Massachusetts Standard Rapid Intervention
Lesson Plan
May 2012



Massachusetts Firefighting Academy
Department of Fire Services
State Road
Stow, MA 01776
978-567-3100

Daily Class Schedule

DAY ONE:

Hour 1: Sign in and lead video of Brett Tarver Story
Opening Address
Importance of accountability
RIT lecture with power point presentation.

H**our 2-3:** SCBA lecture.
Instructor donning demo
Student skills review and basic knowledge demo by class

Lunch: Time to be determined due to site specifics.

Hour 4: Overview of Mayday and procedures.
Harness conversions demonstration

Hour 5-6-7: Stations 3 groups, 1 group to each station

(Rehab Breaks to be incorporated into the 1-hour blocks)
Entanglement
Long Lug Out
Wall Breach and Low Profile.

DAY TWO:

Hour 1: TIC with power point (Thermal Imaging Camera)

Hour 2: Webbing and Rope Skills

Hour 3: RIT Pack

Lunch

Hour 4, 5, 6: Stations 3 groups, 1 group to each station
(Rehab Breaks to be incorporated into the 1-hour blocks)
Drags
Stair Rescues
RIT pack donning

Hour 7: Q&A and Review

Daily Class Schedule (continued)

DAY Three:

Hour 1: Rope search lecture and power point

Hour 2: Skills of rope search.

Hour 3: Basic scenarios

Lunch

Hour 4: Window Lifts and Basement Ladder Lift

Hour 5, 6: Ladder carries
High Rung

Hour 7: Critique and overview

DAY Four:

Hour 1: Review, Job positioning, Accountability

Hour 2, 3: Combat Drill.

Lunch

Hour 4, 5, 6: Combat Drills

Hour 7: Critique and overview, SOG, evaluations

Daily Lesson Plans
and
Skill Sheets

This program is broken down into several modules to accommodate a variety of training schedules and companies. If qualified trainers are available more than one skill station can be practiced at one time.

DAY ONE

Module 1:	**1hr**	**Brett Tarver Story** **The importance of Rapid Intervention** **Importance of accountability** **RIT lecture with power point presentation.**
Module 2:	**2 hrs**	**SCBA lecture.** **Instructor donning demo** **Student skills review and basic knowledge demo by class**
Module 3:	**1 hr**	**Overview of Mayday and procedures.**
Module 4:	**Demo**	**Harness conversion**
Module 5:	**1 hr**	**Entanglement**
Module 6:	**1 hr**	**Long Lug Out**
Module 7:	**1 hr**	**Wall Breach and Low Profile.**

Introduction to Rapid Intervention

Slide 1

Saving Ourselves and Firefighter Survival




Mass. Fire Academy
Rapid Intervention Training

Slide 2

Objective

- **To provide members of the Massachusetts Fire Service with the knowledge and skills needed for the safety and survival of themselves and their fellow firefighters.**

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Slide 3

LODD

- **1972- Tewksbury, Fall River, Lawrence, Wakefield, Medford, Boston (9)**
- **1973- Weymouth, Boston, Tewksbury**
- **1974- Cambridge, Wakefield, Weymouth, Somerville (2)**
- **1975- Lowell, Norwood, Boston, Lynn, Worcester, Brockton, Medford**
- **1976- Boston, Weymouth**

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Slide 4

LODD

- **1977- Fitchburg, Seekonk, Chelsea, Franklin, Newburyport, Boston**
- **1978- Bourne, Newburyport, Boston**
- **1979- Framingham, Plymouth, East Hampton, Revere**
- **1980- Gill, Blackstone**
- **1981- Oak Bluff, Lynn, Salem, Otis ANG, Boston (2)**
- **1982- Ludlow, Duxbury, Provincetown, Holyoke, Salem, Gloucester, Lawrence**

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Slide 5

LODD

- **1983- Southbridge, Boston, Braintree, Springfield, Newton, Beverly**
- **1984- Dedham**
- **1985- Brookline, Quincy, Boston, Belmont**
- **1986- Lowell, Lynn, Revere, Boston (2)**
- **1987- Fall River, Swansea**
- **1988- W. Barnstable, Everett, Chelsea**

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Slide 6

LODD

- **1989- Braintree, Freetown, Lawrence**
- **1990- Templeton, Haverhill**
- **1992- New Bedford**
- **1993- Boston, Wareham, New Bedford, Webster**
- **1994- Boston**
- **1995- Stoughton**
- **1996- Boston, Holyoke**

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Slide 7

LODD

- **1999- Dunstable, Revere, Russell, Everett, Nantucket Boston (2), Worcester (6)**
- **2000- Somerville**
- **2001- Centerville**
- **2002- Fall River, Brookline**
- **2003- Cambridge, Lancaster, MA Wildfire Crew/Pittsfield**

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Slide 8

LODD

2004- Brookline, W. Bridgewater

2007- Boston, Boston (2)

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Slide 9

THE NATURE OF THE PROBLEM

- **Lost & Disoriented**
- **Freelancing**
- **Unfamiliar with SCBA**
- **Trapped or Pinned**



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Slide 10

THE NATURE OF THE PROBLEM (CONT.)

- **Failure to use PASS device**
- **Improper personal size-up**
- **Failure to follow procedures**



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Slide 11

LOST AND DISORIENTED

- Operating ahead of the hoseline
- Operating above the fire floor alone
- Large open areas
- Rapidly changing conditions
- Complex structures and renovations



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Slide 12

FREELANCING

- Understand the ICS system in your department
- Use the personal accountability system
- Always maintain VOICE, VISUAL, TOUCH contact with your assigned crew
- Follow departmental procedures



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Slide 13

Failure to follow departmental standard guidelines will impact fire ground operations.

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Slide 14

UNFAMILIAR WITH SCBA

- Lack of everyday use and experience
- Improper donning (straps, mask, etc.)
- Overextending usable air capacity
- Failure to anticipate
  - Facepiece failure
  - Hose damage
  - Regulator damage



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Slide 15

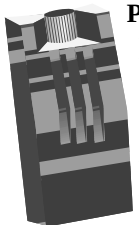
TRAPPED OR PINNED

- Localized Collapse
- Firefighter falling through holes, shafts, stairways
- Fire behind the attack or rescue crew
- Entanglement in false ceilings, wires, etc.

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Slide 16

FAILURE TO UTILIZE PASS DEVICE



- Failure to activate upon arrival
- Failure to initiate the alarm when in trouble
  - When do we change from a rescuer to a victim ourselves?
  - How long will it take to get help to us?
- Ignoring sounding PASS devices on the fireground?
- Failure to train in search w/PASS devices

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Slide 17

IMPROPER PERSONAL SIZE-UP

- Lack of personal experience
- Underestimating the speed of fire spread
- Overestimating our own capabilities
- Building construction and type
- Smoke and or heat conditions



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Slide 18

Size-Up

- **Buffalo 2009**
  - **Progress Reports Prior to MayDay**

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Slide 19

Be accountable:

- **For your actions**
- **For your crew**
- **For yourself**

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Slide 20

SCBA

- **Be familiar with your SCBA equipment**
- **Know emergency procedures**
- **Always check your SCBA before use**
- **Follow proper maintenance always**
- **Continue to train as much as possible**
- **Knowing your SCBA will save your life!**

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Slide 21

REPORTING AN URGENT AND OR MAYDAY

- URGENT is for critical information where life is not in jeopardy. Example: Noticing a bulging wall.
- MAYDAY is for a time where life safety is in extreme danger. Example:
  A down firefighter in the building.

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Slide 22

REPORTING A MAYDAY

- Declare "Mayday, Mayday, Mayday"
- Give location - If unknown give the door you entered through
- Company your with and your name
- Problem - trapped, out of air, disoriented
- Attempt self rescue or get to a corner and get in protective position
  - Buffalo 2009 Audio

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Slide 23

L.I.P.S. Acronym

- L – Location
- I – Identification
- P – Problem
- S- Survival

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Introduction to SCBA

Slide 1

Self-Contained Breathing Apparatus



Slide 2

SCOTT 4.5

- **The** Massachusetts **Firefighting Academy uses the SCOTT 4.5.**



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Slide 3

The Basic Components of All SCBA's

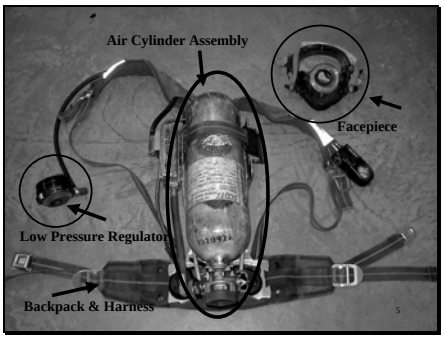
Slide 4

Four Basic SCBA Components

- **Air cylinder assembly**
- **Backpack & harness assembly**
- **Regulator assembly**
- **Facepiece assembly**

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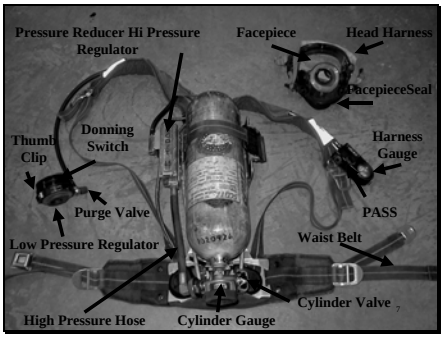
Slide 5



Slide 6

The Components
(Scott 4.5)

Slide 7



Slide 8

Cylinder Sizes

- **30 minutes**
- **45 minutes**
- **60 minutes**



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Slide 9

Cylinder Valve Assembly





- **Always fully open the cylinder valve**

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Slide 10

Cylinder Gauge

- **4500 psi (Full)**



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Slide 11

Low Pressure Regulator

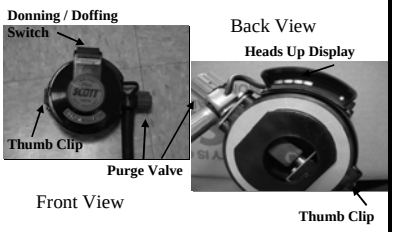
- **Reduces pressure from 100 psi to approximately 20 psi. This is to create a positive pressure environment within the face piece**



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Slide 12

Low Pressure Regulator



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Slide 13

Low Air Alarm-(Vibra-Alert)

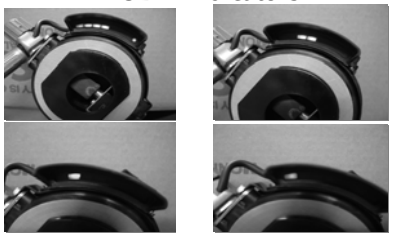
- All SCBA's have an audible alarm that sounds when the cylinder pressure decreases to 25% of the cylinders maximum rated capacity.
- By placing your hand over the regulator you can verify it is your unit that is in alarm



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Slide 14

HUD – Indicators



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Slide 15

The Low Air Alarm

- When the low air alarm activates, the firefighter must immediately proceed to exit the building or structure to a safe refuge where doffing of the SCBA will be in a clear & clean atmosphere
- Do not ignore the alarm to keep working even in overhauling conditions.
- Be accountable when exiting the building

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Slide 16

The Low Air Alarm

- **Do not be misguided by the Rule of Thumb that may have been taught that you have 5 minutes left when the low air alarm activates!**
- **THERE IS NO MEASURABLE AMOUNT OF TIME!**

