



## AAC Publications

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### Inadequate Belay

Colorado, Boulder

**After 29 years of accident-free climbing, I thought I was a pretty competent belayer. Turns out I still had plenty to learn. Luckily I'm still accident-free, but things easily could have ended very badly.**

This happened when I was lowering my friend Kevin off a lead climb at a local climbing gym. It's a scenario they warn you about in the pamphlets that come with carabiners and belay devices, but until now I'd thought it was just a theoretical possibility that wouldn't happen in the real world. I was using my usual setup: a Black Diamond ATC and a Petzl William locking biner. The William is a sturdy screw-gate biner with a nice wide gate, but it sometimes slips into a cross-loaded position, which is what happened this time.

As far as Kevin and I can figure out, here's what happened next: The rope was running against the carabiner's locking sleeve and caused it to rotate into the unlocked position as I lowered Kevin. Then the edge of the ATC pushed against the gate and caused it to open slightly. The rope slipped into the gap and popped out of the biner. The carabiner gate closed again, leaving the ATC in place but nothing holding the rope.

I didn't actually see this happen because I was looking up at Kevin the whole time. All I knew was that suddenly there was a hard pull on the rope. The saving graces were (A) Kevin's pretty light; (B) there was lots of friction in the system because the rope was running through eight quickdraws; (C) my brake hand was firmly on the rope and instinctively I was able to hold it tight, even before I realized what was happening; and (D) I didn't have to lower Kevin very far.

Kevin was really good about the whole thing. He seemed more concerned about a minor rope burn on my hand than the fact that he'd narrowly escaped serious injury. On my way home I stopped at REI and bought a BD Gridlock biner, which won't easily slip into a cross-loaded position. (Source: Martin le Roux.)

### Analysis

As the author describes, this is rare scenario but it can indeed happen. A two- or three-stage locking device on the carabiner (versus a screw gate) could prevent this, as could orienting the gate of the locking carabiner on the opposite side of the brake hand. However, neither of these techniques will prevent cross-loading, which can direct the forces of a fall onto the weakest parts of the carabiner. Several models of locking belay carabiners are designed specifically to prevent cross-loading. It's also important to develop a habit of glancing down at your belay system periodically to make sure everything looks correct. (Source: The Editors.)

## Images



[Left] A belayer's screw-gate carabiner was unlocked by the action of the rope as he lowered his climbing partner. [Right] The rope then popped out of the open gate.

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