

Cross-Country & Back-Country Ski Terminology

Alpine skiing is commonly known as downhill skiing. Alpine skiing includes different skiing styles. Alpine skis have bindings that lock the toe and heel of the boot to the ski. This is in contrast to free-heel bindings used in Nordic skiing—such as cross-country, ski-jumping, telemark skiing, or ski mountaineering. **Alpine touring**, recently popular, involves touring the back-country with equipment that enables the boot heel to be free while skiing uphill, then locked down for longer descents.

Bindings hold the boot to the ski. There are many variations, with boots to match, each designed for a different purpose. For cross-country, there are new Nordic norm, (NNN), bindings (variations identified as NNN-BC, NIN, SNS etc., by different manufacturers) in which the toe of the boot has a metal bar that is joined to the binding. Boots and bindings must match. NNN bindings are best for groomed track skiing and kick and glide forward motion. They do not translate sideways motion to the ski well, and therefore are not well suited to turning or back-country skiing. Another cross-country binding is the three-pin binding in which three metal pins on the binding insert into three holes under the toe of the boot, and are held in place by a bail on the binding which locks onto the top of the boot toe. Some three-pin bindings also have a spring-loaded cable which clamps around the boot heel, providing greater control for turning. Three pin bindings with a heel cable provide some turning control.

There are also modern telemark bindings, stiffer and heavier than cross-country equipment, in which the binding is secured to the toe and around the heel of the boot, but permitting the heel to lift from the ski. Recent changes in telemark bindings (NTN) require compatible NTN boots. Alpine touring (AT) or randonée bindings allow the heel to be free for uphill and walking, but locked for downhill alpine-style skiing.

Camber is the curvature or bow of the base of the ski. If a ski is placed on a floor, the camber elevates the center of the ski off the floor. Light-weight, classic cross-country skis have double camber which aids the forward kick and glide movement on groomed tracks or trails in flat or rolling terrain. Heavier, single camber skis have less curvature, aiding in sliding downhill and making turns. Alpine touring and telemark skis are single camber. Because double camber and single camber skis are designed for different types of skiing, many experienced skiers will have at least one pair of each type for different terrain.

Cross-country skiing (or **XC skiing**) is a form of ski touring in which skiers propel themselves across snow-covered terrain using skis and poles. Cross-country skiing is a type of Nordic ski sport in which the boot heel is not attached to the ski binding. Cross-country skiing can be done on groomed tracks, ungroomed trails in the forest, or in the trail-less back-country on untracked snow.

Double Poling is pushing simultaneously with both poles and bending the knees to propel the skier forward.

Fall Line is the steepest downhill line on a slope. A ball would roll down the fall line. The fall line may be diagonal across a hill, not necessarily straight down.

Fish Scales & Other Patterns are ridges molded on the base of waxless skis. These are designed to provide traction while moving uphill but allow glide when moving forward on flat or downhill snow surfaces. Many skis have fish scales only under the boot area on the base of the ski.

Herring Bone is a technique used to get up hill. Place skis in a V-shape diagonal to the fall line, tips wide, stepping one ski forward at a time, with knees flexed, causing the inner ski edges to press into the snow for traction.

Huts and **Yurts** located in National Forest lands and on private land are available for rental. There are numerous huts and yurts available in Colorado as well as a few in New Mexico. The NM Cross-country Ski Club annually rents huts from the Tenth Mountain Hut System (huts.org) as well as other huts. Skiers pack sleeping bags, food and other supplies to the huts for overnight stays in the back-country. Most facilities provide wood stoves and wood for heat, cookware and gas burners for kitchen use, bunks with foam mattresses, and outhouses. Skiers melt snow for water. From trailheads, the mileage to these facilities ranges from half a mile to 8 or 9 miles. Each hut or yurt holds anywhere from six to sixteen people. Strong skiing skills and fitness, skins and back-country gear are required for hut trips.

Kick & Glide is also known as the **diagonal stride**. Diagonal refers to the arms & legs moving in opposition, e.g., simultaneously the right arm and left leg go forward. The skis move in a straight line, not diagonally. Push one foot forward, pause to let skis glide, push the other foot forward, repeat. Don't bend at the waist, but lean slightly forward from the hips, so hips are over toes and shoulders are slightly forward. The back foot should relax. It will rise naturally as you move as a result of your front foot pushing forward. The effort is in pushing the forward foot down and forward. Pole plant is by the binding, near the foot, with the hand forward. The body moves forward with very little twisting of the upper body. Practice standing on your skis, put your poles down, swing your arms and bend your knees. This is part of the rhythm. In this technique you put more of your weight on one ski, than on the other. The glide is fun and saves you from just walking in your skis.