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Slide 17

The Line Gauge



- **The line gauge on top of your right shoulder harness is the only true measurement of air supply**

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Slide 18

The PASS Device

- **The device is worn on the firefighters SCBA and is activated before entering a structure.**
- **If the firefighter should collapse or remain motionless for 20 seconds a pre-alarm will start to sound. This pre-alarm is a "ramp-up" audible warning. This intensity of the pitch of the alarm will rise**
- **At 30 seconds the device will go into full alarm and will emit a loud, pulsating shriek**

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Slide 19

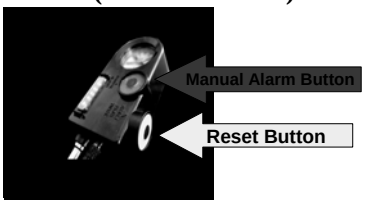
The PASS Device

- **To prevent accidental activation on the fireground and prevent firefighters becoming accustomed to the alarm and ignoring it (Car alarm syndrome)**
- **Do not leave PASS devices on after the SCBA has been doffed.**
- **Firefighters should not ignore the PASS alarm even during exterior operations.**

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Slide 20

Manual Alarm & Reset Buttons (Control Console)



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Slide 21

Manual Alarm & Reset Buttons (Control Console)

Non-Recessed Buttons **Recessed Buttons**




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Slide 22

Pre-Alarm

- **Remember the motion sensor is in the sensor module under the air cylinder valve and is not in the control console**
- **Actual movement of the system back frame or using the re-set button on the control console in Pre-Alarm**
- ***Shaking the Control Console will not reset the distress alarm***

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Slide 23

Full-Alarm

- **The full alarm can only be silenced by pressing the reset (yellow) button two (2) consecutive times. This prevents accidental deactivation if the operator moves during self-rescue**
- **The PASS will remain activated with the green light flashing upon reset**

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Slide 24

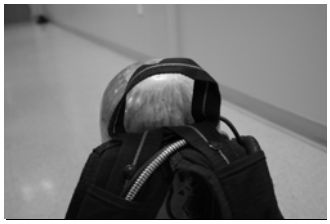
Manual Alarm

- **If the operator is in a situation where immediate assistance is required, the PASS provides a manual (red) alarm button located on the front of the control console**
- **The manual alarm can be activated at any time by pressing the red button even if the system is not pressurized**

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SCBA Drag Strap



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Slide 26

Universal Air Connection



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Slide 27

PAK Tracker





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Slide 28

SCBA Summary

- **Be familiar with your SCBA equipment**
- **Know emergency procedures**
- **Always check your SCBA before use**
- **Follow proper maintenance always**
- **Continue to train as much as possible**
- **Knowing your SCBA will save your life!**

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9/23/08

Mayday Procedure
Module 3

When a firefighter encounters a problem such as, but not limited to, being lost, disoriented, low on air, entangled or a host of other problems that may endanger his survival he/she should initiate the "Mayday Procedure". (The procedure should be part of the fire ground operations in the form of an SOP/SOG.)

Stress that the majority of firefighters get themselves into trouble waiting too long to call the "Mayday". Therefore by the time that the RIT is activated and arrive at the location of the problem, conditions and the situation has worsened.

1) Announce over the radio " **MAYDAY, MAYDAY, MAYDAY"**

Everyone on the fire ground should be trained to cease all radio communication so that Incident Commander can communicate with the firefighter in trouble.

2) Remember the acronym "**LIPS"**

a) Location, advice command of your location.

b) Identification, Give your Company and Name. (Capt Doe Engine 100)

C) Problem, low on air, lost, trapped, entangled.

d) Survival, start self rescue and survival skills. (Turn on PASS)

If you think you may need a MAYDAY, you DO need the MAYDAY. DON'T DELAY

9/23/08

Harness Conversion

Module 4

Objective: Convert a firefighter's SCBA to a harness to afford safe, strong and reliable grip points for rescuers to drag or hoist an injured firefighter.

Teaching Point: If it is safe to do so convert the SCBA to a harness before dragging or carrying a victim.

Begin by loosening the waist strap of the harness.



Do not disconnect the buckle at this time.
(Note: for large firefighters you may have to release the shoulder straps before you complete the conversion)

Next position the downed firefighter so you can place one leg over your shoulder.



Reach around the Firefighter's leg and grip the waist buckle
Disconnect the buckle and bring it under his/her leg.
Do not let go the buckle!
Reconnect the buckle so that is between the legs.





Tighten the waist strap.

Tighten the shoulder strap and tie off if possible.

Note: All new NFPA Compliant turnouts are equipped with a Drag Rescue Device (DRD). The DRD affords a convenient and efficient means of dragging a downed firefighter horizontally. It is our opinion that a RIT may encounter an assortment of obstacles in the removal of the firefighter. Therefore we advise that the harness conversion be a standard practice in the event that the horizontal rescue could result in a vertical lift/ lowering or encountering stairs. It is also a more secure method of going around corners and affords 2 grab points to allow 2 rescuers to drag or to lift from the shoulder straps of the converted SCBA.

9/23/08

Entanglement Prop

MODULE 5

Objective:

To place firefighters in a situation simulating a failed ceiling system with wires dropping to the floor. Firefighters should learn that they are in a Mayday situation and some skills to begin untangling themselves from the wires.

Equipment: Entanglement prop, full PPE, and smoke trainer face shields.

Skill:

- Have the firefighter enter the prop staying to the right wall (hinges will be on the left), and once they have fully entered the prop the instructor will begin to slowly close the prop.
- If the firefighter does not call a Mayday prompt them to do so.
- The firefighter should then be instructed to lower themselves to their belly and turn slightly on to their right (do not allow them to roll their cylinder up against the side wall).
- Their left hand should be brought to their face piece and then slowly moved down their turnout coat, not allowing any wires under the gloved hand. It should be emphasized that it is best to go slow here as it will be hard to feel the wires.
    - **Note:** some will try to remove their glove or say they would, but if it was hot enough to have the ceiling fail, this would not be feasible.
- Their hand should travel on top of the turnout until it comes to the SCBA's cylinder valve. At this time the firefighter should make sure that no wires have wrapped around the valve, and if there are clear them.
- After they have made sure that all the wires are clear from the valve the firefighter should continue to roll on to their right placing the cylinder in the corner of the wall and floor.
- The left hand should then continue to the wall and move up towards the helmet, again making sure that wires do not get in-between their glove and the wall.
- Once their hand is over the helmet it should paddle forward like a swimming breast stroke clearing wires. At this time the firefighter should use their legs to move them forward through the area they have just cleared.
- As the hand is paddled forward it should stop when it is level with the regulator, and it should bend bringing the hand back to the regulator, after they have moved forward.
- The firefighter should then again move the left hand down the turnout coat staying under all the wires. This time though the hand can move right to the wall and slide forward. Once the hand is over the helmet again paddle it forward, and

push with your legs (It should be pointed out that if they feel a doorway in their travels that they should attempt to make entry as this may be a safe haven).

- Each time we have done this it has presented us with different results. Some firefighters pass right through, and some are tangled up further then when the prop first closed on them. It is the instructors that typically get these firefighters out by either slowing them down, sometimes calming them down, or by giving them instruction as to how to get themselves out. The lessons here are many as it shows the firefighters:
    - Within the prop and watching how difficult it is and how long it may take (many times consuming a full cylinder)
    - It emphasizes the need to call a Mayday immediately
    - It brings up conversation as to what we should be carrying in our pockets (wire cutters)
    - It shows an example of what we may be up against during a RIT response
    - It explains why the P in LIPS is important as it may require the response team bring in different tools

5/23/12

Entanglement Prop
Turtle Method

MODULE 5a

Objective:

To place firefighters in a situation simulating a failed ceiling system with wires dropping to the floor. The method will simulate the Firefighter advancing a line, where normally he/she would be away from the wall. Firefighters should learn that they are in a Mayday situation and some skills to begin untangling themselves from the wires.

Equipment: Entanglement prop, 50' of 1 ¾" hose with air chuck system, nozzle, full PPE, and smoke trainer face shields.

Set-up: Lay 50' of 1 ¾" hose thru entanglement prop. Have the firefighter enter as if he/she is going to the nozzle.

Skill:

- Have the firefighter enter the prop along a 1 ¾" line in the center of the prop.
- The instructor will slowly lower the hinged prop onto the firefighter.
- If the firefighter does not call a Mayday prompt them to do so.
- The firefighter should then be instructed to lower themselves to their belly.
- They should then prepare themselves as they would for a low profile maneuver.

1. Loosen waist strap and do not disconnect the buckle.
2. Loosen both shoulder straps. Remove right are from right strap.
3. Grasp the left strap with the right hand at the low-pressure air hose, and slide the left arm out of the left strap. Pulling the air pack underneath them.
4. The firefighter will be lying with his/her belly on the base plate and the air bottle will be on the ground, they will be balancing on top of the bottle. ***Emphasize always have control of the shoulder straps by donning the pack backwards. This keeps the firefighter oriented and does not allow them to lose control of the pack.***
5. The fire fighter will rotate 180 degrees if needed. This will allow the firefighter to retreat down the hose line towards the pump.
6. The firefighter should start moving forward and clearing wires only that stop their progression.
7. Once the firefighter is clear of the obstruction the SCBA is donned using the coat method.

Long Lug Out
Module 6

Equipment:

200' of 1 ¾"
1 Nozzle
Black out masks

Objective: To train a firefighter to use his basic knowledge of hose lines as tool to egress a building.

Teaching Points: A nozzle is on the male end of a hose and the female is connected to the pump (or standpipe.) One of the main teaching points is that once you start in one direction you continue until you find a coupling. Then when it is determined by the long lug which direction will lead you to safety continue in that direction. Make clear that you will always remain in contact with the line and your hand should use the "bump and go" principle. It should be noted to all participants on rare occasions a double male and/or double female could be in use on the fire ground, therefore sending a firefighter in the wrong direction.

Setup:

Lay the 200' out as conditions warrant. Cross the hose several times and end up with the nozzle and the last female coupling in different areas. If a stair case is available then laying the hose line up and down the stairs may make for a more challenging scenario. Place the female coupling up one level and see if the students use their training to get out. Under this scenario it can be explained that the line came in over a ladder and was advanced downward.

Evolution:

Have the students report to the starting area. Bring the students in one at a time, on air, as site allows. Have them kneel down. Explain to them they were searching, conditions suddenly worsen and they must get out. Visibility has gone to zero and as they crawl they will find a hose. They must find their way out using the hose and couplings.

During the critique explain that the hose they "found" may have come in the building over a ladder. Unknown to them the first line might have found the stairwell impassable and the chief had the attack line go over a ladder. Certainly, if you had brought the line in the first floor door, had advanced it to the fire floor, and then had to get out, you would know that upon hitting the stairs all you would have to do is head down. In this evolution you did not know where that line came from therefore follow the hose out, not the stairwell.

September 10, 2008

Reduced Profile & Wall Breach

Module 7

Equipment:

SCBA
Reduced width obstacle
Reduced height obstacle
Reduced visibility face piece
Forcible entry tool

Setup:

Set up a reduced width obstacle, generally studs placed 16” on center.

Set up a reduced height obstacle, generally no higher than 18” or 20”.

