuing firefighters. If there is a possibility that a secondary collapse may occur during the rescue removal, then the area around the hole must be reinforced. This may include removing doors from the fire building and placing them near the hole to spread out the weight of the rescuing firefighters. Portable ladders placed near the hole may also spread out the weight of the rescuing firefighters.

Method #1: Vertical Removal Using Handcuff Knot. This is a quick and effective method of removing a distressed firefighter through a hole. In order to perform this rescue procedure, do the following:

- Gain access to the distressed firefighter and drag him/her to the area below the hole.
- Four firefighters will be at the level above the fallen firefighter. These firefighters will pass the middle of a rope to the rescuing firefighters who are now with the fallen firefighter. To save time, the members at the upper level may pre-tie the handcuff knot to the rope prior to lowering it down to the rescuers who are with the fallen firefighter. Either the Life Saving Rope or a member's Personal Rope may be used for this purpose.
- The rescuing firefighters at the lower level attach the handcuff knot to the victim's wrists. Prior to attaching the handcuff knot, if the victim is to pass through any tight spaces, it will be necessary to remove the victim's SCBA. If surrounding conditions demand that the facepiece of the SCBA remain on the victim during the extrication, then keep the facepiece on the victim and remove the rest of the SCBA from the body



Figure A

of the victim. Attach the now removed SCBA harness to the victim's personal harness hook or to the lowest snap hook of the bunker coat, where the shoulder straps of the SCBA attach to the wire frame. This will reduce the profile of the victim as he/she is being hoisted through the hole. (See Figure A)

- At the command of "hoist", one or more members on the upper level grasps each of the two strands of rope coming up through the hole. They will lift on the rope in unison, with their backs straight and using the power of their legs. The other two members at the upper level will stand behind the hoisting members. Their job will be to hold the rope as the hoisting members reach down to grab the rope to make another lift. (See Figure B)



Figure B

- This evolution can also be performed with a second rope by attaching a second handcuff knot to the victim's wrist. When this option is used, four ropes will be going up through the hole. This option is advisable when an exceptionally heavy firefighter is being extricated.

Making the 'Handcuff Knot' in the Middle of the Rope

STEP 1. Make two loops in the middle of the rope, as if to make a slip over clove hitch. Place right loop over left.

STEP 2. Pull left side of right loop down through the left loop while pulling the right side of the left loop up through the right loop.



STEP 3. Place the two loops formed over the victim's hands (or feet). Pull slack out of knot. Signal rescuers to haul



Method #2: Vertical Removal Using a 2 to 1 Mechanical Advantage

This method of removal requires that the trapped member has a personal harness. If the victim does not have a personal harness, convert the SCBA to a harness and attach the hook of the Atlas Life Belt to the wire frame of the SCBA where the shoulder straps attach to the wire frame. This procedure uses the 2 to 1 mechanical advantage system. To perform this procedure, do the following:

- Gain access to the victim. Upon reaching the victim at the lower level, adjust the victim's personal harness so that the hook comes up under the victim's bunker coat. The harness hook stays inside the coat and out the top of the coat. This action will keep the victim upright when being hoisted.
- At the upper level, four members will be required. Two members kneel on one knee on opposite sides of the hole. They will support a metal halligan hook on their shoulders. The handle of the halligan hook will span the hole. The metal halligan hook will be used as a portable high point anchor. The end of the Life Saving Rope or a Personal Rope will be attached to the metal halligan hook near the shoulder of one of the members holding the hook. (See Figure C)



Figure C

- The middle of the rope is lowered to the rescuing firefighters at the lower level. They pass the middle of the rope through the personal harness hook of the victim. When this is completed, they can give the command of "hoist". (See Figure D)



Figure D

- At the command of "hoist", two members at the upper level lift the fallen firefighter. One of these firefighters lifts with his/her legs with their back straight. The other member will hold the rope as the lifting firefighter reaches down to grab the rope to make another pull on the rope