Through-the-Floor Rescue Using a Hoseline

BY CHRIS PIEPENBURG

You and your crew are the first engine company to arrive at a residential structure fire and find heavy smoke emanating from the front of the house. You instruct your firefighter to pull the line to the front door and stand by. You complete a walk-around of the structure and see that the fire is somewhere in the front of the house. The truck company forces the front door to make entry. The door opens, and heavy gray/black smoke pours out of the house above your firefighter's head. You yell for your firefighter to advance inside. As you advance the hoseline into the house, about 15 feet into the structure, you hear a loud creak and a crash; the floor collapses, and your firefighter falls into the basement of the structure, 10 feet below the entry floor. You transmit a Mayday, which quickly brings the truck company to your location. Despite the heavy smoke and high heat, you communicate with the trapped firefighter below, who yells that he is OK but cannot escape. You and your crew must immediately rescue the trapped firefighter.

With limited resources on-scene and lack of a fully staffed rapid intervention team (RIT), it is up to you and the four-member truck company to rescue your firefighter. With only entry tools and the hoseline available, how will you and the truck company rescue your trapped firefighter?

Rapid intervention techniques are constantly evolving, and firefighters everywhere are looking for new, improved, and easier methods to rescue their fallen firefighters in an emergency. Such techniques are even more imperative when a formal RIT has not been established and crews must work with the tools at hand. There are a number of techniques you can use to raise a firefighter trapped on a subfloor with only a charged hoseline, a piece of webbing, a carabiner, and a few firefighters.

When a firefighter falls through a floor, keep yourself and others from also falling through. In this day of TGI floor joists and other types of lightweight construction, it is likely that the fire did not burn only in the one area where the firefighter has fallen through.

Distribute the weight of your crew as evenly as possible to prevent further collapse and further loss of firefighters. Find out exactly where the firefighter fell through and if there is any other way to assist him out. It might not always be obvious as to where the firefighter fell through. Unless there is a complete burn-through and floor collapse, the hole the firefighter fell through may close up and leave what looks like a few broken floor boards.

Once you have found the area and the firefighter, make contact with the downed firefighter; you and your crew can quickly determine the type of rescue needed. If the firefighter is conscious and has no injuries or only minor ones, it is probably not necessary to send other firefighters into the hole to assist him. If the downed firefighter is unconscious or severely injured, send others into the hole. For example, say you have located an alternate route to reach the downed firefighter, but it is heavily involved in fire and is not accessible. When you cannot use an alternate entrance, the area through the floor where the firefighter fell is your best rescue option.

Once you establish contact, quickly check to see if the firefighter is conscious and has injuries. No matter what the technique, a firefighter must remain at the hole to keep visual and voice contact with the downed firefighter. During high heat and smoke conditions, a thermal imaging camera is valuable for maintaining visual contact. It may be necessary to enlarge the hole the firefighter fell through to allow for a quicker extrication. In heavy smoke conditions, a gas-powered saw will not work because of a lack of oxygen; use an alternative saw, such as a reciprocating saw, to enlarge the hole. A 4 × 4 hole is optimal for access to and extrication of the downed

firefighter without having to worry about hang-ups. When working in heavy smoke and heat, be careful when using power tools. Control the tools so you do not injure yourself or others.

CONSCIOUS/UNINJURED FIREFIGHTER

To raise a conscious and uninjured firefighter who is unable to get himself to safety, form a loop of a charged hoseline and feed it through the hole in the floor until it reaches the floor below (photos 1, 2). It is imperative that crew members above give themselves enough hoseline on each side of the hole (about two times the hole's depth), to allow for sufficient line to pull the firefighter to safety. Next, have the trapped firefighter step onto the bend and wrap both arms behind the legs of the hoseline, crossing his arms over his body and grabbing his opposite shoulder if possible (photo 3). Then, you can begin to raise the trapped firefighter. Position two firefighters on each leg of the hoseline to allow for a swift but controlled raising of the firefighter (photo 4). The firefighter at the hole coordinates pulling each leg to raise and extricate the trapped firefighter. As the trapped firefighter's head nears the hole, the firefighter at the hole reaches down and grabs the straps of the firefighter's SCBA, pulling him to safety (photo 5).

(1) Photos by April M. Piepenburg.

(2)

(3)

(4)

(5)

CONSCIOUS/INJURED FIREFIGHTER

Use this technique when a trapped firefighter is injured but can grab the hoseline using his upper body. Also use it when the trapped firefighter is uninjured but cannot use the previous technique because of high heat conditions. Perform the same steps with a conscious/uninjured firefighter up to where the trapped firefighter loads himself onto the hoseline. Instead of standing on the hoseline, the firefighter should lie across the hoseline, locking it under both armpits with his elbows (photo 6). Use the same raising action as before with caution; do not jerk the hoseline from the trapped firefighter's grasp.

(6)

UNCONSCIOUS/INCAPACITATED FIREFIGHTER

When a trapped firefighter is unconscious or incapacitated to the point where he is unable to secure himself to the hoseline, you must send a second firefighter into the hole to assist in raising him. Lower the nozzle portion of the hose to the floor below. Have the rescue firefighter slide down the hoseline (like a fire pole) as two topside firefighters anchor it into place (photo 7); the rescue firefighter will have the nozzle to protect him and the downed firefighter until he can load the firefighter onto the hoseline.

(7)

As the rescue firefighter moves the downed firefighter to the hole, he must also pass the nozzle back through the hole to form a bend, as before. Prior to placing the downed firefighter onto the hoseline, the rescue firefighter twists the bend, forming an X, to assist with securing the downed firefighter. He then places the downed firefighter over the hoseline, running it under the

firefighter's armpits (photo 8). He places the X between the downed firefighter's head and his SCBA as snugly as possible and then secures the hoseline tightly with a piece of webbing and a carabiner (photo 9). Once the firefighter is secure, the topside firefighters raise the firefighter; the rescue firefighter assists them from below (photo 10).

(8)

(9)

(10)

After you remove the incapacitated firefighter from the hole, send the hoseline back down so you can raise the rescue firefighter using the uninjured firefighter raise (see photo 3).

Do not put yourself in harm's way by charging into a building with lightweight floor construction. Read the building, and know the general types of construction in your area; understand in which buildings you can aggressively fight fire. Through-the-floor rescue is a skill that you learn and hope to never use. It is also a skill you do not practice regularly and that may become trapped in the back of your mind. By practicing and becoming proficient in these techniques, you and your crew will be fully prepared if and when you need to rescue one of your fallen firefighters.

CHRIS PIEPENBURG is a 13-year member of the fire service. He is a firefighter/paramedic with South Metro (CO) Fire Rescue and a medic company member in the Denver (CO) Tech Center. He is also a member of the Dive and Technical Rescue Teams and a medical specialist with Colorado's Urban Search and Rescue Task Force 1.