

## Creating A Descent And Rescue Plan



Image from PSG Product Catalog 2020

**A** is for Anchorage Point    **C** is for Connecting Device  
**B** is for Body Harness        **D** is for Descent & Rescue

### Do You Know How To Rescue A Fallen Worker?

This is part four of our four-part series on “The ABCD’s of Fall Arrest.”

While workers engaging in tasks near leading edges, or elevated openings, can seem more isolated due to new physical distancing requirements, they need to be assured that help is immediate in the case of a fall.

The fourth element of a construction team’s fall protection plan is the Descent & Rescue. This part of the plan includes details on how a post-fall rescue occurs; determining whether actions are needed to lower the fallen worker to safety or raise the worker – returning them to their original position.

### Assessing The Site Rescue Requirements

OSHA regulations require that contractors must:

*“provide for prompt rescue of employees in the event of a fall or shall assure that employees are able to rescue themselves.”*

OSHA further requires contractors include medical procedures for care of a suspended worker following the rescue.

There are no prescriptive requirements defining the time period of a “prompt” rescue. But most experts suggest a maximum period of six minutes. This guideline is based upon the need to provide effective medical treatment for the worker. Treatment could include injuries from being struck by a falling object, or a medical emergency such as a heart attack that may have caused the fall, any injuries from a collision with a part of a structure during the fall, and complications that can occur during suspension.

It is important to select rescue and descent systems that match the job conditions. Determine the potential height or descent that will be required by rescue procedures. Systems typically have a maximum usable height based on design and performance.

And finally, determine from where help will come. Start by checking-in with the area’s emergency response agency to assess their ability and skills, especially if the work task is unique. Some contractors hire professional rescue agencies for these special conditions. But most contractors find it more economical to purchase descent equipment and train their own employees. Many manufacturers offer training that includes Competent Person certifications, and some even provide required training to become authorized rescuers.

### 3 Types Of Rescue

Gearing up your own crew starts by determining the type of descent equipment needed to effectively deal with a fall or rescue.

#### Self-Assisted Recovery

In some circumstances, fallen workers can assist in their own rescue when they have access to rescue ladders. These devices are rope ladders with either rungs or nylon

foot loops. Following the fall, while the worker is hanging suspended in a safety harness, a co-worker can attach a rescue ladder or suspension loop ladder to an anchor point on the floor or platform above them, and lower the ladder down to the worker. They may be able to climb up the rope ladder or suspension loops, and have other workers pull them to safety. If not, they can at least take the pressure off their body and stabilize their circulation by standing on the rope ladder rungs or in the suspension loops, until they can be properly rescued.

### Pick-Offs

Often times a suspended fallen worker must be rescued by another worker. During the pick-off, the rescuer descends to the fallen victim, connects to the victim's system and then raises the victim slightly to enable disconnection of the victim's fall arrest system, before descending with the victim to the lower level to complete the rescue. These types of systems are designed to support both the rescuer and the victim.

### Confined Space Rescue

The most effective emergency response when working in this dangerous work condition is to prepare for a non-entry rescue. Descended workers are equipped with special body harnesses and lanyards that remained tethered to a line extending out of the confined work area. Often the tether is connected to a winch on a tripod positioned over the opening. Should retraction be necessary, co-workers use the winch and pulley system to lift the worker from the situation.

## Descent Control Devices

Controlled descent devices are designed for safe, quick, and efficient emergency extractions for all three types of rescues that involve either vertical or sloped descents.

There are two common types of descent control devices.

Automatic descent control devices, or rescue wheels, are typically the quickest, most effective and simplest rescue devices. They are best used when the rescue path has a line of sight from the descent control device's anchor point, to the suspended worker, and safe rescue spot the ground below. Often the suspended worker can be attached to the device and assist in the rescue by turning a wheel on the automatic braking system towards the direction of intended travel.

Manual descent control devices require a higher level of user participation from an authorized rescuer who continually controls the rate of descent. Manually driven systems fall into one of two categories: block and tackle systems or pre-rigged rope systems.

Block and tackle rescue systems allow lifting and lowering. These are accomplished without an add-on pulley kit and are recommended when performing suspended pick-offs

Pre-rigged rope systems typically consist of a single rope used for lowering and a compatible lowering device. Pre-rigged rope systems allow rescuers to deal with corners or leading edges more easily. And since there's only one line, there's less likelihood of tangles.

## Rescue Kits

Many manufacturers offer rescue kits, that include specific equipment for certain types of situations.

The most common package is a basic assemblage of pulleys and support equipment primarily used for raising and lowering people or equipment in rescue operations and industrial work access. These systems are also ideal for

## REMEMBER! OSHA REQUIRES A FALL PROTECTION PLAN



## WHAT IS SUSPENSION TRAUMA?



*Image from PSG Product Catalog 2020*

confined space applications.

For windmill or high tower applications, manufacturers have assembled kits that include longer lengths of rope, special types of descending devices, and special anchors.

Some kits include a Head First Extraction System that allows the rescuer to be lowered comfortably into a confined space head first, harness the victim, and raise both victim and rescuer out of a confined space.

## Health Considerations Of A Fallen Worker

While immediate attention is primarily focused on returning the worker to safety, it's important to pay close attention to a serious medical condition that can occur from the worker's suspension. Harness Hang Syndrome (HHS) occurs when a fallen worker is suspended for too long in the harness. Gravity can cause the harness' leg straps to constrict the veins. Blood can pool in the lower body, reducing flow of oxygenated blood to the worker's heart, brain and kidneys.

OSHA has identified HHS as a reportable medical condition. Contractors should ensure that post-rescue medical aid includes the ability to recognize and treat this condition in order to avoid post-fall injuries.

To minimize exposure to HHS, fallen workers should try to "muscle pump" their legs frequently to activate the muscles and reduce the risk of venous pooling. When available, footholds can help reduce the pressure causing blood flow constriction.

Adding a Trauma Strap to an existing Harness, or purchasing a Harness that includes a Trauma/Relief Strap can help alleviate some of the discomfort and/or blood pooling that comes with waiting to be rescued.

**VIDEO: How To Use A Trauma Strap**

---

**To view the online article go to:**

<https://news.whitecap.com/creating-a-descent-and-rescue-plan/>

## Aerial Work Platforms

Aerial work platforms (AWP) are very versatile jobsite equipment but they should only be used as a last resort for a mid-air rescue of a fallen worker. Before making this emergency decision, there are some important considerations for their use. Both the [Scaffolding and Access Industry Association](#) and the [International Powered Access Federation](#) provide guidance on the decision steps that must be considered.

### They suggest that:

- The use of the AWP's must not create a safety hazard for the operator, the victim or any other personnel involved in the rescue. This includes determination of the AWP's load rating and operating range.
- Only trained and certified persons should operate the AWP's aerial lift.
- All workers on the platform, including the fallen worker, must wear the proper personal protection equipment.

## Removal Of Personal Fall Protection Equipment

The final step of a post-fall event must be the thorough inspection of the rescue devices along with removal of the body harness, restraints, and lanyards that were worn by the fallen worker. All these items must be examined by the equipment's manufacturer or competent safety professional for indicator alarms, wear or damage. It is also important to examine the anchor point to which the worker was attached, along with all associated hardware for damage and/or wear.