

## **Fall Recovery? The Clip Snip and Lower Recovery system:**

All too often, fall recovery is not even thought of until after the worker has fallen, and is hanging by his/her lanyard---that's good! I mean, good that they are using fall protection. It wasn't too long ago rescues were much simpler --- just pick up the pieces at the bottom! *It is nice to see people using fall protection.* It has been our experience that 90% or more of the contractors, etc. have not thought of, or even considered, how to handle this type of rescue until it happens. Precious time is lost if you don't have this in your fall protection plan. We have seen people pass-out in as little as seven minutes. If they are unconscious and they stop moving the chances of airway closure are higher, and acidosis??? (I can't seem to remember the term.) maybe you can think of the term for when the blood pools in the legs, and becomes so full of toxins, and so little Oxygen that when it is released back into the main system, it kills the victim. I've heard of one death. The guy had been rescued but shortly after collapsed and died. They determined it was due to the bad blood from the legs coming back into the system and the body couldn't handle it. (Sorry, I just heard this from a second hand source so don't remember details like where, when, etc)

Even in a full body, OSHA hang time is very short. This is why we developed this system in the early 1980's It can be used on towers, although it was originally developed for rescue from places Like the Delta Center (see picture of worker using the system we installed. If he were to faith, fall, or whatever, they have a recovery kit, ready to go. The kit contains: descender (I'D or Stop), biners (auto-lock), Enough rope to reach the playing floor, EMT Shears, an extendable, Clip Stick set-up, with directions (their key people have be trained but we still include a video and/or a CD with it)

In this type of rescue system we try to a stay with the water rescue concepts: Throw, Tow, Row, Go. . The last thing we want to do is commit someone else to go over the edge in. Carefully and quickly a victim can be lowered to waiting medical personnel (3 minutes is our record at Alta Ski Resort off of one of their towers. There is far less chance of injury to the victim, and it is much faster than bringing them back up, and then trying to get them back down again. It is designed to used to be used "*without a belay line*" because in these type of rescues, space and anchoring is very limited and the added confusion presents a greater hazard than not have in belay rope. Another neat thing is this system is easy to improvise.

### **About the Presenter:**

In 1969 **Doug Hansen** became actively involved in the vertical environment. Since then his life has essentially been High Angle Work, Engineering, Rescue, Emergency Response, and Equipment sales. Experience and training include: Military 1972, he enlisted in the 19<sup>th</sup> Special Forces group (Green Beret). He graduated as an Army Medical Training Center in Fort Sam, Houston, TX, later transferring to the 117<sup>th</sup> Engineering Corps. In 1975, he was hired by the NPS to work as a park ranger. His duties included training park personnel in climbing and rescue procedures, and organizing and direction rescues within the park. At the same time, he established a professional organization that focused on teaching high angle skills, work in high places, and selling high angle equipment. In 1976, Hansen was invited to join the Utah County Sheriffs Mountain Rescue Team and eventually became captain and operational leader of the rescue unit.

Work experience includes; U.S. Steel Co., Safety Department and Firefighter/EMT. In 1985, he opened Hansen Mountaineering, a high angle company. He also started High Angle Technologies, bringing focus to high angle work, teaching and equipment sales. He has also produced several videos, including, "Vertical Rope Skills", recipient of the Telly Award.

He has served as an instructor for numerous colleges. Including, rock climbing at Brigham Young University. He has also organized and led an expedition to the north face of Everest. Currently, he works in the high angle business, writing, teaching, and special projects dealing with high angle.

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## Fall Recovery/Rescue System Guidelines

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**WARNING:** Training is required to safely operate this Fall Recovery System.

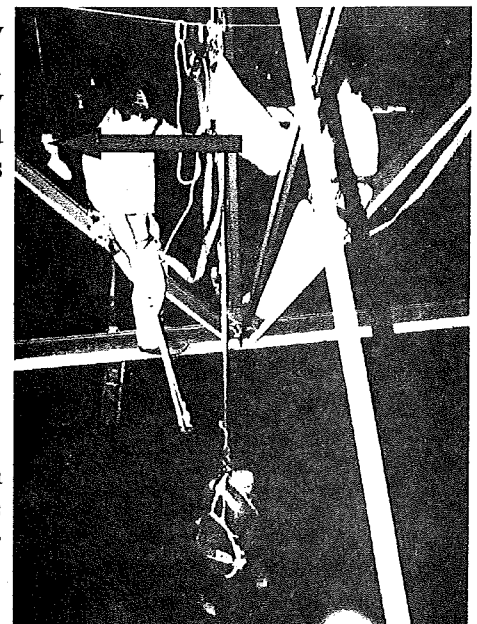
These guidelines will assist you during the process of fall recovery, but they can not take the place of training. As the title suggests: these are guidelines. Carefully, study the situation to make sure it is similar to the type of recovery you are trained to do and that it matches these guidelines. If it does not, you should seek advanced assistance. Failure to do so could result in serious injury or death.

### A Fallen Worker:

- \*May be injured.
- \*May be unconscious
- \*May have their airway closed
- \*A Safe speedy recovery is important

Since raising an injured person back up to the level of the trusses and then getting them back onto the cat walk, etc. is very difficult and dangerous at the best, it is generally considered to be a better choice to lower a fallen worker the Event Center floor.

