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SNOWPARK



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SKIER DEVELOPMENT — SNOW PARKS

Instructors who are not trained to bring their students in a snow park can be held responsible for their students' accidents. Instructors who have not received snow park training or certification should not bring their students in a snow park. Consequently, this section of the manual is for instructors who wish to attend a snow park session or course to either be allowed to bring their students in a snow park or to teach them park and pipe manoeuvres.

Snow Park Safety and Etiquette

Assuming Risk

Park safety starts with the individual's acceptance of the potential risks. Ask yourself these questions as a starting point.

- ✓ Are you warmed up? Physically and cognitively you must be activated to avoid injury and make good decisions.
- ✓ Are you confident or nervous? "Butterflies" can be part of trying new things, but it takes a relaxed and alert state to maximize performance and use good judgement.
- ✓ Are others influencing your decision making? Peer pressure can influence your choices and lead to poor decision making.
- ✓ Are your skills appropriate for the level of challenge? Accidents often happen when skiers overestimate their ability or underestimate the difficulty of the feature or task.

Park Etiquette

Snow parks are busy places and require good communication and respect for the "rules of the road". Here are some considerations.

Safe sharing of features: Be aware of other users. Wait your turn, and have others wait theirs. When in doubt ask whose turn it is. Courtesy goes a long way in making sure that everyone has an enjoyable experience.

Keeping things moving: Traffic flow is very important in the park. If you are waiting to use a feature, stay out of the way until it is your turn. Clear landing zones quickly, and if walking back up for a feature, stay out of the way of other traffic. Avoid standing around in large groups.

Signals and communication: Stay in communication with other park riders. Use hand signals to indicate if jumps and rails are open or closed. When entering a feature indicate that it is your turn by saying "dropping" or "dropping in" before the in-run.

Spotting for others: Keep an eye on other riders. If you are in position to spot a landing area, signal to others if it is ready to be used, and use the closed signal if it is not.

Equipment for Snow Parks

For snow park activities, you and your students should have well fitted ski helmets. Ensure that bindings function properly and have an appropriate DIN setting. As with any lesson, binding setting is the responsibility of the individual skier and should be attended to by a certified technician. Skiers should have properly sized skis and poles, and twin tips are strongly recommended to facilitate park and pipe skiing and manoeuvres.



Inspection of features

Before attempting any park features, you should do a full inspection. You should re-inspect if conditions change. Here is a checklist of considerations.

Snow Park Inspection Checklist:

- ✓ Weather and conditions: soft, hard, icy...?
- ✓ Check for visibility issues: light and shadow, flat light, condensation from adjacent snow making, foggy goggles etc.
- ✓ Is the park recently groomed?
- ✓ In-runs: steepness, length, snow speed...? Fast or slow?
- ✓ Take-offs: steepness, shape, length, amount of kick...?
- ✓ Landings: length, steepness, condition, obstacles/spill zones...? Is the landing surface smooth or rutted? Hard or soft? Estimate landing distances and angles.
- ✓ Rails and boxes: condition, smoothness, style...?
- ✓ Rail take-offs: take-off below rail level or even...? Length of gap between take-off and rail...?
- ✓ Rail landings: steepness, condition, length...?
- ✓ Half pipe: wall conditions, shape, height...?
- ✓ Traffic: number of riders, are they relaxed or pushy. Congested areas...? Watch other traffic volume and flow to see where they stop, free ride, and where traffic merges.
- ✓ Avoid blind spots when stopped.



Signs and other indications

Park features are generally identified by type of feature and estimation of difficulty. These indications are relative to the location, and may vary from park to park.

Take at least one trip through the park, looking for signs, bamboo and fencing placement. Watch other riders and develop an eye for their speed and height on the features you want to ride.

Safe Teaching in Snow Parks

When taking students into a park all of the previous points must be shared and respected by students. In private and group contexts, an instructor must lead by example. This starts with good communication and respect of other riders. Keep in communication with other riders and park staff.

Sharing features in a busy park means waiting for turns, so keep students engaged and safe while waiting. Keep your students out of the way of other riders. Maintain good traffic flow, both for your students and others in the park.

