

by putting the pick of his axe into the snow with only one hand gripping the shaft of the axe. The ice axe was ripped out of his hand and he cartwheeled several times before falling over the lip of the cliff band and out of sight of his partner.

With no visual or voice contact with the victim, the partner continued down the standard descent. After 25 minutes, he saw Kammeyer lying motionless on the snow about 100 feet above the Black Dike. He had fallen down the mixed snow and rock for a vertical distance of about 800 feet. After another five minutes or so, the partner reached Kammeyer.

The partner reported that he initially examined the victim and found him to be confused, disoriented and did not know who his partner was. He appeared to have sustained two broken arms, a head injury and possible rib fractures. He was conscious, however, and was able to stand since he did not appear to have injured his legs. Remarkably, the partner was able to assist Kammeyer down to their camp at the Lower Saddle. Upon reaching camp, he put his partner in a sleeping bag in their tent and enlisted the help of other climbers at the Saddle.

The partner left the Lower Saddle at 1620 to descend Garnet Canyon and report the accident. At 1730, he met ranger Larson on the Garnet trail as Larson was descending from a mountain patrol of Irene's Arete. Larson reported the incident via radio. At 1732, I requested dispatch of the park contract helicopter. It landed at Lupine Meadows at 1824. The helicopter landed on the Lower Saddle and ranger personnel reached the victim at 1839.

Ranger personnel evaluated and stabilized Kammeyer with C-collar and backboard, assisted by a physician who happened to be in the area. They then initiated a carry of the patient from his camp to the helispot. At 1929, the helicopter, with the victim and Ranger Dorward on board, left the Saddle for a direct flight to St. John's Hospital in Jackson, arriving there at 1937.

Kammeyer was reported to have sustained: bilateral wrist fractures, a right side pneumothorax, and fractures of T-8, T-12 and C4-7.

Analysis

Kammeyer was wearing a climbing helmet at the time of his fall. The helmet was extensively damaged in the fall and quite probably saved his life or prevented an even worse head injury. The cause of the accident was an inability to self-arrest on snow due to improper technique. It was subsequently reported that prior to the accident, the wrist loop on the ice axe was broken. The partner indicated that earlier in the day Kammeyer had demonstrated proper self-arrest technique as they approached the climb. But at a critical moment when it most counted, he was unable to execute a self-arrest. (Source: Peter Armington, SAR Ranger, Grand Teton National Park)

PITON PULLED OUT, FALL ON ROCK, REMOVED PROTECTION Wyoming, Grand Teton National Park, Guides' Wall

On June 26, 1992, at 1145, Roland Fleck (59) was leading the "Flake Pitch" on the regular Guides' Wall route belayed by partner Wes Mostaert. This pitch is about 500 feet off the ground and is considered to be 5.7 in difficulty. After clipping into a fixed piton, Fleck apparently then reached down and removed two other pieces of protection that he himself had placed. He body weighted the piton, applying an outward force to it at which point it suddenly pulled out of the rock. He fell 40 to 50 feet down to the ledge at the base of the pitch and sustained multiple injuries upon impact. Mostaert

moved him into as stable a position as he could and began calling for help.

The Park dispatch office received a report of an accident in Cascade Canyon around 1343 and, at the time, a specific location was not known. Ranger Jim Dorward, who was just below the Forks area, ran 2.5 miles down the trail where a more precise report had led him to believe the accident was in the vicinity of Guides' Wall. This popular rock climb is six pitches in length and is located on the lower southwest ridge of Storm Point. Dorward very quickly ascended what is the normal descent route to a point from which he could traverse a ledge to the accident site. This involved climbing nearly 1,000 vertical feet. He began an initial patient assessment at 1455.

By 1550, a helicopter departed Lupine Meadows for the accident scene. The short-haul litter and the medical and climbing equipment that it contained was delivered to the accident site. Ranger Dorward placed Fleck carefully into the litter on his injured side while the helicopter orbited nearby. Eight minutes later, Dorward successfully attached the litter to the end of the short-haul ropes. The weather at that time was quite bad with 15 mph winds and steady rain. Pilot Will Eldredge managed to accomplish this very tricky maneuver with a main rotor clearance of ten feet. After a flight of four minutes, Fleck was taken into the rescue cache and briefly tended by an air ambulance flight nurse. He was then quickly reloaded into the helicopter and flown directly to St. John's Hospital in Jackson, arriving at 1700, where he received initial treatment. Due to the serious nature of Fleck's multiple injuries, he was flown to the Shock Trauma unit of the LDS hospital in Salt Lake City at 2130.

Analysis

It is unfortunate that Fleck decided to remove two pieces of protection and then put all of his trust in one old, presumably untested, piton.

The rescue itself was one of the most technical short-haul operations yet undertaken in Grand Teton National Park. The speed with which Ranger Jim Dorward climbed safely to the scene, the flying skills and bravery of pilot Will Eldredge and the spotting ability of Ranger Steve Rickert all combined into an effort that was nothing short of heroic. That this was done during very adverse weather conditions is nothing less than astonishing. The application of the short-haul technique has most certainly revolutionized mountain rescue in Grand Teton. (Source: Peter Armington, SAR Ranger, Grand Teton National Park)

FALL ON SNOW, UNABLE TO SELF-ARREST, INEXPERIENCED

Wyoming, Grand Teton National Park, Mount Teewinot

On July 10, 1992, at 1050, a victim slipped and fell while attempting an ascent of the east face of Teewinot. She and her partner were at the 11,800 foot level near the bottom of the snow-filled couloir that leads to the summit of the peak, just 500 feet above. She lost her footing on the snow, slid for 30 feet and then somersaulted into the talus where she came to rest just slightly above a large cliff. Her climbing partner managed to move her into a stable, sitting position and then started passing the word down the mountain that a rescue was needed. There were four other parties on the face at the time of the accident.

The accident was reported at the Jenny Lake Ranger Station at 1200, and the Aérospatiale Lama was requested from Yellowstone. Due to the longer response time of this helicopter, rangers Larson and Carr were dispatched on foot from the Lupine Meadows parking area at 1215. Upon arrival of the Lama at 1325, rangers Harrington, Irvine