

## BRAKES - A “Not So New” Acronym for Rappel Safety Checks

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After a friend had a rappel accident in 2002 I began rewriting the comprehensive treatise titled “*Rappel and Lowering Safety & Techniques for Climbing*”. As part of that writing process I created a new memory aid for conducting a final safety check on rappels. It reminded me of highway signs on big steep grades which read, “Steep Hill Check Your Brakes”. This short article is taken from that larger work which has not yet been released to the public. This most recent revision was prompted by the death of a well-known experienced Jasper climber in a rappel accident in 2019.

BRAKES is designed to be a quick final check. Before you declare a rappel station “*good to go*”, give the entire system a complete safety check using the BRAKES acronym. When practical consider stacked rappels, where both partners pre-rig before descending.

**B** - Starting with your harness, be sure the **Buckles** on your harness are buckled and doubled back as required.

**R** - Check your carabiner and **Rappel device or Lowering Device**. On double rope rappels, make sure both strands of rope go through the device. Several fatal or serious rappel accidents have been caused by failure to have both ropes through the rappel device. This type of failure often occurs with experienced or very experienced climbers who have also not employed any other reliable safety backup in their system. Also check that the Rope goes properly through the anchor focal point knot or rappel ring.

**A** - Check the **Anchor**, starting at the protection pieces through the cord and webbing, paying particular attention to the knots. Be sure they are tight, with adequate tails and well dressed. Anchor failures are the second most common cause of rappel accidents in Accidents in North American Mountaineering (ANAM) and accounts for about a quarter of the reported rappel accidents.

**K** - Check each and every **Knot** in the entire system. Tie knots in the ends of the ropes.

**E** - Be sure the **Ends** of your rope are equal, reach the ground (or your next anchor or rappel station) and are not kinked along the way. Tie knots in the end if there is any chance you could rappel off the line. Rappelling off the ends of the rope is the leading cause of rappel accidents and accounts for about 30% of rappel accidents reported in ANAM since 2000.

**S** - Use an appropriate **Safety backup or belay** if there is any chance you may go out of control or have problems. Not having an adequate rappel backup is the third most common rappel accident cause (~20%) in ANAM since 2000.

Seriously consider not using a rappel backup on your harness leg loop. This can inadvertently fail if you turn sideways and in some cases even when you lift your leg too high. In many cases it is better and safer to use an extension off your harness for your rappel device and have your Prusik safety, autoblock or similar backup attached to your belay/rappel loop.

Use an appropriate tether to attach yourself to the anchor while you rig and test your rappel setup. (Not having a tether has been cited as being the fourth most common cause of rappel accidents.)

**S** - Look for **Sharp edges** anywhere in the entire system.

Touch each component and speak out loud as you do your checks. Verify your checks with your partner and make sure you have not left anything out. If it all checks out and your partner concurs, then proceed with caution and enjoy life on the line.