Class control is essential, and any unsafe practices should be stopped. If a student continues unsafe behaviour they can be asked to leave the park. Teaching skills should be progressive. A gradual approach built on successes will develop confidence, consistency and a sense of achievement. Don't go too big too fast! This can impair confidence and lead to injury.



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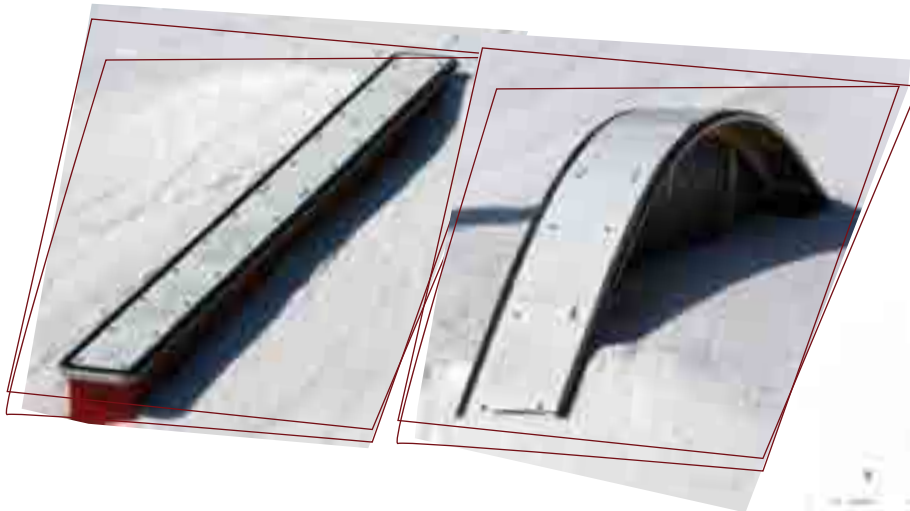
Snow Park features

Snow park designs may be quite different from one resort to another, and one may find several variations of features presented in this chapter. Since rails and jumps are in constant evolution, it is difficult to illustrate all the possible existing features. Nevertheless, this chapter presents an overview of the main features found in the majority of resorts in order to provide instructors with a better knowledge of snow parks.

Rails

Rails are bars made of metal, wood or plastic that enable the skier or rider to slide.

Flat Rails: These rails include straight tubes and boxes. They are the first rails that skiers will use in the progression because of their accessibility.



Curved Rails: The first type was called the “Rainbow” because it was shaped like a rainbow. Since then, new shapes of boxes and tubes have been developed, as well as C-rails, S-rails, etc.



Kinks: These rails have elbow shapes, and their difficulty increases as the angles and the number of kinks increases.

Skiercross

The skiercross is a type of course comprised of challenging turns, berms, whoops, tables, etc., which can be either skied individually or with several other skiers. The skiercross is a fun and rich teaching environment because it combines all the ski skills, turns, jumps, whoops, etc., and can be used quite early in the progression. However, it is fundamental for the instructor to do a course inspection and present the safety rules before using this environment during a lesson.



Jumps

Step Up: On this type of feature, the landing is higher than the kicker. The difficulty depends on the distance and the height between the kicker and the landing. The interesting component about this feature is that most of the air time is taken in the ascending phase, and the landing is very gentle. The difficulty of the jump resides in the speed required for takeoff.