Kick Turn is used to change direction. While standing still, lift one ski, plant the tail in the snow and rotate the tip up to 180 degrees and place the ski on the snow. Lift the other ski and place parallel to first ski. You are now facing the opposite direction from your original standing position. This is handy in turning switchback corners on a slope.

Metal edges are placed on the bottom edges of some skis to provide a sharp edge for better traction when pressing the edge in the snow. This is common in cross-country and back-country skis. Many skiers have the metal edges sharpened prior to each ski season.

Nordic skiing is a group of winter sports that includes all types of skiing where the heel of the boot cannot be fixed to the ski (as opposed to alpine skiing). Olympic Nordic skiing events are cross-country skiing, ski jumping, Nordic combined (xc and ski jumping) and biathlon (skiing and rifle marksmanship). Another Nordic discipline is telemark skiing.

Side-Cut refers to the curvature along the side edge of the ski. Side-cut skis have a narrow waist (under the boot) and wider tips and tails. This curvature aids in carving turns. Since the 1990s, many alpine, telemark and back-country skis have exaggerated curvature. Cross-country skis have minimal side-cut. A spectrum of sturdier skis with more side-cut is now available for those who like cross-country tours in the back-country where more rolling or steeper terrain, deeper untracked powder snow include turning opportunities and demand more durable equipment.

Skate skiing is conducted on groomed tracks. The legs push diagonally, one leg gliding while the other leg lifts, alternating legs. Flatten the gliding ski. All your weight goes on the gliding ski. Lift the unweighted ski. This movement is used to move forward and maintain glide or to gain speed in flat areas. While this handy technique can be accomplished in any skis, skis designed skate skiing are for racing groomed courses. They are long, narrow and light weight.

Ski touring is an activity where distances are covered on skis. Touring is generally done on trails which are not groomed, and without mechanical lifts to get up hills. Tours can extend over a period of more than one day. Typically, skis, bindings, and boots allow for free movement of the heel to enable a walking pace, as in Nordic skiing, and unlike alpine skiing.

Skins are placed on the bottom of the ski to provide traction while going up hill. Originally, skins were made of seal skin, hence the name. Today's synthetic skins have a strong grain and clip to the toe and tail of the ski. The skins usually have an adhesive that sticks to the ski, but can be peeled off then reused. **Kicker skins** are shorter, covering only the base of the ski under the boot. Older style skins buckled around the ski.

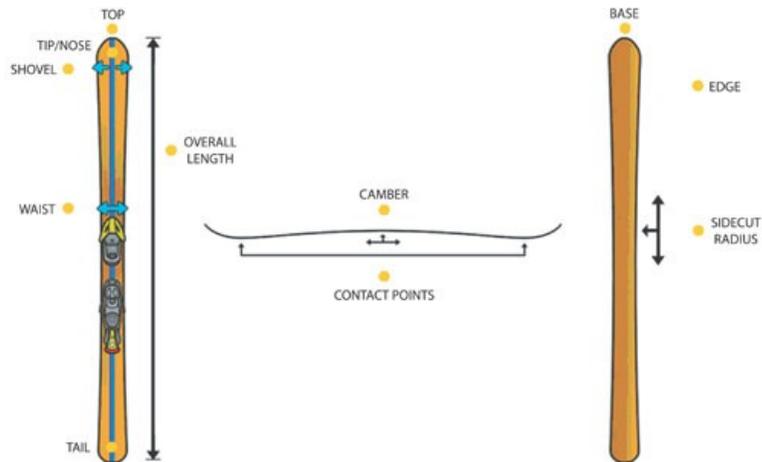
Snow Plow is a downhill braking or turning technique. Position skis in a V-shape, ski tips placed closer together than ski tails, one or both of the ski's inner edges dug into the snow for traction. Bent the knees for balance and stability. Snowplow position can be held without turning to control one's speed or the snowplow turn used to control one's direction. The body weight can be equally distributed on the skis if one is skiing in a straight line using the snowplow only for control of speed. If attempting to turn in the snow plow, weight presses more on one ski (the outer or downhill ski) and the torso rotates in the direction of turn.

Step Turn is used to turn and get around corners, making small, quick steps. It's good for turning without losing speed. Unlike downhill skiing, lifting your ski to reposition is a key to maneuvering. Plant your weight on the forward ski. Try to drop your downhill hand to help weight the downhill ski.

Telemark skiing is a technique of turning and skiing downhill in which the heel is free and the turn is made in a lunging position. While the telemark technique can be done in any free-heel equipment, skis, boots and bindings

made for telemark skiing are sturdier than cross-country touring equipment to withstand the more aggressive turning and downhill uses.

Tuck position is held to maintain or gain speed on flat stretches where one might otherwise have to pole or skate to move forward. Place poles under arms, bend knees, crouch and lean slightly forward. This lowers your center of gravity to gain stability and decreases aerodynamic resistance.



from adventure.howstuffworks.com

