

RESCUE SYSTEMS 2 / STRUCTURAL COLLAPSE TECHNICIAN BRIDGE

COURSE INFORMATION AND REQUIRED MATERIALS

Course: Rescue System 2 / Structural Collapse Technician Bridge

Hours: 24 (Six, 4 hour modules)

Designed For: All fire service and allied emergency response personnel.

Description: Bridges the training gap between the California State Fire Training Rescue Systems 2 Advanced Rescue Skills course and the Federal Emergency Management Agency Structural Collapse Technician course. Key topics include: powder actuated tools, pneumatic shores, additional tools and techniques for breaking and breaching, cutting a tensioned cable, the "O" course, rigging, and crane operations.

Prerequisites: State Fire Training Courses:

- Rescue Systems 2
- Rope Rescue Technician
- Confined Space Rescue Technician
- Trench Rescue Technician

Additional Training:

- Vehicle and Machinery Rescue (Technician Level)
- Water Rescue (Awareness Level)
- Hazardous Materials (Operations Level)

SCT Structural Engineering Systems lecture (online or CD)

Online training certificate of completion for students being certified to use the Ramset SA270 Powder Actuated Tool.

Certification: Structural Collapse Technician

Class Size: 48

Student / Instructor: Ratio: 12 / 1 with 1 Senior Instructor

Restrictions: This course can only be delivered at an approved site with approved instructors.

REQUIRED STUDENT MATERIALS	EDITION	VENDOR
■ Student Manual	2010	
REQUIRED INSTRUCTOR MATERIALS		
■ Student Manual	2010	

VENDOR

RESCUE SYSTEMS 2 / STRUCTURE COLLAPSE TECHNICIAN BRIDGE COURSE OUTLINE

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ONLINE TRAINING

Go to the Ramset website at www.ramset.com.
Click on Powder Actuated Tool Test and Licensing.
Click on begin the course. Read the course material. At the end of this section, a list of online manuals for Ramset Powder Actuated Tools will appear.
Click on the SA270 manual and read the contents.
Take the exam and pass the color test.
Fill out your information and print out your certificate.

INTRODUCTION AND ADMINISTRATION / SAFETY 2 Hours

TERMINAL OBJECTIVE

- The student will receive all information regarding administration and operational requirements for successful completion of this course.
- The student will understand the importance of including sound safety practices in all phases of planning and rescue operations.

ENABLING OBJECTIVES

- Receive an introduction to all instructors and support staff.
- Receive instructions on starting times and attendance requirements for successful completion of the course.
- Receive information and the necessary paperwork to complete all administrative processes required for successful completion, including:
 - Administrative paperwork.
 - Task book.
 - Course critique.
 - Process for reporting injuries.
- Receive an overview of the criteria for successful completion of the course.
- Receive an overview of the student manual.
- Be assigned to a squad for operational periods.
- Introduce themselves if applicable.
- Receive a schedule of events and rotation times, course agenda, and information regarding the location of specific events.
- Understand the importance of recognizing and mitigating safety hazards.
- Be able to perform a risk / hazard analysis for a specific incident and suggest actions to minimize risks and / or eliminate hazards.
- Understand the importance of safety risk and hazard identification.

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POWDER ACTUATED TOOLS 1 Hour

TERMINAL OBJECTIVE

- The student will understand the function and capacity of powder actuated fasteners used in Urban Search and Rescue to support damaged structures.
- The student will understand how to safely operate powder actuated tools.

ENABLING OBJECTIVES

- Understand the purpose and use of powder actuated tools.
- Understand how to perform the center punch test.
- Understand proper safety techniques.
- Demonstrate the proper operation of powder actuated tools.
- Receive certification in the use of specific powder actuated tools (optional).
- Demonstrate proper safety techniques.

RIGGING 1 Hour

TERMINAL OBJECTIVE

- The student will understand the function and capacity of rigging used to lift and move and move heavy objects.