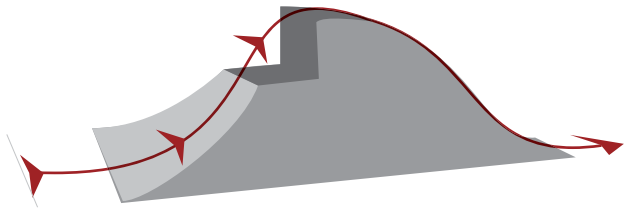
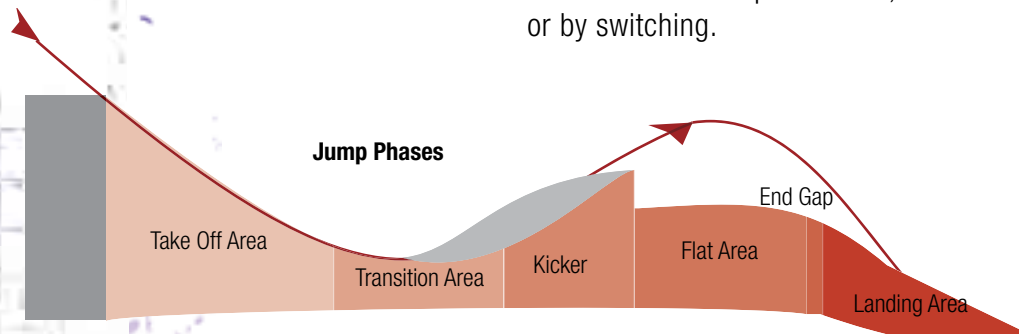
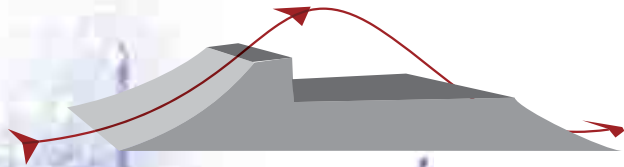
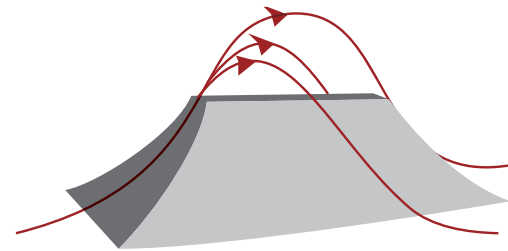


Table Top: This is the most popular feature found in the snow parks. The kicker can be the same height as the landing or higher. The Table Top can have various forms and heights and can be used from beginner to expert levels. The difficulty of the jumps will increase as the flat section is longer, and the kicker is bigger. This feature is called a Big Air when the rider gets big air time.



Gap: This feature is similar to the Table Top, except the flat section is replaced by a large gap, which is meant to increase the sensation of height. Since there is no room for error, this feature is less popular in snow parks. Pro riders use it more often to show off their skills. The Roadgap is the most impressive form of Gap since the rider has to jump over a road and land on a downslope.

Spine: This feature is comprised of a huge snow ridge with a long and progressive kicker to do a full transition or land on either side of the jump. The jump will be easy if the rider can see the landing area from the start. The kicker is very progressive and it is possible to launch off at low speed. A spine feature is considered dangerous when the air time trajectory is too far away from the axis of the feature. In this case, the rider might move away from the wall and could land on the flat. Since a full transition jump requires a lot of amplitude and a precise assessment of the distance to travel in the air, it is intended for expert riders only.



Hip: This feature is similar to the Spine and is often shaped over a side hill or in a dip. However, the rider can only land on one side or by switching.



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Rail progression

Rails vary in shapes and sizes, and the instructor must carefully choose the rail according to the skill level of his/her students. Bad falls may occur if the rails' level of difficulty is progressed too quickly. Keywords to remember are: protection, setting and safety instructions.

The rails' level of difficulty mainly depends on four factors:

- The height of the rail in relation to the ground.
- The size of the rail (width and length).
- The distance and the axis between the take off jump and the rail.
- The degree of inclination.

“Fun-box” — Getting Ready for Rails

All rail moves can first be practiced on a “fun-box”. Their flat surfaces facilitate the learning process of basic manoeuvres. Ride them straight to get a feel for the surface. Alternately, they can be slid sideways on ski boots only. Approach the fun-box straight on and as if you are going to straddle it. With skis at an equal distance on either side, use a good “pop” to get on to the fun-box. Stabilize your stance by lowering your centre of mass and widening your base of support. Keep your head up and focus towards the end of the slide. For a straight landing, a leg extension can help to get off the rail and turn 90 degrees. Alternately, a slight retraction of the legs can be useful to soften the rail contact when approaching landing.



Advanced Rails

In order to move to bigger rails, all skills must be developed on “fun-boxes” until they are fully mastered. Good alignment coming into rails is essential. Use a good “pop” to get onto the rail and keep a low, stable stance with weight on both feet. Commit to the downhill ski and focus on the end of the rail. Once you are comfortable, try a switch exit, still focusing on landing by looking over your shoulder. As you improve, progress to longer, higher and bent rails.