Evolution:

Have the members report to the starting area in full turnout gear and SCBA with reduced visibility face piece. Direct students, one at a time, towards the obstacle. Explain that they have come upon a wall and must get to the other side, the member should check in both directions for a door. Have the member probe through both sides of the wall before cleaning it out to make there are no obstructions so their not wasting their time. Have the member break out a section of the wall between two studs (be sure they clear out both sides of the wall). The members should then check the other side for a floor with their tool. The firefighter must be made aware that they may be breaching a wall into kitchen or bathroom cabinets, behind a refrigerator or other furniture, or into an open foyer where they may fall.

Once it has been established that there is a floor on the other side the member performs the reduced profile maneuver. There are two techniques available for moving through a reduced width obstacle:

Reduced Profile:

1. Loosen both the shoulder straps and waist strap followed by grabbing the left shoulder strap with left hand and left waist band with right hand. (For many it is not necessary to remove or disconnect straps).

2. Shift the SCBA as far to the left as possible placing the SCBA in line with the member’s side profile. It may be necessary for larger firefighters to remove the right arm entirely to accomplish this maneuver.

3. Have the member move through their right side with their right arm extended forward. The left hand can tend to the cylinder.

4. After the obstruction is cleared, the SCBA is shifted back into the proper position and the straps are tightened and possibly re-donned.

Backward Swim:

1. The member sits down with their back against the opening in the wall with the SCBA centered in the opening and the members legs are out in front of him.

2. The member then raises their left arm in a backward swim motion toward the center of the opening and reaches for the other side of the wall. The member should then push backward through the space while repeating the same motion with the right arm.

3. Demonstrate that the firefighter may need to get over the mop board.

4. Once the neck of the SCBA cylinder is clear of the wall stud, the firefighter should rotate the body, dipping the right shoulder and employing a swim type maneuver to bring the rest of the body through the obstacle.

Note: During drill review all the equipment we carry, how it may get caught up, and how to solve the problem. Do not allow the first student to empty his/her pockets or remove equipment, such as flashlights, before the drill.

Firefighters might have to pass through a reduced height obstacle where the height of the SCBA hampers their egress. To overcome this problem the firefighter will perform the Low Profile Maneuver. The firefighter must perform this technique properly to successfully doff and don the SCBA. The height of the obstacle should be no higher than 18" or 24". This height is selected due to the plumbing height of 18"-20" and the electrical height of 24". Lower heights may be found in other unique or collapse situations and may be used as necessary.

Forward Dive:

1. Center the body between the wall studs, the firefighter places both arms crossed at the elbows through the obstacle attempting to get the elbows and shoulders through the obstacle.
2. As the firefighter leans forward the arms are pulled in toward the center of the body allowing the firefighter to fall forward through the obstacle.
3. Once the SCBA is clear the firefighter can use the arms to pull the rest of the way through. A slight turn of the hips may be necessary to clear the member's waist.

Low Profile Maneuver:

8. Loosen both shoulder straps and the waist strap and disconnect the waist buckle.

9. Grasp the left strap with the left hand at the low pressure air hose, and slide the right arm out of the right strap.

10. Swivel the SCBA out in front of the firefighter with the left hand remaining in place and the right hand grasping the right side of the SCBA back plate. The SCBA should rest on the cylinder with the valve facing away from you. This allows enough low pressure air hose so that the face piece is not dislodged while going through the obstruction. ***Emphasize do not move the left hand from the left shoulder strap as this keeps the firefighter oriented and does not allow them to lose control of the pack.***

11. The firefighter lies flat on the floor face down and slides through the obstruction using his feet to push along.

12. Once the firefighter is clear of the obstruction the SCBA is donned using the coat method. It is important that the member properly secure the waist buckle in the center so that it may be rapidly found if necessary.

DAY TWO:

Module 8: TIC with power point

Module 9: Webbing and Rope Skills

Module 10: RIT Pack

Module 11: Drags

Module 12: Stair Rescues

Module 13: RIT Pack

Module 8
Thermal Imaging

This presentation is to create a better understanding of TIC for the training officer.

Slide 1

RAPID INTERVENTION

- Massachusetts Firefighting Academy
- Firefighter Skills Group

Slide 2

Advanced Search and Rescue

"Thermal Imaging for RIT Operations"

Slide 3

It's time we put the emphasis on saving ourselves !!

Slide 4

Size-Up for Search

- Type of construction? *(How much time do we have?)*
- Type of occupancy? *(Single family, multi family, business, etc.)*
- Demographic of neighborhood? *(urban, rural, etc.)*
- Time of day? *(delay in notification)*
- Location of fire? *(above or below grade)*
- Location and number of firefighter's missing?
- Available firefighters for RIT. *(How many?)*

Slide 5

Size-Up for RIT Search

- Tools *(mandatory!!)*
  - **Thermal imaging camera** ***(spare batteries!!)***
  - Air Supply
  - Irons
  - Hand lights
  - Search rope

Slide 6

Size-Up for RIT Search

- Consider using the TIC from the exterior before the search for:
  - Determining construction features *(trusses, balloon const. Etc.)*
  - Location of fire
  - Fire extension
  - Find potential roof ventilation sites

Slide 7

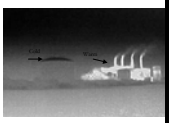
Building Orientation

- Identify your location in the structure based on contents *(furniture, beds, fixtures, etc.)*
- Location and direction fire travel
- Location of stairways
- Determine Ceiling Height
  - *Look for operating sprinkler heads*
  - *Ceiling construction (suspended ceiling etc.)*
- Windows = outside walls = **escape routes!**

Slide 8

TIC Basics

- Thermal imaging defined -
  "Pictorial representation of temperature difference."
- DYNAMIC game of comparison, contrast and visual interpretation
- Hot objects usually appear light
- Cold objects usually appear dark



Slide 9

Emitters

- All objects are grouped into one of three categories based on their ability to produce, reflect or absorb heat
- **Passive**
- **Active**
- **Direct**

Slide 10

Passive

- Objects that can be heated and cooled
- They will stand out in the camera and can be utilized to identify contents within the fire building
- They can also be used to evaluate fire conditions
- Passive emitters do not produce or continue to produce their own heat

Slide 11

Active

- Generate their own heat energy, with little variation in the amount of change. The best example is something alive, human or animal.
- Active emitters can be "masked" by passive emitters

Slide 12

Direct

- Direct emitters are the source of heat capable of heating passive and active emitters
- Examples are the fire we are called to put out
- The best example of a direct emitter is the sun

Slide 13

Image Interpretation

- Follow the thermal column to fire *(thermal column will move away from the seat of the fire)*
- Use contents of structure to identify direction of fire and fire conditions
  - Objects will be white on the side facing the fire area
  - Dense objects low to the floor that appear white will indicate high heat or fire on the floor below
  - A low thermal layer can be an indicator of your proximity to the fire area and fire conditions

Slide 14

Six - Sided View

- Up *(Ceiling)*
  - Heat condition, structural conditions, fire conditions, thermal layer
- Down *(Floor)*
  - Holes, debris, firefighters, hazards
- Right, Center, Left
  - Hazards, structural conditions, fire conditions, doors, windows, means of egress, firefighters
- Back *(Exit)*
  - Hazards, structural conditions, fire conditions, egress

Slide 15

Three Sweep Approach

- Top *(Ceiling)*
  - Heat condition, thermal layer, structural components, fire location and travel
- Middle
  - Location of doors, windows, means of egress
  - Hazards *(hanging wires etc.)*
- Bottom
  - Downed firefighters, structural hazards

Slide 16

Camera Led Search

- TIC operator leads search team
- TIC operator searches space while maintaining verbal contact with non-sighted member
- Members maintain contact with wall or search rope to orient the TIC operator
- Search only the areas that can not be seen with the TIC

Slide 17

Camera Directed Search

- TIC operator stays behind other members
- Directs them to the areas not seen with the TIC
- TIC operator maintains wall or search rope of area being searched
- Monitor structural and fire conditions
- Monitor position of searching members
- TIC operator = **Safety officer!**

Slide 18

Point to Point Search

- Search only what you can not see with the TIC
- If the entire room can not be seen from the door a P-T-P search can be used in conjunction with one of the other methods of search
- Move from blind spot to blind spot
- A change of vantage point may be all that is necessary to view the entire space

Slide 19

Saving Our Own!

- **The most important use of thermal imaging**
- Speed in locating a down firefighter is imperative
- Efficient searching is a must
- Image interpretation is not the same as for a civilian victim
- Experienced TIC operators on RIT
- Know your equipment *(features, limitations etc.)*

Slide 20

Saving Our Own!

- Protective gear will mask the bodies active emitter
  - FFs will not be hot in cold environment and cold in hot environment
  - FFs will not appear dark in hot environment or light in cold environment
- Strobes or hand-lights are not visible in the TIC

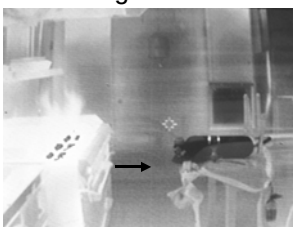
Slide 21

Saving Our Own!

- SCBA bottles and fittings may appear dark
- Reflective trim on gear will contrast with fire resistive material
- Firefighters will not be located in the traditional locations that civilian victims are found
- Look for signs of firefighter presence *(marked thermal layers, hose lines,cold/wet spots, etc.)*

Slide 22

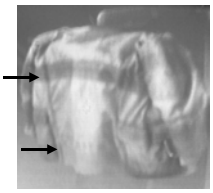
Saving Our Own!



SCBA bottles and fittings will appear dark while straps and padding will absorb heat

Slide 23

Saving Our Own!



"Reflective trim on gear will contrast with fire resistive material"

Slide 24

TIC Limitations

- No National standards for TICs
  - Every manufacturer's TIC operate differently and have different features. *Know your camera !!*
- Heat saturation
- Fogging
- Battery life
  - Carry spare batteries
  - Rechargeable batteries lose life over time
- TICs can't see through steam

Slide 25

One Last Thought…



Federal Report: Houston Fire Department Didn't Use Thermal Imager in Search for Fallen Firefighter in 2004 Blaze

The TIC can't help if you don't have it with you!!!

Houston Chronicle via Firehouse.com

08/15/08

ROPES & KNOTS

Module 9

Review all Basic Knots

Square Knot – Used for joining two ropes of equal diameter

Becket Bend – Joins two ropes, works well with two ropes having unequal diameters, and rarely slips even when rope is wet.

Open Clove Hitch – Two half hitches, principal use is to attach a rope to an object, such as a pole or hose, one method for developing a clove hitch is in the "open".

Closed Clove Hitch – Two half hitches, principal use is to attach a rope to an object, such as a pole or hose, one method for developing a clove hitch is in the "closed".

Bowline – Forms a loop that does not slip under strain, unties easily, can be tied in the open or around an object.

Figure of 8 – Basic knot can replace the bowline, easy to tie and untie, less damaging to rope than the bowline.

Half Hitch – To stabilize tall objects when hauling, always used in conjunction with an anchor knot.

Hand Cuff Knot- To place over the unconscious fire fighters hands and elbows to lift through a hole in the floor for extrication. Review using 2 so that one is at the elbows and one is on the forearms.

Bight – Formed by simply bending the rope back on itself while keeping the sides parallel.

