Ascending Error — System Failure

Oregon, Central Oregon, Steelhead Falls

On September 17, at approximately 7 p.m., a Corvallis Mountain Rescue Unit (CMRU) member fell approximately 40 to 50 feet on high-angle rock while ascending a single rope. The accident took place during a training event at Steelhead Falls. The ground and rock were dry, with air temperature estimated to be in the high 70s F.

While ascending the rope, the subject's glove got caught on the exposed teeth of an Edelrid Spoc progress-capture pulley being used for ascension, while the climber was attempting to move it upward on the rope. As a result, the teeth of the progress-capture pulley failed to engage the rope and the pulley slid down the rope onto the subject's lower rope grab [the term for any device or hitch that travels on the rope and automatically engages to arrest a fall]. The lower rope grab consisted of a 5mm accessory cord configured as a foot loop and attached to the rope with a prusik hitch. This lower rope grab was connected to the subject's harness by a locking carabiner connected to an older model Metolius Ultimate Daisy Chain girth-hitched to their harness belay loop. The pulley collapsed and tended the prusik hitch (prevented the prusik from grabbing the rope) as it was weighted, resulting in loss of positive connection to the rope. The result was an uncontrolled fall to the ground.

The team member sustained only minor injuries, despite the significant mechanism of injury involved. Injuries were limited to abrasion and mild pain to the pelvis/ back region. Other CMRU members at the scene performed an in-line traveling haul rescue to get the injured member back up to safety at the top of the cliff. [Editor's Note: The use of the Edelirid Spoc above a prusik is not shown in the manufacturer's instructions.]

ANALYSIS

The upper rope grab was defeated, fell down onto the lower rope grab (three-wrap prusik with 5mm accessory cord), and caused it to fail. A CMRU member was later able to re-create the cause of the accident using several combinations of progress-capture pulleys of various brands over friction hitches. It appears the cause of this accident was not directly associated with any particular brand of gear or type of friction hitch used, but rather the configuration of a "hard" rope grab over a "soft" rope grab.

A secondary cause of this incident was the climber's glove getting caught on the teeth of the upper ascender while manipulating the device, which may have prevented it from fully engaging the rope. The ascender was a pulley that was capable of overriding the prusik and breaking the friction grip of the hitch. One foot was on a ledge, partially supporting the climber's weight, and this may have made it harder to detect the initiation of the defeat of the upper ascender. By being only partially weighted (with some of the climber's weight being supported by the foot on a ledge) the grip of the lower prusik hitch may not have been solidly set and may have been looser around the rope than normal, allowing it to be broken more easily.

Other contributing factors:

* Inexperienced climber using newly learned skills with high-angle exposure on rock while ascending a rope

* Lack of full familiarity with all components used in the ascending system

* Improvised activity, informal environment (prior to start of “real” training agenda)

* Expert halo effect possibly obfuscated or minimized the hazards of the activity

* Fatigue near the end of the day, after a long drive to training site by the climber

(Source: Joe McCormick, Corvallis Mountain Rescue Unit.)

Images

The climber’s glove caught in the teeth of the progress-capture pulley, causing the device to slide down the rope.

As the progress-capture device slid onto the top of the prusik, it caused the hitch to fail and the climber slid down the rope to the ground.

Article Details

Author	Joe McCormick, Corvallis Mountain Rescue Unit
Publication	ANAM
Volume	12
Issue	75
Page	78
Copyright Date	2022
Article Type	Accident reports