ENABLING OBJECTIVES

- Identify different types of rigging equipment.
- Understand the purpose and use of rigging equipment.
- Understand effects of critical angles on rigging equipment.
- Demonstrate the inspection of rigging equipment.

SHORING 4 Hours

TERMINAL OBJECTIVE

- The student will understand the function and capacity of pneumatic shores used in Urban Search and Rescue to support damaged structures.
- The student will understand why and how shores are constructed.

ENABLING OBJECTIVES

- Identify the components of pneumatic shores.
- Understand the purpose and use of pneumatic shores.
- Understand the limitations of pneumatic shores.
- Understand how to construct a spot shore.
- Understand how to construct a window shore.
- Construct a vertical shore.
- Understand how to construct a door shore.
- Construct a horizontal shore.
- Construct a raker shore.
- Understand how to construct a sloped floor shore.
- Demonstrate proper safety techniques.

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COURSE INFORMATION AND REQUIRED MATERIALS

BREAKING / BREACHING 4 Hours

TERMINAL OBJECTIVE

- The student will properly break and breach to gain access through concrete, steel or other structural components during rescue operations in heavy floor, heavy wall, steel and concrete structures.

ENABLING OBJECTIVES

- Use rotary hammer to breach a 2" minimum inspection hole.
 - Drill several holes.
 - Change rotary hammer bit while suspended by rope system.
- Breach concrete while suspended by a rope system.
- Construct a rope system consistent with Rescue Systems 1.
- Identify safety concerns when breaching concrete.
- Set up and operate the Stanley hydraulic power unit.
- Use the hydraulic chainsaw.
 - Demonstrate a bevel cut for a "lift out".
- Use the hydraulic circular saw.
- Use the hydraulic breakers.
- Identify safety concerns when breaching concrete.
- Drill 2" core hole in concrete.
- Use the concrete coring tool.
 - Gas and electric.
- Identify safety concerns when breaching concrete.
- Demonstrate proper safety techniques.

CUTTING / BURNING 4 Hours

TERMINAL OBJECTIVE

- The student will understand the capabilities and limitations of all types of burning equipment that can be used in USAR operations.

ENABLING OBJECTIVES

- Use the oxy/acetylene cutting torch.
- Use the oxy/gasoline cutting torch.
- Use the exothermic cutting torch.
- Demonstrate the proper technique for a piercing / plunge cut with each cutting torch.
- Demonstrate the proper technique for a line cut with each cutting torch.
- Demonstrate the proper technique for cutting a tensioned cable or wire rope.
- Cut a hole in steel for a sling attachment (optional).
- Demonstrate proper safety techniques.

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COURSE INFORMATION AND REQUIRED MATERIALS

LIFTING / MOVING ("O" Course) 4 Hours

TERMINAL OBJECTIVE

- Size-up objects that have entrapped people and efficiently apply a variety of machines and power to safely move these objects.

ENABLING OBJECTIVES

- Use levers to lift, move, and lower a heavy object.
- Use pipes as rollers to move a heavy object.
- Use wood timbers as rails.
- Use an inclined plane.
- Use crib beds to lift and stabilize a heavy object.
- Construct a mechanical advantage system with rope and pulleys.
- Construct an "A" Frame Gantry.
- Use proper staffing and commands.
- Demonstrate proper safety techniques.

LIFTING / MOVING (Crane Operations) 4 Hours

TERMINAL OBJECTIVE

- Size-up objects that have entrapped people and efficiently apply a variety of machines and power to safely move these objects.

ENABLING OBJECTIVES

- Accurately calculate load weights.
- Find the center of gravity of different size loads and irregular shaped objects.
- Use different methods to rig wire rope slings on a load.
- Use different methods to rig synthetic slings on a load.
- Properly use shackles in rigging a load.
- Rig loads of different sizes and shapes.
- Become familiar with different types of cranes.
- Understand how to set up a crane.
- Demonstrate proper crane hand signals.
- Demonstrate proper safety techniques.