Loop – Made by crossing the side of a bight over the standing part.

Round Turn – Consist of further bending one side of the loop.

Teach Figure of 8 on a Bight

Figure of 8 on a bight – Preferred for synthetic ropes, can be tied anywhere in the rope, for an anchor or a harness where a loop in the rope is needed.

Teach Overhand Safety Knot and use in the review.

Overhand safety Knot – Easily tied and untied, alone it will slip, but serves as a good method of securing the running end of another knot which is designed to carry the load, eliminates the danger of the end of the rope slipping back through the knot which could cause the knot to fail.

The figure of 8 is the only knot mentioned today that is considered a life safety knot, the overhand safety knot is used in conjunction with all knots including life safety knots, all others are utility knots.

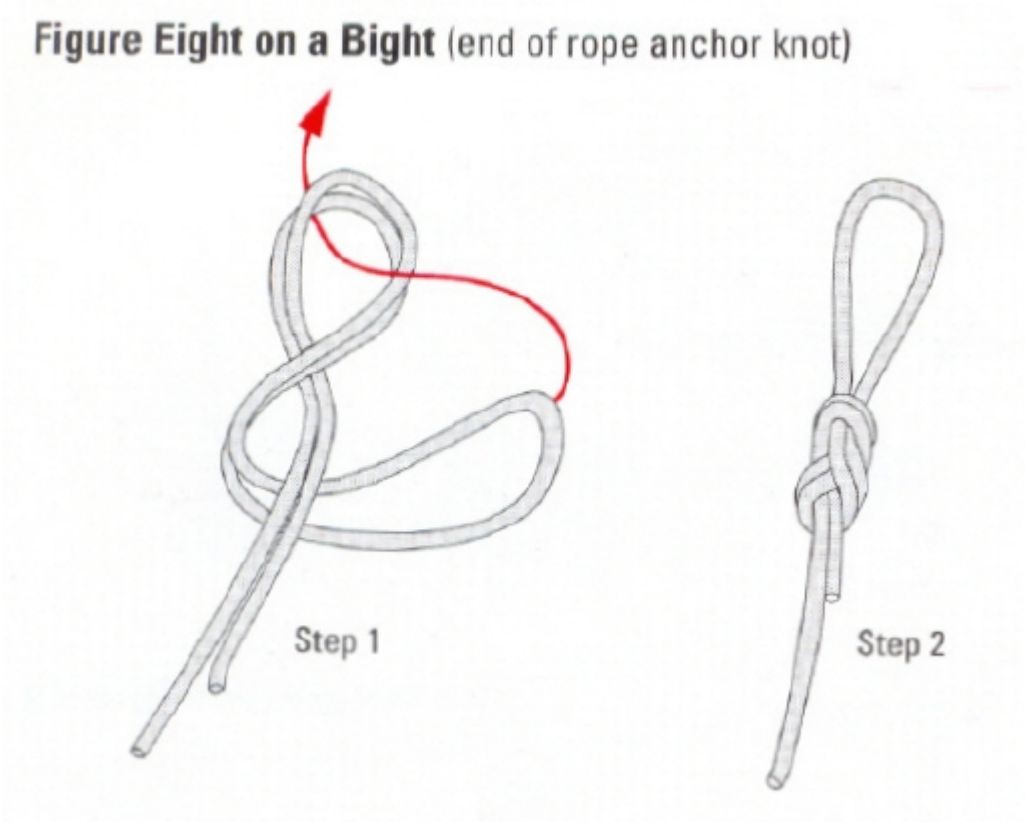
8/20/08

PERSONAL ROPE

Module 9a

Personal rope

- **8-10 MM kernmantle rope**
- **Up to 50' can be stored easily in turnout pocket**
- **Should have carabiners attached to figure 8 knot at end of rope**



- **Carabiners provides quicker anchoring capabilities**
- **Can have many uses- Search, Emergency egress, Etc**

- **Lengths to 200' can be stored in rope bag that is easily deployable.**

- **The rope is simply "stuffed" into the bag so that it can deploy without getting tangled**

Clove Hitch

Step 1



Loop the rope around the object you're tying to. Hold an end in each hand.

Step2



Cross the end in your right hand over the end in your left hand, forming an X with your hands holding the pieces at the top of the X.

Step3



Wrap the end in your right hand around behind the object again in the same direction as before, leaving the wrap loose. When you bring it back around to the front, poke the end under the piece of rope that you just wrapped around.

8/20/08

HANDCUFF KNOT

Module 9b

Handcuff Knot

- Can be used to raise firefighter from vertical opening
- Can be used in any situations where confined space may be a problem
- Firefighter may be conscious, trapped and incapable of moving through debris or up stairs.

Considerations when using the handcuff knot

- Is there a potential for collapse in the rescue area?
- Fire and heat conditions
- Are the personnel making the rescue adequately trained?
- Are hose lines in place for protection?
- Building construction- Is it lightweight?
- Is Area around the hole stable?
- Is edge shoring necessary? Are doors, ladders, pallets or other materials available for the edge?

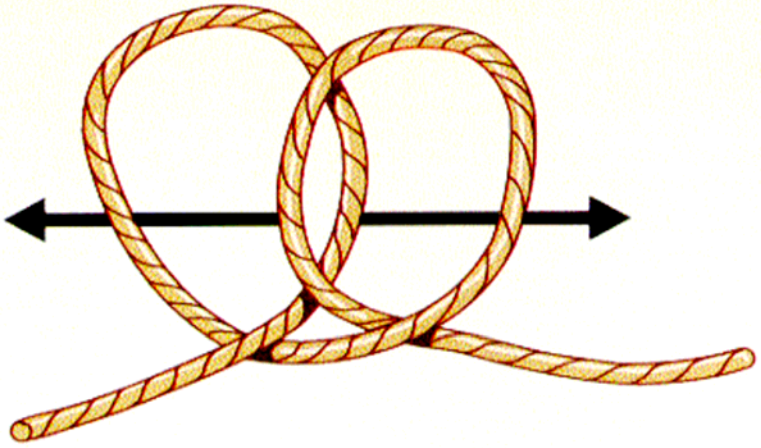
Rescue Operation

- Two different color ropes should be used for rescue
- Identify the middle of the rope
- Tie the handcuff knot big enough to be identified by the Firefighter in the hole or the firefighters assisting with the rescue.

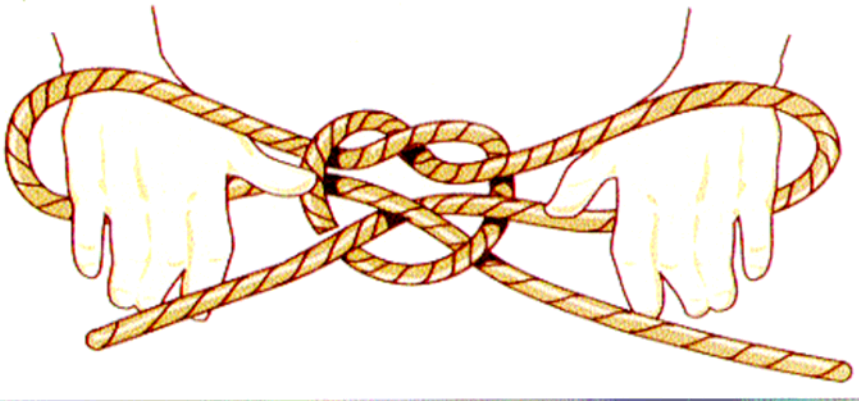
The Handcuff Knot

Step 1: Form two loops in the middle of the rope, as if to make a slipover hitch. Place the right loop over the left loop.

Step 2: Pull the left side of the 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 you have created in Step 1 around the victim's wrists. Pull the slack out of the knot.



8/20/08

WEBBING

Module 9c

Webbing

- 1” tubular webbing
- 15-20’ is recommended
- Stored in an accessible place (pocket, knee pad)
- Easily deployable




Vententersearch.com

- **Tied in a “water Knot”**

Step1



Tie a normal overhand (granny) knot, leaving at least a 6-inch tail. Make the webbing is flat, not twisted.

Step2



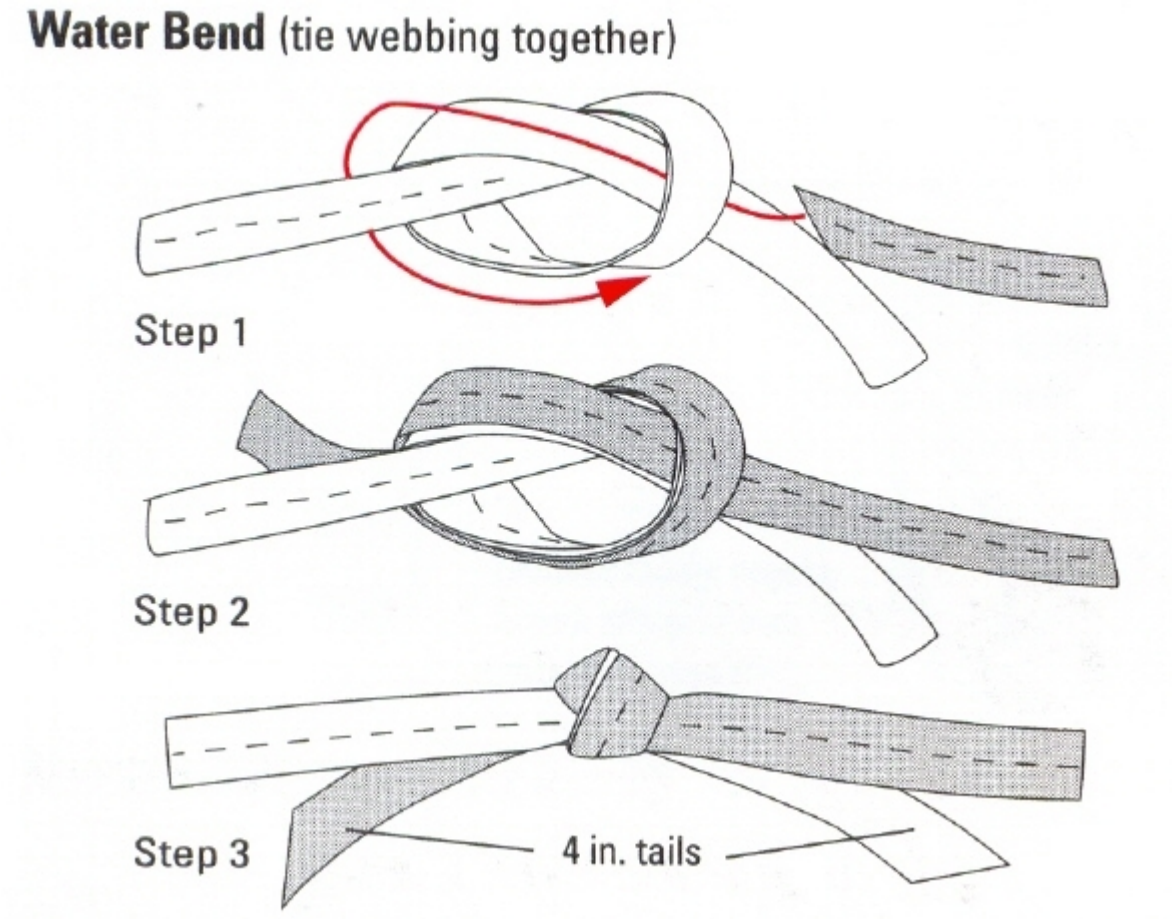
Insert the other end of the webbing where the tail comes out.

