

**Q** In Eliot Lothrop's article "Working Safely and Comfortably at Heights" (Mar/18), he talks about a two-rope positioning system. How do these systems work, and are these ropes in addition to the restraint system or in place of it?

**A** Eliot Lothrop, owner of Building Heritage, a timber-frame restoration company in Huntington, Vt., responds: Fall-protection safety equipment falls into two categories—restraint systems and positioning systems—and OSHA makes a clear distinction between the two. A restraint system prevents a worker from falling any distance. A positioning system allows a worker to be supported on an elevated vertical surface such as a wall or roof, and to work with both hands free while leaning against the rope. Further, the positioning system must be rigged so that a worker cannot fall more than 2 feet. In general, I have found OSHA to be accepting of different types of fall-arrest technology as long as manufacturer guidelines are followed.

The two-rope positioning system that I

referred to in the article is a hybrid system in which one rope is the restraint rope while the other is the positioning rope **(1)**. These ropes are attached to the roof framing above the worker position by means of separate OSHA-approved connectors. These connectors are attached to separate framing members, usually a few feet apart.

The restraint rope is the principal fall-arrest or restraint system. We attach the rope to Petzl's ASAP mechanism **(2)**, which moves up and down as the worker changes position. But because the ASAP mechanism allows the rope to move relatively freely, the worker can't lean against it to work hands-free.

That's where the positioning rope comes into play. It is attached to a Petzl RIG device that allows the worker to descend and to lock the rope at desired working height **(3)**. With

**Two-rope positioning.** With this system, the restraint rope is the primary fall-arrest protection, shown here attached to the worker with a Petzl ASAP mobile fall-arrest device. A second rope attaches to the worker with a Petzl RIG device. With this device, the worker can lock the rope so he can lean against it, leaving both hands free to work. Separate attachment points for the two ropes allow the worker to triangulate his working position without having to work against one rope or the other.



Photo: Eliot Lothrop

## Q&A / Two-Rope Positioning System

the rope locked, the worker can lean against it with both hands free for working.

As the article says, the whole system begins with a Petzl full-body AVAO harness. The harness has two D-rings in the front. Typically, we attach the positioning rope to the upper D-ring and the restraint apparatus to the lower D-ring. Having the attachment points in different locations above the worker allows him to use the two ropes to triangulate his location and to work without fighting one rope or the other.

Working at extreme heights is serious business and we literally trust our lives to the fall-arrest equipment. We regularly inspect the ropes for any signs of wear and replace any rope that is worn, cut, or abraded—even superficially. Manufacturer guidelines say the ropes and harnesses typically have a lifespan of about five years.

We also frequently check the RIG and ASAP devices to make sure that no sharp edges are developing that could damage the ropes. If cleaning of the RIG or ASAP devices is needed, Petzl recommends that they be washed with lukewarm soapy water and then rinsed with fresh tap water. Chemical cleaners or degreasers should never be used. Finally, we treat the harnesses and all the various devices as valued tools, keeping them off the ground and putting them in a case when not in use.



The Petzl ASAP device (gold device at the end) moves up and down the rope as the position of the worker changes (2). If a fall occurs, it locks in position instantly. The RIG device at the bottom allows the worker to lock himself in position and lean against the rope for working with both hands free (3).