This is Part 3 of Working Fire's "Hands-On" Rapid Intervention Teams/Firefighter Survival Series which continues from our first "Hands-On" R.I.T./Firefighter Survival Series volume. Part 3 is also Volume 98-9 of Working Fire's monthly subscription for September, 1998. Part 4 will follow in October, continuing to cover this important subject with new training and innovative R.I.T. techniques. Some of the techniques demonstrated in Parts 2, 3, and 4 are not yet NFPA-approved, though most are under discussion as of this writing. All techniques have been shown to save lives — however, each department must decide for itself whether or not to use these techniques until fully sanctioned.

Station Drills:

Three basic skills stations, Entanglement, Air Bag Procedures, and Hydraulic Tools are presented because of their importance to R.I.T.

- **Entanglement Station**  
  **Approx. length:** 2:43
  
  In the Entanglement station, victim assessment and entanglement removal is practiced. Using wirecutters while wearing gloves is an essential skill. So is working blindfolded in this exercise in order to practice identification of regulators and P.A.S.S. devices for the Air Bottle Change-over technique.

- **Air Bag Procedures Station**  
  **Approx. length:** 6:38
  
  In the Air Bag station, teams review air bag deployment, different air bag manufacturers’ products, communication among team members for effective operation, and cribbing skills.

For more information on Parts 2, 3, and 4 of our Rapid Intervention Team/Firefighter Survival Series, contact Firefighter/Instructor Jim Crawford, Fire Training Associates, 140 Richbarn Road, Pittsburgh, PA 15212, call 412-766-0977, or e-mail to PBF TRK 33@aol.com.
This Month's "Working Fire"

- **Hydraulic Tools Station**  Approx. length: 8:10

  Hydraulic tools are reviewed, personnel deployment to operate them, cribbing techniques, debris pile procedures, and use of a Safety Officer.

- **Interior Breaching Station**  Approx. length: 6:00

  This segment demonstrates techniques for reaching an unaccessible victim or saving oneself in the event of a collapse or some similar structural event. Lessons include assessment of building materials and the selection of tools and tool-use technique determined by the materials.

- **Exterior Breaching**  Approx. length: 6:45

  In the event an interior egress point cannot be found or should a firefighter run low on air, breaching an exterior wall can be a lifesaving move. As above, lessons include building materials assessment and use of appropriate tools. Tips also include the awareness of outside crews to an exterior breaching, signifying a possible firefighter in trouble.

- **Air Pack Removal**  Approx. length: 8:01

  Once a breach is made, firefighters may have to pass through wall joists or building supports, necessitating the removal of their air pack in order to fit through. Techniques to do this "low-profile" move correctly are covered, including procedures to be followed by team members where multiple air packs must be removed. Finally, tips and suggestions for finding an exit based on hose coupling hardware features are also covered.
Objectives

After watching this program the student shall:

1. understand the importance of entanglement assessment and removal, and air bag and hydraulic operations in an RIT application.
2. understand the importance and uses of interior and exterior breaching
3. understand the importance of air pack removal to effect a low-profile move.

Standards and Regulations

Most of this training is consistent with NFPA 1500 and relevant OSHA and NIOSH regulations; however, some techniques demonstrated may not be NFPA-approved. Departments should employ such techniques in accordance with internal policy.

Training Outline

A. Entanglement Station

1. Preparation:
   a. Practice with gloves on and blindfolded
   b. Have a pair of wirecutters ready

2. Procedure:
   a. Do initial assessment; start at victim’s feet and work up.
   b. Check to see if victim is breathing.
   c. Check pressure in victim’s air pack.
   d. Use wirecutters to cut any tangles that can’t be easily untied or untangled.
   e. Don’t cut SCBA high-pressure tubes or hoses.
   f. Entanglements from overhead can often be lifted over the victim’s or rescuers’ heads.
   g. Check under air packs and around face-masks; something caught on the face-piece could break the pressure seal.
   h. Once rescuers have reached the victim’s head, conduct final assessment.

B. Air Bag Station

1. Preparation:
   a. Practice with specific system equipment operation in advance.
   b. Check the air source in advance; if it’s a portable cylinder, make sure it’s full at the beginning.
c. Set up the system outside since visibility may be poor or nonexistent inside.
d. Connections are: regulator-to-controller and controller-to-each bag. Third and fourth team members can control the air bag system.
e. The air supply may be left outside if connection hoses are long enough. Use a constant source of air off a cascade system if possible, but again, connection hoses must be sufficiently long.

2. Procedure:
   a. Air bags are used to lift beams, debris piles, etc.
   b. Debris piles are different than lifting a single object; be sure you have sufficient cribbing materials.
   c. Determine whether it’s a one- or two-bag lift.
   d. Don’t put your hands or any unnecessary weight on debris pile.
   e. Build a secure cribbing base, then lift; secure cribbing again and continue lifting. Only lift a few inches at a time.
   f. Decide upon clear operation communications with system controller.
   g. Communicate with and reassure the victim as to what’s happening.
   h. Continue to check victim for sufficient clearance in order to affect removal.

C. Hydraulic Station

1. Preparation:
   a. Combines basic vehicle rescue, cribbing technology, collapse training.
   b. This station simulates a commercial environment or situations where hand removal isn’t sufficient.
   c. Personnel needed for station: two persons to build cribbing, a supply officer, a safety officer, a tool operator, a pump operator, an incident commander, and a victim.