Step3

Follow the webbing around the knot.

Step4

 Go back through the knot to the other side so you have tails sticking out both sides of the knot.



Webbing can be used in many situations.

- Girth hitch
- Chest wrap
- Handcuff knot

A carabiner should be added for speed and ease in use. (Clip in instead of taking the time to tie a knot)

Another advantage - webbing is inexpensive and easy to replace**.**

RIT PACK

Module 10

RIT-Pak Familiarization and UAC Emergency Use

WARNING: The RIC UAC (Rapid Intervention Crew Universal Air Connection) system is for emergency use only. Improper use of the system may lead to a malfunction of the equipment, which could cause serious injury or death. **Do Not** use the Scott RIC/RIT UAC assembly to charge an SCBA air cylinder while the SCBA is being worn unless there is a compelling reason to assume the risk of injury. At no time should the MFA instructors or staff demonstrate the use of the RIC UAC system by actually filling a cylinder (use 2 empty cylinders to show use or just talk the audience through the procedure).

AIR-PAK respirators in compliance with NFPA 1981 are fitted with a Rapid Intervention Crew Universal Air Connection System, which permits **emergency** replenishment of an approved SCBA breathing air supply cylinder on a user's respirator from an approved air supply source while in use. **This is not a quick charge attachment** and must not be used for routine recharging of the cylinder, for "buddy breathing", for transferring air from another SCBA, or any unapproved use.

Equipment: RIT-Pak (with empty 1hr. cylinder), SCBA equipped with RIC UAC (and an empty 30 min. cylinder), Firefighter manikin, and any packs with buddy breathing hoses supplied by the hosting communities.

Demonstrate how to check if the firefighter has air in their SCBA if they cannot visually check the gauges: Have the firefighters gently pull the face piece away from the firefighters face by holding on to the regulator. This should only be done, so that the seal between the face piece and the firefighter is slightly broken. As this occurs the RIT crewmember should hold their breath and listen for the air leaking. Also at this time they should be confirming that they have the FF they were looking for (Face or helmet shield). Make sure the firefighter's cylinder is open. Explain to the group that the RIT Pack cylinder is in the off position when it is being brought in to the downed firefighter.

Attaching the RIT Pack to the downed firefighter:

1. First the situation and atmosphere must be taken into account before using, as the downed firefighter may be temporarily exposed to a hazardous condition. If the area appears to be too hazardous to remove the firefighter's regulator then move them or begin to attach the RIT Pack to the UAC.

2. Make sure the cylinder valve is open on the RIT Pack.

3. Minimize the time that the firefighter will be exposed to the atmosphere by activating the low-pressure regulator so that it will operate normally (do not rely on the purge valve at this time as it can exceed 200 liters per minute which could reduce the time and air available in the RIT-Pak).

4. Once the RIT-Pak's regulator is flowing remove the firefighter's regulator if you have not already and quickly replace it with the RIT-Pak regulator. At this time an attempt can be made to remove any contaminates that entered the face piece by gently pulling out on the regulator, such that the face piece seal slightly breaks and allows the air to purge from the face piece.

5. If the firefighters face piece is damaged use the spare face piece in the RIT-Pak bag, which should be attached to the regulator or supplied in one of the pouches. Before connecting it to the regulator make sure the regulator is operating (jumpstart the air flow), then connect it to the face piece. This also works when there is a non-compatible SCBA unit.

6. **After the RIT Pack regulator is attached to the firefighter then use a carabiner to attach the RIT Pack to the firefighter's waist or shoulder strap**.

7. The RIT-Pak regulator is not supplied with a Vibra-alert mechanism even though it may say that it has one. With this in mind the RIT team must monitor the level of the RIT-Pak cylinder.

Important!

It's important to note that the procedures used to jumpstart the low pressure regulator may cause it to malfunction. Each procedure should be done with this in mind.

If the low pressure regulator is not an option then begin the following procedure:

Important!

At no time will Academy staff demonstrate an actual Trans fill. This procedure is to be used only if there is a compelling reason such as a downed firefighter.

8. Visually inspect the downed firefighter's cylinder and cylinder valve for dents or gouges in the metal or fiber wrapping. If damage is visible or evidence of exposure to high heat or flame, such as paint turned brown or black, decals charred or missing, gauge lens melted or elastomeric bumper distorted, the decision must be made whether the cylinder is suitable for recharging by this method. If there is any suspicion that the cylinder is not safe, find another method of supplying air to the respirator user.

9. Then visually inspect the hose and regulator assembly, plus the condition and attachment of the face piece.

10. Be certain that the cylinder, which you are charging is compatible with the complete respirator, it is installed on (i.e. there must be a 2216 psig cylinder installed on a Model 2.2 respirator; there must be a 4500 psig cylinder installed on a Model 4.5 respirator, etc.). Verify this by comparing the label on the high-pressure reducer and the markings on the cylinder.

11. Never charge a cylinder to more than the rated pressure marked on the cylinder.

12. Verify that the cylinder valve on the user's respirator is fully open by turning the cylinder valve knob fully counterclockwise (approximately 2 ½ full turns).

Note: Always start the trans fill procedures with the cylinder in the off position (due to the dangers, for training purposes we will not actually trans fill).

13. Remove the dust cap from the RIC UAC coupling on the respirator and from the matching coupling on the RIC UAC filling hose assembly. Visually inspect both couplings for dirt or damage. Remove any dirt or contamination from the couplings.

    - If the RIC UAC filling hose assembly coupling appears damaged, do not attempt to connect the RIC UAC filling hose assembly to the respirator. Find an alternate RIC UAC filling hose assembly.

    - If the RIC UAC coupling on the respirator appears damaged, do not attempt to connect the RIC UAC filling hose assembly to the respirator. Find an alternate method of supplying air to the respirator user

14. Connect the RIC UAC filling hose assembly by pushing the quick disconnect coupling on the RIC UAC filling hose assembly on to the coupling on the respirator until the quick disconnect sleeve "clicks" into place

15. **Talk** about how at this time you would slowly open the RIC UAC filling hose assembly valve to pressurize the supply line and begin airflow to the cylinder.

NOTE

If at any time during the filling process a leak is detected, immediately discontinue the filling procedure and leave the IDLH atmosphere if possible. Continuing to fill a respirator that has exhibited a leak may cause a failure of the equipment, which may result in injury or death. If it is not possible and there are irregularities in the fill process it may result in a need to remove the respirator (low pressure regulator). If this is the case the hazardous or IDLH

atmosphere must be taken into consideration, as the removal of the respirator may result in serious injury or death.

16. Continually monitor the filling process for any irregularities. The Scott RIT-PAK air supply will stop flowing when the pressure in the respirator's cylinder equals the remaining pressure in the portable air supply (pressures will balance). At this time disconnect the RIC UAC filling hose assembly.

17. To disconnect the RIC UAC filling hose assembly, pull the coupling sleeve away from the respirator until the coupling disengages. Then reinstall the dust caps on both couplings.

18. Charging of the cylinder will increase the temperature of the air in the cylinder. When charging is complete and the cylinder cools to ambient temperature, the pressure in the cylinder will fall slightly. If practical in the situation, top off the cylinder.

19. After charging is complete, monitor the cylinder pressure on the downed firefighter and repeat the above procedure as needed or until the firefighter is removed from the IDLH atmosphere.

NOTE

The RIC UAC manifold is fitted with a relief valve (some are pre-set and some are manually set) to vent air if the rated pressure of the respirator is exceeded. If this occurs, shut off the air from the RIC UAC filling hose assembly and disconnect the air supply. The relief valve will reset after excess pressure is released. The RIC UAC assembly is designed with integral protection devices. Do not disassemble or modify any part of this assembly.

Demonstrate the use of the RIT-Pak using the above information making sure that the warnings and cautions are conveyed. Then have the firefighters each try both applications.

If time permits show the firefighters the Dual EBSS system.

1. Approved SCBA may be equipped with either a buddy-breathing device or a quick disconnect valve, even if the use of these devises are not certified by NIOSH.

2. Until and unless NIOSH approves an auxiliary device for buddy-breathing, the practice of buddy-breathing is not endorsed in any way.

3. The main problem being is that both users will be breathing off the same bottle; therefore cylinder duration is halved.

4. Further the practice of passing the SCBA face piece or regulator back and forth between 2 users is considered unsafe.

5. Protocols should be designed by their own departments to handle such situations.

6. It is the Academy's intent, by showing the use of this accessory, that we can explain the hazard of buddy-breathing.

9/23/08

DOWNED FIREFIGHTER DRAGS

Module 11

Objective: of this evolution is to demonstrate skills needed to rescue a downed firefighter efficiently and safely. We will be concentrating on two skills. The first is the AIR PACK CONVERSION and the second will be a TWO PERSON DRAG TECHNIQUE.

Upon locating a downed firefighter:

1: Reset PASS device.

2: Check air supply.

3: Confirm identity.

4: Report to command findings.

5: Convert SCBA to harness.

POINTS TO STRESS

- The victims face piece and regulator should remain in place at all time unless the victim's cylinder is empty.
- If the PASS device has been activated it should be reset at this time.
- Assess the situation of the team and downed firefighter and report to Command if equipment or manpower is needed.

NOTE: The READY, READY, GO command format is used in order to keep the communication brief and simple.

READY, READY, GO COMMANDS

1. The firefighter at the head position is always in charge and will issue all commands.
2. When two-firefighters are removing a victim the firefighter in charge will ask READY prior to any movement being ordered.
3. The assisting firefighter will respond with READY if prepared to complete the command issued.

4. The firefighter in command will respond with GO.

5. On the GO command, both firefighters will perform the movement technique selected.

6. If you are not ready say nothing, so not to confuse the situation.

AIR PACK CONVERSION this is done for fire fighter removals if conditions permit.

1. Have the victim in a face down position

2. The victim is rolled over onto his/her back. This is accomplished best buy kneeling at the victim's waist, grab the waist area and roll the body towards your thighs.

3. Place the victims arms up over his/her head.

4. Tighten the SCBA shoulder straps if you plan to move he firefighter vertically. If Attaching the RIT pack at this time do not tighten the waist strap until the carabiner of the RIT pack is attached. (assist team member at this time)

5. Next loosen the victim's waist straps to full extension.

6. With waist straps extended disconnect the buckle.

7. Feed one of the waist straps between the victim's legs and reconnect the buckle.

8. Tighten the waist strap as tight as possible securing the SCBA harness to the victim.

TWO PERSON PUSH/PULL TECHNIQUES.

1- The victim is prepared for removal using the AIR PACK CONVERSION TECHNIQUE as previously described.

2- One rescuer is positioned at the head of the victim (this individual gives commands).

3- The second rescuer is positioned at the feet of the victim.

4- The firefighter at the head positions him/her and places the palm of his hand under the shoulder straps.

5- The firefighter at the feet will kneel between the victim's legs.

6- The firefighter at the feet will place one of the victim's legs over his/her shoulder and place their face and shoulders into the groin area.

7- The firefighter in charge will issue the command to move the victim.

8- With the command given, working as a unit both rescuers will lean forward moving the victim.

