Snowshoeing – Level 1

A **snowshoe** is footwear for walking over the snow. Snowshoes work by distributing the weight of the person over a larger area so that the person's foot does not sink completely into the snow, a quality called "flotation".

Traditional snowshoes have a hardwood frame with rawhide lacings. Some modern snowshoes are similar, but most are made of materials such as lightweight metal, plastic, and synthetic fabric. In addition to distributing the weight, snowshoes are generally raised at the toe for maneuverability. They must not accumulate snow, hence the latticework, and require bindings to attach them to the feet.

In the past, snowshoes were essential tools for fur traders, trappers and anyone whose life or living depended on the ability to get around in areas of deep and frequent snowfall, and they remain necessary equipment for forest rangers and others who must be able to get around areas inaccessible to motorized vehicles when the snow is deep. However, today snowshoes are mainly used for recreation, primarily by hikers and runners who like to continue their hobby in wintertime. Snowshoeing is easy to learn, and in appropriate conditions is a relatively safe and inexpensive recreational activity.

As many winter recreationists rediscover snowshoeing, many more new models of snowshoe are becoming available. Ski areas and outdoor equipment stores are offering snowshoes for rent.

Snowshoes today are divided into three types:

- Aerobic/running (small and light; not intended for backcountry use);
- Recreational (a bit larger; meant for use in gentle-to moderate walks of 3–5 miles (4.8–8.0 km)); and
- Mountaineering (the largest, meant for serious hill-climbing, long-distance trips and off-trail use).

Sizes are often given in inches, even though snowshoes are nowhere near perfectly rectangular. Mountaineering shoes can be at least 30 inches (76 cm) long by 10 inches (25 cm) wide; a lighter pair of racing shoes can be slightly narrower and 25 inches (64 cm) or shorter.

Regardless of configuration, all wooden shoes are referred to as "traditional" and all shoes made of other materials are called "modern."

Notwithstanding these variations in planned use, larger users should plan on buying larger snowshoes. A common formula is that for every pound of body weight, there should be one square inch of snowshoe surface (14.5 cm^2/kg) per snowshoe to adequately support the wearer. Users should also consider the weight of any gear they will be packing, especially if they expect to break trail. Those planning to travel into deep powder look for even larger shoes.

Many manufacturers now include weight-based flotation ratings for their shoes, although there is no standard for setting this as of yet.

Bindings

Underside of a modern fixed-rotation binding snowshoe, showing cleats for traction that are used on steep slopes.

As is often the case with downhill skis, wood-frame snowshoes and suitable bindings are typically marketed and purchased separately rather than as a single piece. One common style is termed the "H" binding, as it consists of a strap around the heel crossing a strap around the toe and one at the instep, forming a rough version of the eponymous letter.

On modern shoes, there are two styles of binding: fixed-rotation (also known as "limited-rotation") bindings, and full-rotation (also known as "pivot") bindings. With either binding system, the heel is left free, and the difference is in how the ball of the foot is attached to the snowshoe we might go into these differences in other levels.

A series of straps, usually three, are used to fasten the foot to the snowshoe. Some styles of binding use a cup for the toe. It is important that a user be able to manipulate these straps easily, as removing or securing the foot often must be done outdoors in cold weather with bare hands. When putting on snowshoes, left is distinguished from right by which way the loose ends of the binding straps point: always outward, to avoid stepping on them repeatedly.

Modern Snow Shoe reverse, or bottom side.

Properly adjusted Bindings

Accessories:

Snowshoers often use walking poles as an accessory to help them keep their balance on the snow. Some manufacturers have begun making special snowshoeing models of their poles, with larger baskets more like those found on ski poles (which can also be used).

Other than that, no other special accessories are required. Most types of footwear can be worn with snowshoes, although hiking boots are the preferred choice among most recreational users.

If going into deep snow, snowshoers will often take along gaiters to keep snow from getting into their boots from above. Some manufacturers make their snowshoes with boot or toe covers to provide the same protection.

Since snowshoeing is commonly done in cold weather, users typically prepare for it by dressing in layers and carrying the appropriate equipment.

What Should I Wear On My Feet When Snowshoeing?

It is wise to choose your footwear according to your snowshoeing style. Leather hiking boots that have been waterproofed are great for hiking and backcountry trekking. Trail-running shoes are perfect for running and aerobic snowshoeing (look for waterproofing material). Snowboarding boots are also ideal for snowshoeing.

Wool socks for hiking and/or a wool/silk combination for running are important to snowshoeing. Never wear cotton socks when in the snowy elements.

And, if you plan to snowshoe in deep snow and don't plan to stay on snow-packed trails, wear Gaiters to keep snow out of your boots and shoes. Gaiters are great selection for backcountry hikers.

