

Use of a Cascade Rescue Toboggan in Low, Steep and High Angle Rescue

The use of any Cascade Rescue Company toboggan in any "rope rescue" situation is a topic often encountered in both "in-area" and out of bounds scenarios. From time to time it may be necessary to immobilize a "subject" in a rescue toboggan to extract them from what could be a precarious position. This extraction would take place in an area that the rescuer did not feel comfortable skiing the subject and toboggan out of, or was in a location that prevented that activity altogether. Primarily, the question of "What do I attach to on my Cascade Toboggan to raise or lower it downhill?" (commonly, but incorrectly known as "belaying" - see definition below). While we have seen many methods employed to do this, there is only **ONE CORRECT ANSWER**.

The only safe way to raise or lower a Cascade Toboggan in any situation is by using Factory Installed Belay Points. While there are many places that carabiners, rope or webbing could be attached to a toboggan, it doesn't mean it is a good idea to do so. In fact, it is unsafe to use anything other than the Belay Points. Each potential attachment point on a Cascade Toboggan has a specific purpose and are named appropriately. For example, Tail Ropes, Handle Uprights, Carry Handles - all are self explanatory in terms of their correct use. If you envision you will be using your toboggan in a low angle, vertical or horizontal lifting exercise, then the use of Cascade Belay Points are mandatory. Use of other attachment points exposes you, your patrol and ski area to unnecessary risk and may seriously injure your patient and those nearby.

Low, Steep and High Angle Systems

Configuring a Cascade Toboggan with Belay Points is fairly straightforward. The subject's head should always be uphill whenever possible and the nose or Bow of the toboggan should always be pointed in the direction of travel. Below is a picture of the recommended configuration. In this system we use approximately 15 feet of 1" high strength webbing. Each end of the webbing is attached to the toboggan Belay Point and tied off using either a "Round Turn" and two half hitches or a Round Turn with a half hitch and a square knot. Alternatively, a Clove Hitch with a half hitch safety knot. Whichever is easiest to teach and remember is usually the best. Once the webbing has been secured to the toboggan, pull the webbing forward and center an Overhand Knot on a bight in the center. This will serve as the attachment point for your haul line.



Round Turn, Two half hitches



Clove Hitch w/half hitch tie off



Complete Harness w/Overhand

Vertical Raise in Horizontal Position

To raise or lower a toboggan using the Belay Points is also quite easy when using the proper technique and components. In the example below we have rigged a toboggan to be raised or lowered while keeping the toboggan in a horizontal position. To accomplish this, we are using 4 AustriAlpine Big Hook Carabiners and a PMI Tarantula Litter Harness. It is beneficial to use a litter harness that allows the rescuer to adjust the orientation of the toboggan. A slightly "head up" orientation provides increased subject comfort.



Patient Packaging

When working in low, steep and high angle situations it is important to ensure the subject is securely "packaged" in the toboggan. Local protocols should always be followed, but at a minimum the subject should be wearing some form of seat or full body harness and secured to the toboggan using the belay points. A simple Swiss harness of 1" webbing is sufficient for most applications. The subject should be secured as to minimize any movement within the toboggan regardless of position of the toboggan.

***Definition of BELAY**

The securing of a person or a safety rope to an anchor point (as during mountain climbing); also : a method of securing a person or rope

Warning

During any activity involving "work at height" or technical rescue, all safety and local protocols must be followed. Only trained and experienced personnel in the use of high incline and ropes rescue techniques can properly use these devices or complete these actions. Failure to follow these rules may result in severe injury, including death to the user and or rescue subjects.

Any questions, comments or concerns may be addressed to Dana Jordan at Cascade Rescue Company. 208-263-2484 or djordan@cascade-rescue.com