9- The firefighter at the head will lean forward dragging the victim.

10- The firefighter at the legs will push the victim forward

ALL THE PARTICIPANTS SHOULD ATTEMPT THIS TECHNIQUE

If conditions are two volatile firefighters may chose to move the downed firefighter before converting the harness.

9/23/08

Carries Up Stairs

MODULE 12

Objective: To teach a method of carrying a firefighter up a set of stairs and demonstrate some options if space or equipment is available.

Equipment: Webbing, Axe, and a SCBA

Skill: First begin by explaining why the following maneuvers are being used.

- Turn a firefighter around and show the group the rear of the SCBA
- Point-out the valve stem and/or the UAC and explain how they catch on the stairs, especially if the stair has a bull-nosed tread
- If there is a staircase available point-out a bull-nosed tread.

Then demonstrate the skill using members from the group

- With the SCBA harness already converted drag the downed firefighter to the bottom of the stairs.
- If working in a narrow stairway with 2 rescuers the victim shall be placed sitting up at the base of the stairs with legs facing away.
- The top rescuer shall grip the shoulder straps and stand one to two stairs above; the second rescuer shall grab the victim's legs at the calf or behind the knee like a wheelbarrow. The top Rescuer controls the lift. (Ready, ready, go).
- After the team has moved the downed firefighter up approximately 3 stairs the bottom team member kneels down and places the victim's legs over his/her shoulder, and grab the waist strap or coat pockets of the downed firefighter (have them reach under the firefighter cradling their arms, and then stand).
- From this position the team can decide to either lift the firefighter one step at a time or lift the firefighter up and walk up the stairs.

Have each group member rotate through each position.

Demonstrate: More options

- If the stairs are wide enough two Rescuers maybe used at the top position either with:
    - A tool which can be inserted thru the top straps as a handle, making sure that the team members keep their hands close to the shoulder straps.
    - Webbing attached with a girth hitch and each member in the top position handles one end of the webbing.

- Explain that for balance the members can use the railings if they are available.

- Both methods work best with a third member managing the legs as in the other carries.

- Two rescuers may be used on the legs also by attaching webbing with a girth hitch in the knee area and giving one end to each firefighter.

Carries Down Stairs

Objective: Demonstrate methods how a downed firefighter should be carried or dragged down stairs.

Equipment: Firefighters in full PPE with SCBA

Skill: Place the firefighter at the top of the stairs on their back and their head pointing down.

- Reach under the downed firefighters head with your right hand and grasp his/her left shoulder strap.

- Pull the firefighter to the edge of the stairs.

- At the edge reach under the head with your left hand and grasp the right shoulder strap.

- The firefighters head should be cradled in your arms.

- Pull the fire fighter down the stairs protecting his/her head.

- Emphasize that the rescuer should keep one foot forward so the weight of the firefighter and gravity does not over take him/her.

- If the stairs are wide enough demonstrate this maneuver with two fire fighters.

RIT Pack Practical

Module 13

8/08/08

Objective: To give hands on training in attaching the RIT Pack to a downed firefighter in a reduced visibility situation.

Equipment: RIT Pack with a full cylinder (carabiners attached), face piece, FF manikin with an empty SCBA attached, smoke trainers for face pieces, and floor protection if needed.

Set-up: Place some masonite down to protect equipment, and arrange a firefighter manikin at one end. The manikin should have full gear including an SCBA on, and the SCBA cylinder should be empty with the regulator attached.

Demonstrate:

1. Show the students how to approach the firefighter and deactivate PASS, check their air supply, and at this time explain how they should also be confirming that this is the firefighter that they were looking for.

2. If they realize that the firefighter is out of air and the conditions permit the regulator should be removed from the firefighters face piece (otherwise they are suffocating).

3. The second RIT member should then arrive with the RIT Pack and the first should position them at the face of the downed firefighter.

4. The first RIT member should begin to convert the harness of the firefighter to be used as a drag tool (if the downed firefighters face piece is damaged this RIT member may have to assist in donning the new face piece, by holding the FF seated upright).

5. The second RIT member should open the RIT Pack and turn on the cylinder then either:

    - Separate the face piece from the regulator, jumpstart the air flow, and attach the regulator to the downed firefighter or;
    - Remove the damaged face piece from the downed firefighter, jump start the air flow in the RIT Pack regulator, and attach the face piece to the firefighter.

6. Once the air is supplied to the downed firefighter the RIT Pack should be attached to the firefighter. The first RIT member can assist with this.

7. After everything has been prepared have the team start to drag the manikin a short distance.
8. After the demonstration have each student participate in the drill, and if time permits have them try each position.

Slide 1

Tethered Search Procedures

A Search System for Firefighters



Slide 2

Large Building Searches
Structure Dictates Search

- High-rise Buildings
- Office Complexes and Laboratories
- Home Stores and Wholesale Clubs
- Supermarkets and Department Stores
- Hospitals
- Nursing Homes
- Very large homes





Slide 3

Unusual and Confusing Structures
some with movable walls or landmarks

- Malls
- Warehouses
- Gymnasium
- Auditoriums
- Convention Halls
- Factories (Vacant or Occupied)
- Subway Systems



Slide 4

Tethered Searches

- Use for all RIT operations
- Designed to maintain accountability
- Maintains a direct exit route
- Provides a pipeline for needed equipment or help
- Can be adapted to almost any structure

Slide 5

Preparing for a Search

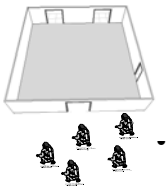
- Train for different situations and adapt basic patterns to the building involved
- Designate a leader
- Each member must know what is expected
  1. During search
  2. When they reach the firefighter or victim
- Be ready to enter - SCBA on and full, and all tools needed at the front door* or in staging



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Slide 6

Preliminary Size - Up Factors



- ding type and size
- available entry and exit
- its assessed
- ited access to all sides
- rent fire conditions
- ner as much information as
- ible
- Know what you're looking for

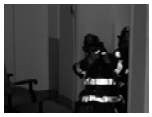
Slide 7

Search Team(s)

- RIT operations ideally will be conducted by a minimum of 4 members, but may entail many more-
  - Team leader
  - Search members (2)
  - RIT bag carrier – Air supply

Slide 8

Team Leader Responsibilities





- Size-up
- Designates assignments and directs search
- First team member to enter the building
- Carries the thermal image camera and main search line
- Maintains accountability and keeps team safe

Slide 9

Search Team Member





- Preplans and sizes up building with team leader
- Understands position
- Conducts actual search directed by the team leader
- Assists w/ removing the FF or victim
- May carry forcible entry tools

Slide 10

Air Supply - RIT Pack Carrier

- Checks out equipment and air supply
- Makes sure they are familiar with RIT Pack
- Carries in RIT Pack
- Attaches pack to FF
- Assists with removal of firefighter



Slide 11

Rope Management



- Anchor in a safe area
- Stay oriented to line
- Keep tension on main line
- Collect when needed
- Tie off at the location of the downed firefighter

Slide 12

Controlling a RIT

- Assign positions before you enter
- Use clear and concise orders
- Stage companies to keep tight areas clear
- Take charge of your team and the back-up team working for you
- Work within your limitations and air supply

Slide 13

RIT Sector Officer

Briefs Team on:
- Conditions
- Who they are looking for and their last known location

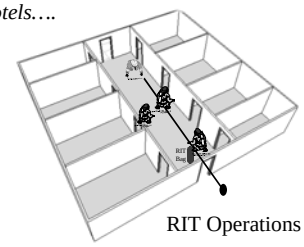
Records:
- RIT Team members names or assignments
- Location(s)
- Time of entry

Controls:
- Entry time and continues to check with entry team as per their air supply
- Communication with search team

Requests from Command:
- Back-up team
- Additional RIT companies
- Additional assistance (engine company, EMS…)

Slide 14

Apartment, Dormitories, Hospitals, Hotels….



RIT Operations

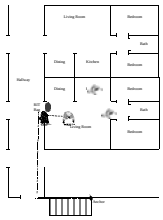
Slide 15

Apartment Buildings



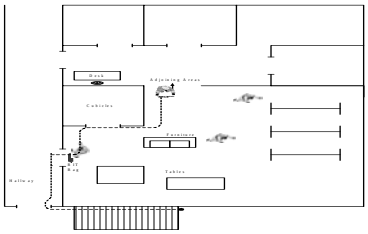
Slide 16

Apartment Buildings



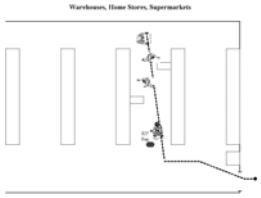
Slide 17

Universities, Office Complexes, Laboratories…



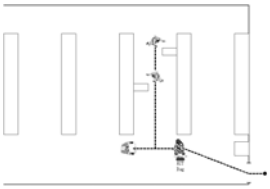
Slide 18

Home Stores, Supermarkets, Warehouses…..



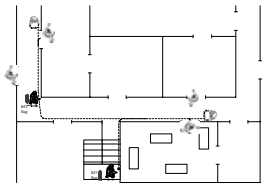
Slide 19

Home Stores, Supermarkets, Warehouses…



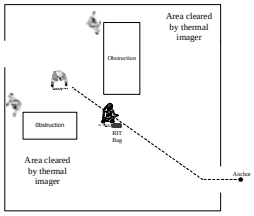
Slide 20

Buildings with Multiple Halls



Slide 21

Gymnasium, Warehouse, Factory..



Slide 22

Search Line Use



Slide 23

Finding the Firefighter

- Work as a team
  1. One member should
     - Reset PASS
     - Assess the FF's air supply
     - Confirm that it's the FF they were sent for
     - Convert the harness for dragging
  2. Team leader should give a report to Command and request the assistance needed
  3. One member should attach the RIT Pack
  4. Stay with your assigned job

Slide 24

Backing Up a RIT Team



- Be ready to enter
- Know exactly what is needed before entering
- Ensure that you follow correct line
- Orient the team to the structure
- Have original team exit before you

Slide 25

Exiting on the Search Line

with a downed firefighter

- Team leader should tension and tie off the main line and follow the team out
- The team leader should continue to use the Thermal Camera while exiting
- Two members assist with the drag
- One member should lead the team out staying in contact with the main line and the members following, using bump contact
- Stay on the right side of the line

Slide 26

Exiting While Dragging a FF



Slide 27

Thermal Imager

- Assigned to team leader
- Initial size-up
- Provides navigational assistance
- Monitors search team members
- Monitors for changing fire and building conditions

Slide 28

Using the Thermal Camera

- Search & Rescue - Key Points
  - Intermittently scan and evaluate all areas using a 3 sweep (Low, middle, high) or a 6 sided approach (ceiling, 4 walls, floor).
  - DO NOT forget to maintain a physical reference point, by using a rope, hose line, or staying on an exterior wall. Never rely on an imager 100 percent to identify your way out

Slide 29

RIT Equipment

- SCBA (1 hour)
- 200' Kevlar search line
- RIT pack
- Forcible entry tools
- Portable radios
- Flashlights
- Thermal Imager
- Stokes basket



Consider - wire cutters, door wedges, tubular webbing, etc.

Slide 30

Summary

- Train all members in the use of this procedure
- This will be done in rapidly deteriorating and difficult conditions
- When used in conjunction with ICS and standard accountability it will save lives!

