



CONFINED SPACE BASIC ROPE RIGGING & RESCUE | COURSE NO. ZT-CSRESCUE (8 HRS)

MSA's Confined Space Basic Rope Rigging and Rescue class is designed to teach CS rescue team members the basics of rope theory and use. The predominantly hands-on class begins by covering basic topics fundamental to later training evolutions such as the concepts of utilizing pulleys and rope to create mechanical advantage and system knots that will be utilized in constructing a "Z-Rig" haul system. Once the basics are covered, students will have the construction of a haul system demonstrated for them and then will be asked to participate in a re-creation.

The class terminates in a practice evolution where the students are given a scenario of a downed worker inside a confined space and asked to perform a rope rescue utilizing the tools and techniques that have been demonstrated to them throughout the day.

Prerequisite

MSA's 2-day Confined Space Entry and Operations Course

The 1-day course is comprised of the following:

- Standard-required rescue training / practice requirements and implications for entry rescues
- Considerations for building, equipping, and training a rescue team for hazardous entries to meet ANSI Z117.1–2009 procedural specifications
- Building for mechanical advantage

Rescue Anchorages

- Tripod
- Finding other "height advantage"
- Water knot and "Wrap 3, Pull 2"

Carabiner Options

- Moving vs. non-moving parts
- 2:1 & 4:1 "simple" mechanical advantage systems

Basic Rescue Rope Requirements

- Rope sizing for haul lines
- Backups and ancillary systems
- Rope inspection

Rescue Knots / Hitches Per Application

- "Family of 8s" (8 on a bight, inline 8, follow-through 8)
- Alpine Butterfly
- Clove hitch

Design of the "Z-Rig" "compound" haul system demo & practice build

- Primary and belay (backup) systems
- Anchors, pulleys and redirects
- Prussic – tying, application to rope, uses

Patient Packaging

- Stokes basket
- Sked stretcher
- Backing up the system

Rescue Scenario

- Team is given known details about a fictional ongoing confined space incident
- Team is asked to utilize all CS knowledge to open a permit for entry rescue
- Team is guided in assigning member roles
- Group is asked to build a customized rope rescue system of varying difficulty based on needs / prior training
- Rescue is undertaken, with instructor giving guidance where needed and evaluating for post-briefing of strengths/areas for improvement