2. Procedure:
   a. Spread weight with larger cribbing boxes; never go more than three cribbing pieces high; the second piece should be a wedge; if you must go higher, build another box. Keep hands out from underneath.
   b. Become familiar with hydraulic tool operations and its hand-operated pump such as a Porta-Power to activate spreaders and cutter.
   c. Lift one side of debris pile at a time.
   d. Rescuers should maintain constant communications with each other and with victim.
   e. As debris is removed, move it away from the pile so it doesn’t hinder removal later.
f. continue to check the victim for clearance and a chance to affect removal.

D. Interior Breaching

1. Preparation:
   This technique is used to:
   a. reach a trapped firefighter
   b. by a trapped firefighter to save himself.
   In addition:
   c. Eye protection should be worn at all times.
   d. Carry an ax or other appropriate breaching tools.

2. Procedure:
   b. For lath, use a pick tool, drive it into wall, and pull the tool towards you; for drywall, chop with an ax blade, using short, three-quarter, forearm swings.
   c. Be prepared for what's behind the wall covering. You might find a covered window or opening or a piece of furniture up against the adjacent wall in the next room.
   d. With lath, once the interior wall is revealed, reverse the tool action and punch the head of an ax away from you to clear it.
   e. You should now be left with the studs. Battering rams, chainsaws, Saws-all, or your ax will work well. If you're using your ax, use short chopping swings, chopping low at the base of the studs. Chopping high will not yield good results.
   f. If you use some kind of saw, beware of pipes in the wall that could cause kick-backs. This could be particularly dangerous if the pipe is a live gas line, so use caution with saws.

E. Exterior Breaching

1. Preparation:
   This technique has three uses:
   a. This technique is used to create a hole for escape. If possible, signal for a ladder to be thrown to that point.
   b. It’s also used to create a hole for air if the firefighter has run out of air until the RIT can reach him/her.
c. It’s also used to create a hole for extrication where interior stairs or egress points are blocked by fire or obstruction. A receiving team would assist with removal on the exterior side.

d. As a fire scene develops, the firefighter should take note of the kind of exterior construction a structure has, should he/she end up on the inside, needing to get out. This can prepare the firefighter as to the kind of tools to be brought into the structure and the kind of breaching techniques which will be necessary using those tools. This advance planning, preparation and foreknowledge can be the difference in a firefighter saving his or her own life later on in the evolution.

2. Procedure:
   a. Proceed using the interior breaching techniques described above
   b. Once exterior wall is revealed, assess materials in the exterior wall. Is it siding? Is it brick?
   c. Removing brick or exterior wood covering can be accomplished by pounding against the masonry next to the studding, where the outside material is attached, with short, punching strokes. Be aware that this kind of activity will consume greater quantities of air.
   d. Outside teams should be watching for and aware of what an exterior breach means: (1) either a firefighter or RIT is breaching for escape or removal (2) or a single firefighter is breaching for air. Either way, assistance on first floors will be needed from ground-level teams, and on upper floors, ladders which can be thrown should be available.

F. Air Pack Removal and Low-Profile Move

1. Preparation:
   a. In the event that a firefighter or RIT has breached an interior wall, either to reach a victim or to extricate him- or herself, he/she will then have to pass through that interior wall.
   a. To practice, full SCBA, a blindfold, and a hose with male-female couplings are needed.

2. Procedure
   a. This is done by the firefighter removing the air pack leaving the face-piece intact, sliding it before him/her between the studs and then following it through by rotating the body appropriately to fit through. Check for solid flooring on the other side of the breach before proceeding through.
b. Teams should remove packs one at a time. Multiple members of a crew should not have their packs removed at the same time.
c. Loosen chest and shoulder straps.
d. Remove the right side first. Most regulators are on the left. Keep the regulator in your left hand as you remove from the right.
e. Always keep your left arm through the strap on that side once the pack is removed. The strap will probably end up around your wrist.
f. With an air pack with a mask-mounted regulator (MMR), you might want to turn the air pack around to shorten the length and reduce the pull on the air hose from the mask to the cylinder.
g. Once through the breach, put the air pack back on from left to right, rebuckle and tighten. There may be situations where a full removal may not be necessary. Just do what ever is appropriate to get yourself through the breach.
h. With the air pack back on, use hose couplings to help direct you toward an exit. Feel the threads of the coupling: short threads (female) are on the hose coupling toward the nozzle; long threads (male) are on the side closest to the exit. Many hose manufacturers use this convention. Become proficient in identifying coupling threads with gloves on. Commit this to memory: “Short way in...long way out.”

Training Note:

At the conclusion of Part 4 of Working Fire’s Rapid Intervention Team/Firefighter Survival Series, Professor Bill Kramer of the University of Cincinnati’s Fire Science Program will present a series of mini-lectures on Rapid Intervention Teams which will be worth Continuing Education credits or credits toward a degree in Fire Science at the University of Cincinnati to firefighters who have enrolled. For enrollment information, call Working Fire toll-free at 800-516-3473.
Select the best answer:

1. True or False Firefighters should never let a victim know what’s going on so as not to alarm him/her.

2. True or False Exterior breaching should be mentally pre-planned by each firefighter on-scene well in advance of possible involvement in that procedure.

3. True or False Female threads indicate nozzle direction.

4. Possible tools for breaching would not include:
   a. an ax
   b. a battering ram
   c. a Saws-all
   d. a Cascade unit
   e. all of the above.

5. In a low-profile air pack removal maneuver the firefighter:
   a. may remove his pack totally and help pull another team member through the breach
   b. should hold on to his/her regulator at all times
   c. may remove his gloves if he/she can’t unbble the air pack easily
   d. should pull his/her handtool through the breach after he/she has passed through.
   e. none of the above

(Correct answers can be found at the bottom of page 7.)