9/22/08

High Rung

Module 14

Objective: To give hands on training in an alternate method of removing a firefighter or Lowering a heavier firefighter. This is a simple lowering device without the use of specialized equipment and can be quickly deployed. Stress the friction points of the rope rubbing on the rung and the 3 to 1 advantage system that will significantly reduce the weight factor of the firefighter being lowered.

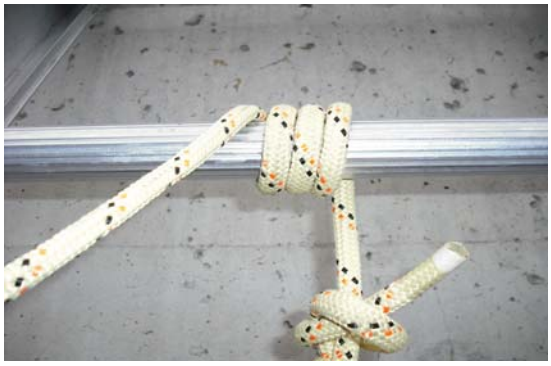
Equipment: 1 24' or 28' ladder, 1 200' rope bag, 2 carabiners, 1 rescue manikin, 1 SCBA.

Set-up: Place ladder above window as required. Tensionless hitch over rung with a carabiner.

Place ladder 2-3 rungs above the top of the window.



The firefighter on the ladder will form a tensionless hitch. (Simply wrap the rung 3 to 4 times.



The rescuer will, at eye level, pull a bight of rope thru the carabiner that is on the tensionless hitch.





A second carabiner will be installed on the bite and pulled into building.



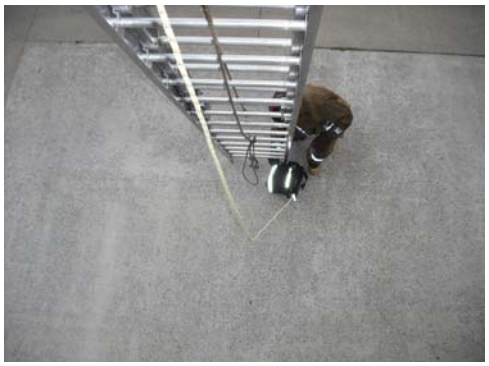
The rescuer on the ladder place the rope bag between the rung with the tensionless hitch and the next lower rung drop the rope bag to the ground.







A rescuer on the ground will then loop the rope under the bottom rung back to the front of the ladder.





The rescuers on the inside of the building will convert the injured firefighters SCBA to a harness.



The carabiner on the bight of rope will be attached thru the straps of the injured firefighter.





It is recommended that the carabiners be placed around both shoulder straps.





The rescuers on the interior of the building will drag the injured firefighter to the window. The firefighter remains on his stomach and his ankles are placed on the window sill. The rescuers will lift from the cuff of the bunker and the waist strap to get the firefighter on the window sill.





With the configuration of the bite of rope thru the carabiners will act as 3 to 1 advantage. The rescuer on the ground, under the ladder, can assist with the lifting the firefighter to the window sill. Once the firefighter is on the window sill the rescuer under the ladder will hand over control of the rope to the firefighter at the base of the ladder.







The rescuer under the ladder will the step back towards the ladder and another rescuer will the do the lowering. The friction on the lowest rung in conjunction with the 3 to 1 will make it very easy for one rescuer to lower the firefighter to the ground. The rescuer must foot the ladder for safety.





9/23/08

Weymouth Carry of Downed Firefighter
Module 15

Objective: To teach a skill too safely carry a firefighter down a ladder and how to balance the weight of a downed firefighter on the ladder for safe decent to the ground.

Equipment: 1 28' ladder
1 Rescue Manikin w/scba
2 Ladder Dogs

Skill: Explain that placing a firefighter on the ladder face down allows the rescuer on the ladder the ability to press his body weight against the injured firefighter which in turn will become "sandwiched" between the rescuer and the ladder giving much better control during the operation.

Teaching Points to Stress:

In descending the ladder the rescuer must keep their hands in contact with the beams of the ladder at all times**.**

Weymouth Carry rescuer uses the BEAMS, NOT THE RUNGS

The ladder will be thrown in the normal fashion for rescue, with a more gradual or shallow angle.



The two Rescuers in the building will lift the downed firefighter to the window sill so that his/her legs are facing out and the firefighter is face down resting them on their stomach with the SCBA facing up.







As the manikin is passed out to the rescuer on the ladder he/she places one arm between the victim's legs at the crotch and the other arm under the victim's arm pit. Before they start to descend the fire fighter on the ladder must be sure that they have the manikin's weight on their arms in a way that will be comfortable to him/her during the rescue, usually the arm between the legs should be slightly lower than the other.







The rescuer should also only descend the ladder **one** rung at a time and they should not cross-step on the rungs.

When on the ground the additional rescuers should be available to assist with injured firefighter.



After stepping on the ground the rescuer should roll the victim to him so that he will be cradled and easier to carry. The fire fighter performing the rescue should be in full turnout gear, as well as the victim.

NOTES:

Each student is to take part in this rescue operation and is to take turns in passing the manikin out the window and carrying the manikin. All rescuers must be in full turn-out gear. The ladder is raised in the regular manner and placed so that the top is just below the sill of the window for rescue. The top of the ladder should be dogged to the sill and a fire fighter should be placed at the base of the ladder to secure it during rescue.

The fire fighter, who is doing the carry, climbs the ladder to a position at the top, but below the window. They should have their **hands on the beams** of the ladder and even with the window. The downed firefighter is passed out the window by two fire fighters to the fire fighter on the ladder. The victim should be placed in the arms of the rescuer so that he will face the ladder. His head should be higher than his feet and the weight should be evenly distributed on the fire fighter who is to perform the rescue.

9/23/08

Window Lift

MODULE 16

Objective: To teach firefighters a method of lifting a downed firefighter from the floor up to the sill and out a window. The method taught will work for either a ladder carry or the high rung (point) anchor maneuver of lowering a firefighter from upper floors.

Equipment: Either a window prop or a first floor window unless the method is going to be used to lower a firefighter (If a firefighter is to be lowered an approved belay system must be used for the downed firefighter or a manikin can be used). All firefighters participating in the drill must be in full PPE including SCBA.

Skill:

- The downed firefighter may or may not have their SCBA converted into a harness (but if the firefighter is to be lowered using the high rung anchor this must be done before the window lift begins).

- Have a student positioned as a downed firefighter lying on his/her stomach with their feet pointing towards the window (If the firefighter was dragged to this window then spin him/her while they are still on their back and then roll them to their stomach).

- With two firefighters positioned on the right and left side of the downed firefighter have them grab the pant cuff and the SCBA waist strap.

- From this position use the "Ready – Ready – Go" and slide the downed firefighter to the window resting his/her feet on the sill of the window and the shins against the wall.

- While still in the same grasp use the "Ready – Ready – Go" signal and lift the firefighter's legs and waist up on to the sill of the window.

- Once you have brought the firefighter to a resting position on the sill, re-position your hands. Bring the hand that was holding the cuffs of the turnout pants up to replace the hand on the waist strap. Then move the other hand up to the collar of the turnout coat or shoulder strap.

- Before continuing make sure the firefighter on the ladder or the firefighters manning the lowering device are ready to receive.

- If everyone is ready continue to move the firefighter, using the "Ready – Ready – Go" method, out the window keeping in contact with the firefighter on the ladder while positioning the firefighter to be lowered.

Ladder Assisted window lift

Objective: Demonstrate an alternate method of lifting a firefighter up to what may be a higher window similar to a situation found in a basement.

Equipment: A pencil ladder or roof (straight wall ladder) and a firefighter manikin with SCBA.

Skill: While still at the window prop:

- The ladder is sent in through the window to the firefighters.
- Place one end of the ladder on the sill.
- Position the firefighter manikin on the ladder with its head pointing towards the window.
- Position the removed SCBA forward of the firefighter (the SCBA is removed to reduce the profile of the firefighter if needed, and it should be positioned with the valve stem pointing towards the window similar to the reduced profile maneuver).
- Demonstrate the lift and removal of the firefighter
    - With a minimum of two firefighters on either side of the ladder, lift the ladder so that it is even with the sill
    - Start pushing the ladder through the window, as the firefighters pull from outside.
- The ladder can be sent back in for the rescuing firefighters if other exits are unsuitable.

PRACTICE SCENARIO
RIT Initiative Program
Module 17

Practice Training Scenario

Search and Rescue of a Firefighter victim by firefighting crews already operating in the area of the Mayday

Scenario:
During the interior fire attack on a fire in a 2 ½ story wood frame occupancy, a firefighter on the radio anxiously reports a mayday. The firefighter reports being low on air, disoriented and lost. The fire is extending through vertical voids and smoke conditions are becoming heavy.

Interior crews operating in the area may be assigned as initial search crews to assist the trapped Firefighter. If the firefighter is located, they may begin removal or assistance.

Note: This Firefighter may report his position as above or below grade, may be entangled, may need to be reached by reduced or low profile maneuvers and may be conscious or unconscious when found depending on the degree of difficulty that is desired. The original means of egress may also be blocked to present another problem if desired.

Equipment:

Radios
RIT Pac
TIC
Rope bag—200' 11mm rope
Hose Line
Hand Tools
Webbing

Objectives:

1. Search for a missing firefighter using a single entry point.
2. Provide emergency SCBA air to the firefighter victim using an SCBA or RIT Pac as needed.
3. Begin removal of firefighter using personal equipment.

FF Skills:

- Search for and Locate firefighter
- Assess firefighter needs
- Reset PASS, Assess air supply needs, Confirm ID, Notify RIT command, call for RIT and convert harness if needed.
- Possible disentanglement
- Assist or remove of Firefighter from building
- Consider additional means of egress

Command Skills:

- Identify the mayday
- Identify the firefighters location, Company (identification) and problem
- Maintain Fire control
- Assign RIT sector command
- Deploy RIT operation
- Additional manpower requirements

9/22/08

SCENARIO 1

Training Scenario #1

Search for a conscious Firefighter on low air.

Scenario:

During the interior fire attack on a first floor fire in 2 ½ story wood frame occupancy, a firefighter on the radio anxiously reports a mayday from the second floor. The firefighter reports being low on air and unable to escape. The fire is extending through vertical voids and smoke conditions are becoming heavy.

Equipment:

Radios
200' rope bag
RIT Pac
TIC
Hose Line
Hand Tools
Webbing

Objectives:

4. Search the second floor of a single family dwelling for a missing firefighter using a single entry point.

5. Provide emergency SCBA air to the firefighter victim using an SCBA or RIT Pac as needed.

6. Guide the Firefighter out of the building.

RIT Skills:

- Search for and Locate victim
- Assess downed firefighter needs

- Reset PASS, Assess air supply needs, Confirm ID, Notify command, convert harness if needed
- Removal of downed firefighter from building
- Assess another means of egress

Command Skills:

- Identify the mayday
- Identify the firefighters location, Company (identification) and problem
- Deploy RIT operation
- Maintain Fire control
- Assign RIT sector command
- Assess RIT manpower needs
- LIPS

9/22/08

SCENARIO 2

Training Scenario #2

Search and window rescue of an unconscious Firefighter victim

Scenario:

During the interior fire attack on a first floor fire in a 2 ½ story wood frame dwelling, a firefighter reports a mayday from the second floor. The firefighter reports that he is entangled, low on air, and unable to escape.

