

Bio:

**Justin Spain** is the owner of Resolution Rescue with 20 years of Rope, and Search and Rescue work which includes USAR, mountain, and fire rescue. He is also experienced in Rope Access work. This will be Justin's first presentation at ITRS after many, many years of attending.

Abstract:

This presentation will guide its attendees through a joint testing sequence contracted with a third party—Sandia National Laboratories—to test 9mm rope and certain devices to Belay Competency Standards. The labs completed testing with knot to knot and also lightweight rescue systems utilizing 9mm ropes. All of this testing was done as single rope systems to find out if 9 mm rope systems will survive in the worst-case scenarios.

Upon receiving the data from Sandia, the rope/device systems that showed promise as a rescue system were identified and were tested as dedicated main/ belay, as well as a twin tension rope system. While most edge transition tests include a “freefall” component, we created and applied what we believe to be a more realistic testing sequence and mechanism for having a rescue load “fall” over an edge.

We will be presenting the single rope belay competency results as well as results from our 9mm rescue systems. Equipment specific to our testing include bowline to bowline testing, 7mm Bluewater VT prussiks, Petzl Reverso 4, and the GriGri+. Testing was conducted on 3 different 9mm, nylon core ropes, each with a different sheath—nylon, technora, and polyester. Utilizing this new information, it is our goal to help the rope rescue community identify the intersection of lightweight and safety.