**Safety Notice:** This fall recovery system **DOES NOT** have a back-up in the event of improper use.

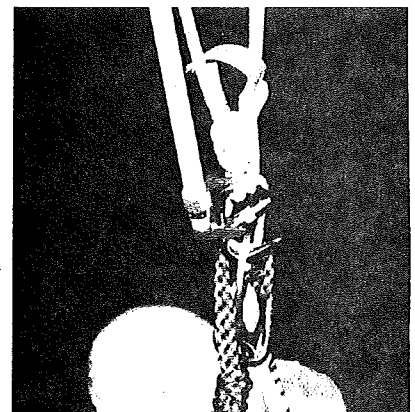


After properly connecting fall recovery system to the cable, use the special extension clipping stick to attach the recovery rope to the fallen worker. Pull the stick away. Make sure the self closing-self locking carabiner is securely fastened and locked into the victim's fall protection ring

This operation should be practiced under controlled conditions and EVERY connection and function MUST be double and triple checked.  
... "SAFETY MUST BE NUMBER ONE!"

### IF A FALL OCCURS:

1. Remember the "Rescuer" must not become a victim.
2. Notify emergency personnel and fall recovery personnel.
3. Respond with the fall recovery kit, personal safety gear (harness, safety lanyard, gloves, etc.), and any other gear that may be deemed necessary for the rescue.
4. Observe the entire situation looking for hazards that may influence the rescue.



Double check to see that the rescue carabiners is securely connected to the fall protection ring.

5. The rescuer should now secure themselves to the fall arrest safety system and proceed, with the fall rescue kit, to the point directly above the fallen worker.

6. Clip both carabiners to the fall arrest cable (see diagram), and lock them securely.

7. Now attach the a self locking carabiners to the Stick Clip with the gate open. With the length provided by the Stick Clip you can hook into the fallen worker's safety harness and pull the Stick Clip back leaving the self-locking carabiners securely attached to the fallen worker's harness.

8. At this

**Double check to see that the carabiners is securely attached fall catch ring on the back of fallen worker's safety harness.**

point double check entire system making sure all carabiners are securely locked, and that the lowering device is properly configured.

9. Now pull- up as much rope as possible. The rope should be very tight between the lowering device and the fallen worker. This reduces the shock loading of the rescue rope when you cut the lanyard. (The shock loading even when done poorly is much less than might be assume.

**10. SPECIAL NOTE: THIS IS A CRITICAL FUNCTION. STAY FOCUSED AND DOUBLE CHECK EVERYTHING!!!**

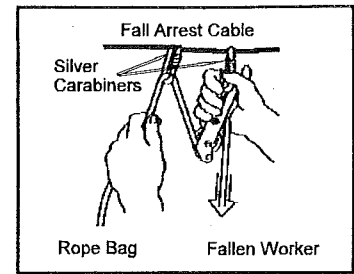
11. Now carefully pull the shink-tube off of the EMT shears. Now, while securely holding the rope bag side (brake side) of the rope (see diagram), use your other hand to cut the fallen workers lanyard with the EMT shears that are attached to the fall recovery rope bag. Note: if there is hardware, buckles, etc. on the lanyard, try to cut the lanyard so that this hard ware stays attached to the cable, and does not club the victim.

12. Now slowly lower (we recommend using gloves) the worker to the Event Center floor using the rope bag side of the rope to control the speed of descent and the other hand to release the safety stop on the descender. It the kit has been tampered with and the seal is broken make the rope reaches the floor, and it IS a good idea, in this case, to tie a knot in the end of the rope

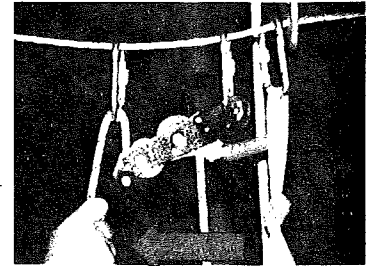
13. First Aid: There may be injuries. Qualified Medical Personnel should be on-site to receive the fallen worker as they are lowered to the floor.

**Improvisation Note:** This system can be improvised by taping a self locking carabiner to a long stick. Hook your rope to this biner, then use a small stick in the gate to hold it open. The short stick will pop out when you clip it into the fall protection ring. Some harnesses are hard to clip into because the are small and tight against the back of the victim in these cases you may need to clip.

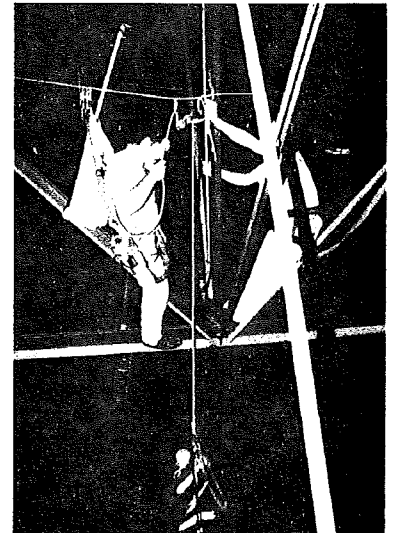
**Disclaimer and Warning:** This is a critical operation. Only Properly trained and practiced personnel should attempt a fall recovery/rescue. High Angle Technologies, Inc. can NOT be held liable for improper use of this system since the use of it is out of our control. *Please for safety's sake, practice often and triple check all steps.*



Always control (hold onto) the brake side of rope (arrow). Handle is only a locking device, NOT a braking device.



The braking side of rope (see arrow) must always be controlled.. The red handle is ONLY a stop. Be sure it is NOT being push against a I-beam or other object, which might release it.



When all is securely fastened and double checked, carefully lower the fallen worker to the floor below.



Rope should be stuffed in deployment bag so as to allow for it to pull-out smoothly