Equipment:

TIC
Webbing
24 Ft. Ground Ladder
200' Rope Bag
Carabiners
RIT Pac
Radios
Hand Tools

Objectives:

1. Search the second floor of a single family dwelling for a missing firefighter from a single entry point.

2. Provide emergency air using SCBA or RIT Pac.

3. Rescue- drags the victim to the nearest window and performs a ladder removal.

RIT Skills:

- Search, and locate Firefighter
- Reset PASS, confirm ID
- Provide emergency air
- Disentangle victim
- Convert Harness

- Use proper method to move victim
- Position downed firefighter at window
- SCBA removal if needed

Command Skills:

- Identify the mayday
- Identify the firefighters location, Company (identification) and problem
- Deploy RIT operation
- Maintain Fire control
- Assign RIT sector command
- Assess RIT manpower needs
- LIPS

9/23/08

SCENARIO 3

Training Scenario #3

Search and rescue of an unconscious Firefighter.

Scenario:

During the interior fire attack on a first floor fire in a 2 ½ story wood frame dwelling, a firefighter reports a mayday from the second floor. The firefighter, from a two man search team, reports that he and his partner are low on air, disoriented and unable to find the stairway.
(Upon entry to division two, the RIT team will find a civilian child in the hallway. This scenario may utilize one or 2 fire fighters as victims).

Equipment:

TIC
Webbing
24 Ft. Ground Ladder
Rope Bag- 200' 11 mm rope
Carabiners
RIT Pac
Radios
Hand Tools

Objectives:

1. Search the second floor of a single family dwelling for a missing firefighter.

2. Assess situation and make necessary adjustments to manage rescues.

3. Request additional assistance.

4. Provide emergency air using SCBA or RIT Pac if necessary.

5. Remove all victims.

RIT Skills:

- Search, and locate Firefighter
- Reset PASS, confirm ID
- Provide emergency air
- Call for additional manpower
- Convert Harness
- Use proper method to move victims

Command Skills:

- Identify the mayday
- Identify the firefighters location, Company (identification) and problem
- Deploy RIT operation
- Maintain Fire control
- Assign RIT sector command
- Assess RIT manpower needs
- LIPS

9/22/08

SCENARIO 4

Training Scenario # 4

Search and rescue of a lost or unconscious firefighter in a large warehouse area.

Scenario:

Firefighters responded to an alarm in a large warehouse containing high rack storage. Upon entering the building they find a heavy smoke condition but no heat. Sprinklers are operating. During the search for the seat of the fire a firefighter from Ladder 1 reports that he is separated from his crew and is lost. The victim calls a mayday on his radio and reports that he is on low air. As rescuers attempt to maintain radio communication, the victims SCBA air becomes totally depleted and the victim loses consciousness. The PASS device was not operating.

Equipment:

Webbing
Radios
Hand Tools
RIT Pac
200 Ft. Search Ropes in bags
TIC

Objectives:

- Conduct a wide area search operation
- Locate the Firefighter
- Provide air supply with SCBA or RIT Pac
- Remove the firefighter to a safe area.

RIT Skills:

Search for and locate victim

- Assess air needs

- Provide emergency air if needed
- Confirm ID
- Notify RIT command
- Convert harness
- Remove firefighter to safe area

Command Skills:

- Identify the mayday
- Identify the firefighters location, Company (identification) and problem
- Deploy RIT operation
- Maintain Fire control
- Assign RIT sector command
- Assess RIT manpower needs
- LIPS

9/22/2008

SCENARIO 5

Training scenario # 5

Window rescue of an unconscious Firefighter from a second floor window.

RIT Scenario:

As a team of two firefighters is conducting a primary search on the second floor of a 2 ½ story wood frame house, a partial roof collapse occurs. The collapse blocks the hallway and bedroom door, also striking one firefighter and knocking him unconscious. The other firefighter radios a mayday stating that they need rescue from a second story window.

Equipment:

Radios
Hand Tools
RIT Pac
Webbing
TIC
28 or 35 Ft. Ladder
200 Ft. search rope
2 Carabiners

Objectives:

1. Remove the firefighter from a heavy smoke condition to the window for immediate rescue.

2. Remove the victim from the window via ground ladder.

RIT Skills:

- Gain Access to Firefighters
- Ladder Placement
- Move victim to window
- Assess air supply needs

- Convert harness
- Remove victim to ladder safe area

Command Skills:

- Identify the mayday
- Identify the firefighters location, Company (identification) and problem
- Deploy RIT operation
- Maintain Fire control
- Assign RIT sector command
- Assess RIT manpower needs
- LIPS

9/22/08

SCENERIO 6

Training Scenario 6

Wide stair case rescue of an unconscious victim and a conscious victim from the second floor of an apartment building.

Scenario:

While fighting a fire in a second floor apartment, two firefighters exit the apartment into a heavy smoke condition in the hallway. They are low on air and very fatigued. One firefighter suddenly falls unconscious in the hallway from heat exhaustion, and his partner radios a mayday distress call. As the victim's partner was attempting rescue, he became too fatigued to continue and remained in the hallway next to the downed firefighter.

Equipment:

Radios
200' search rope
Hand Tools
RIT Pac
TIC
Webbing

Objectives:

1. Locate and remove unconscious firefighter from the hallway.
2. Rescue the unconscious firefighter down a wide stair case.
3. Assist conscious firefighter out**.**

RIT Skills:

- Search and locate firefighters
- Reset PASS device
- Assess air supply needs
- Confirm ID

- Notify RIT command
- Convert harness
- Victim rescue drag
- Wide stair case victim removal (Down)

Command Skills:

- Identify the mayday
- Identify the firefighters location, Company (identification) and problem
- Deploy RIT operation
- Maintain Fire control
- Assign RIT sector command
- Assess RIT manpower needs
- Maintain the control of the conscious firefighter
- LIPS

9/22/08

SCENARIO 7

Training Scenario 7

Narrow staircase rescue of unconscious firefighter from a basement fire.

RIT Scenario:

A fire started in the basement of a 2 ½ story wood frame house. After the main body of fire had been knocked down firefighters working in the basement noticed that conditions had slowly changed. Black smoke and heat up near the ceiling was increasing. A firefighter on the opposite side of the basement opened a door to a small utility room that had a developing concealed space fire. The heat and visibility began to get worse. As the line was moved into position a mayday call from the firefighter near the concealed space fire indicated that he was disoriented. The line was moved towards the fire and located the disoriented firefighter. Upon reaching the disoriented firefighter both firefighters attempted to follow the hose line back to the staircase. One firefighter ran out of air and became unconscious between the fire and the staircase (One or both could be downed firefighters).

Equipment:

Hand Tools
Radios
200' search rope
Hose Line
TIC
RIT Pac
Webbing

Objectives:

1. Locate and rescue - drag the unconscious victim(s) to the staircase.

2. Provide emergency SCBA air or RIT pack.

3. Perform narrow staircase rescue (upward).

RIT Skills:

- Search for and Locate Victim(s)

- Reset PASS Device

- Assess Downed Firefighter air supply needs
- Confirm ID
- Notify RIT Command
- Call for additional help if needed
- Convert harness
- Provide air supply
- Remove victim via narrow staircase (Up)

Command Skills:

- Identify the mayday
- Identify the firefighters location, Company (identification) and problem
- Deploy RIT operation
- Maintain Fire control
- Assign RIT sector command
- Assess RIT manpower needs
- LIPS

Tactical Information for
Establishing and Deploying a
RAPID INTERVENTION TEAM

9/10/08

PURPOSE:
All Fire Departments will utilize Rapid Intervention Teams (RIT) to provide immediate rescue to missing, lost, trapped, or injured firefighters.

GENERAL PROVISIONS:
1. A RIT shall be established at all structure fires and other incidents where fire department members are subject to hazards that would be immediately dangerous to life and/or health.
2. A RIT will be established based on 2-in/2-out rule.
3. A RIT is a fully equipped and properly trained crew (ideally consisting of four firefighters) with appropriate protective clothing, SCBAs, portable radio, and equipment based on the conditions and hazards of the incident. (See equipment list)
4. The RIT will assume a ready state to immediately react and respond to rescue endangered firefighters. The RIT will be positioned to maximize their effectiveness according to the size and scope of the incident.
5. Multiple RIT's may be required for an incident depending on the size and complexity of the incident.

RIT ASSIGNMENT:
As a dedicated RIT is assigned, they have the following responsibilities.
1. Refraining from other tactical functions. RIT's should be reserved for immediate deployment for firefighter search and rescue.
2. Receive a briefing of incident conditions and locations of operating crews and continually monitor tactical radio channels.
3. Be pro-active by establishing a second means of egress for firefighters and eliminate potential obstructions that may hamper an immediate exit from the building. The RIT shall not commit themselves to tasks that will prevent them from performing their assigned duties.
   Some of the tasks shall be, but not limited to:
   a. Throwing of ground ladders
   b. Securing of overhead doors in the "up" position.
   c. Removal of grates or other obstructions that would hamper egress thru a window or door.
   d. Forcible Entry improved egress.
4. Complete a survey of the involved structure or area to:
   a. Determine access and egress points. Ladders may be required for elevated access or egress from the structure.
   b. Determine specialized equipment that may be required for rescue operations
   c. Determine fire and structural conditions that would hinder rescue operations
   d. Identify protection systems and other factors that will aide rescue operations

5. Establish a dedicated tool drop area with appropriate equipment such as:
   a. Air Supply for victim (RIT bag or SCBA)
      - Air supply should be operationally checked prior to RIT Deployment.
   b. 11mm Kevlar search rope 200'
   c. Thermal Imager w/ spare battery
   d. Forcible entry tools/ irons
   e. Portable hand lights
   f. Stokes Basket
   g. Knowledge of the location of specialized rescue equipment (i.e. power saws, hydraulic tools, webbing)

6. Consider the need of a protective dedicated hose line (with a separate water supply if practicable).

7. The RIT shall remain in a state of readiness based on the hazards of the incident.

MAYDAY

Upon the receipt of the Mayday
1) Dispatch will use universal alert tone to stop fire ground communication to allow the firefighter in trouble to communicate to command.
2) If the scope and the duration of the incident dictates fire ground communication could be shifted to another radio frequency and the RIT will remain on the initial frequency.
3) The IC shall activate the RIT team and provide any needed information to the team.

RIT DEPLOYMENT:

The following guidelines will be used when the RIT is activated:

1. Command will deploy the RIT to the last reported location of the company or the most effective access point.
2. Command will upgrade the incident to initiate the response of 16 additional personnel To the fire ground. The additional companies will be available for:
   a. Replacement of the committed RIT for the remaining fire ground.
   b. Replace the firefighters assigned to be the activated RIT.
   c. Establish Extraction team(s)
   d. Reinforce firefighting positions

3. Command will, as soon as possible; establish a back-up RIT to support the operation.

4) Command will reestablish, as soon as possible, a the RIT for the remaining Fire Ground.
5. Command will redirect other operating sectors to support RIT operations as necessary. Sector Officers will continue with previously assigned functions until

reassigned by Command.

6. The RIT will operate using the procedures set forth in the RIT Initiative.