What to Wear For Clothing:

Don't be afraid to dress in layers. And, use layers that can be taken off with ease, considering in some cases it can get hot during the spring season. Consider wearing synthetics and wool to induce heat retention when wet. Long underwear is essential when snowshoeing and a zippered top lets you regulate body heat.

Polyester fleece provides a great insulation, as it too retains heat when wet. And, a waterproof jacket (with breathable waterproof fabrics) will keep you dry and protect you from cold winds.

The more obvious choices in winter wear are gloves, a hat, sunglasses (or goggles) and other personal selections.

Techniques

Snowshoes function best when there is enough snow beneath them to pack a layer between them and the ground, usually at a depth of 8 inches (20 cm) or more. However, contrary to popular belief, snowshoes perform poorly on very icy and steep terrain. Snowshoes give relatively little grip on ice. It is common for novice snowshoers to climb up a steep slope to a summit and then have difficulty climbing back down, which tends to be more difficult than ascending.

Walking

It is often said by snowshoers that if you can walk, you can snowshoe. This is true in optimal conditions, but snowshoeing properly requires some slight adjustments to walking. The method of walking is to lift the shoes slightly and slide the inner edges over each other, thus avoiding the unnatural and fatiguing "straddle-gait" that would otherwise be necessary. A snowshoer must be willing to roll his or her feet slightly as well. An exaggerated stride works best when starting out, particularly with larger or traditional shoes.

Turning

Walking skills are easily transferable to straightforward snowshoe travel, but this is not always the case with turning around. While a snowshoer with space to do so can, and usually does, simply walk in a small semicircle, on a steep slope or in close quarters such as a forest this may be impractical or impossible. It is thus necessary in such circumstances to execute a "kick turn" similar to the one employed on skis: lifting one foot high enough to keep the entire snowshoe in the air while keeping the other planted, putting the foot at a right angle to the other (or as close as possible for the situation and the snowshoer's physical comfort), then planting it on the snow and quickly repeating the action with the other foot. This is much easier to accomplish with poles.

Going up an incline

Some modern snowshoes have bars that can be flipped up for ascending steep slopes. The wearer's heel can rest on the bar.

While the cleating and traction improvements to modern snowshoes have greatly enhanced snowshoers' climbing abilities, on very steep slopes it is still beneficial to make "kick steps," kicking the toes of the shoes into the snow to create a kind of snow stairs for the next traveler to use.

Alternatively, snowshoers can use two techniques borrowed from skis: the herringbone (walking uphill with the shoes spread outward at an angle to increase their support) and the sidestep.

For those snowshoers who use poles, it can be easier to rely on the poles to 'pull' oneself with regular stride, up the slope.

Going Down an inclune

Once a trail has been broken up a mountain or hill, snowshoers often find a way to speed up the return trip that manages to also be fun and rests the leg muscles: *glissading* the trail, or sliding down on their buttocks. This does not damage the trail, and in fact helps pack the snow better for later users.

In situations where they must break trail downhill and thus cannot glissade, snowshoers sometimes run downhill in exaggerated steps, sliding slightly on the snow as they do, an option sometimes called "step sliding." Also effective, are poles placed in front as you descend in a regular stride.

Breaking trail

A broken snowshoe trail

On newly fallen snow it is necessary for a snowshoer to "break" a trail. This is tiring (it may require up to 50% more energy than simply following behind) even on level terrain, and frequently in groups this work is shared among all participants.

A trail breaker can improve the quality of the ensuing route by using a technique, similar to the hiking rest step, called "stamping": pausing momentarily after each step before putting full weight on the foot. This helps smooth the snow underneath and compacts it even better for the next user.

A well-broken trail is usually a rut in the snow about 6–8 inches (15–20 cm) deep and 2 feet (61 cm) wide. While it may appear after heavy use as if it is possible to "bareboot" or walk it without benefit of snowshoes, this practice is frowned upon by serious snowshoers as it leads to "postholing," or roughening of the trail from places where boots have fallen through (initial appearances to the contrary, the snow in a broken trail is not sufficiently packed to support the more concentrated weight of a foot).

Benefits

Snowshoeing expands the potential for exercise available in the wintertime. It has the added benefit of being gentler on the feet than walking or running the equivalent routes, since snow cushions the foot's impact.

For the same reason, it is less detrimental to the environment, since the snow likewise buffers the earth against the impact of so many hikers and campers, cutting back on trail erosion and other effects of heavy use.

While the cold creates its own safety risks, there is less chance of a hiker getting lost on snowshoes, since they can follow their own trail back, unless they have been covered by snow.

Snowshoeing makes even familiar hikes different and new. If the snow is deep enough, obstacles such as large boulders and fallen logs can be more easily bypassed.