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Air Progression — Intermediate

Use a variety of approaches to develop skills on small to medium jumps. Start by getting each skier well-balanced and active so they can spring from the snow. Start with stationary “pops”, emphasizing stance, stability and full extension. Use a small, safe jump or roller to time the “pop” with the lip of the jump. Emphasize a centred and soft landing. As students progress, you can either stay on small jumps and introduce simple moves and grabs or stay with straight airs, but move to bigger jumps. Both approaches can be used depending on students’ abilities and terrain availability.

Skill Development for “Pops” and Landings

A dynamic extension of the legs or “pop” at take-off is essential to get the skis off the snow and give skiers time to move when airborne. In the air, encourage a tall position with the chin up and hands in front and away from the body. To achieve a good landing, flexion of ankles, knees and hips is required. Also, skiers need to be perpendicular to the landing’s slope inclination.

Suggested tactics:

- Hop turns.
- Speiss, emphasize getting the skis high off the snow.
- Jumping over a ski pole.
- See how many hop turns you can make in a specific area.
- Small bumps and rollers to get air, extending the legs.
- Time “pop” with the front of the bindings at the lip.



When airborne, make sure skiers look for the landing point as soon as possible. This helps to end up in the right place as well as evaluate movement time and steepness of touch down. Following the brain analysis of what has been seen, an instinctive and immediate body response will occur by making spatial posture adjustments. Prepare to absorb landing shock by lengthening the joints (hips, knees, ankles) in the air and flexing them upon impact.



Moves and Grabs

Once skiers are comfortable and balanced in the air, it is time to introduce tricks and grabs. Introduce mobility in the air through tuck jumps. Although they are “old school”, the twister and daffy can still help with balance in the air. For all grabs, raise the feet up towards the upper body to reach for the skis. This will make it easier to stay balanced in the air. The different levels of difficulty for grab manoeuvres are:

- Shifty – Tuck feet up in the air and drop ski tips down toward one side.
- Tuck Jump/Safety Grab – Bring the feet up and grab the outside edge of the ski under boot (right hand grabs right ski or left hand grabs left ski).
- Liu Kang – reach for inside edge of opposite ski in front of the legs and grab above the toe piece.
- Japan Air – Grab the inside edge of opposite ski behind the boot.
- Mute Grab – Cross skis at the toe pieces, reach across and grab the outside edge of opposite ski in front of toe piece.
- Tail Grab – Reach towards the back of the same ski and grab the outside edge towards tail.
- Rocket Air – Bring both skis parallel in front of you as if you are trying to touch your toes, reach across both skis and grab outside edge of opposite ski.
- Grab Variations – Tail Grab (Toxic): Reach towards the back of the same ski and grab the inside edge towards the tail. – Full Tail Grab: Grab right at the tail end of the ski.

For bigger air and cooler tricks, try a compact body position through the air. Spotting the landing is crucial.



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Air Progression — Spins

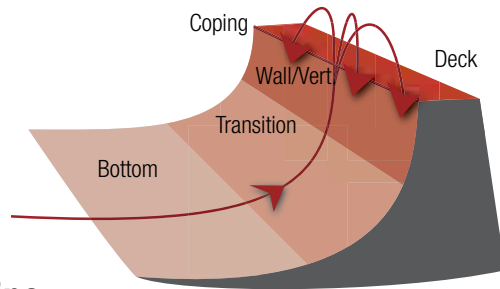
Spinning 180s helps you “switch” on to or off of rails and other terrain features. Tips for spinning 180s and 360s:

- Start the spin with the biggest joint (hips). Use ankles, knees and shoulders to facilitate rotation.
- Ankles also really help to “pop”; advanced skiers push off their edges to get the spin started.
- 180s: To stop rotation and safely land fakie, keep eyes on direction of travel.
- 360s: Although there is a blind spot as you do a full rotation, in order to spot landing, you should be turning your head over your outside shoulder as soon as you get around 180 degrees.
- Control the spin: Open up your stance to slow the spin.
- Tighten stance to speed up the last part of the 360 degrees.



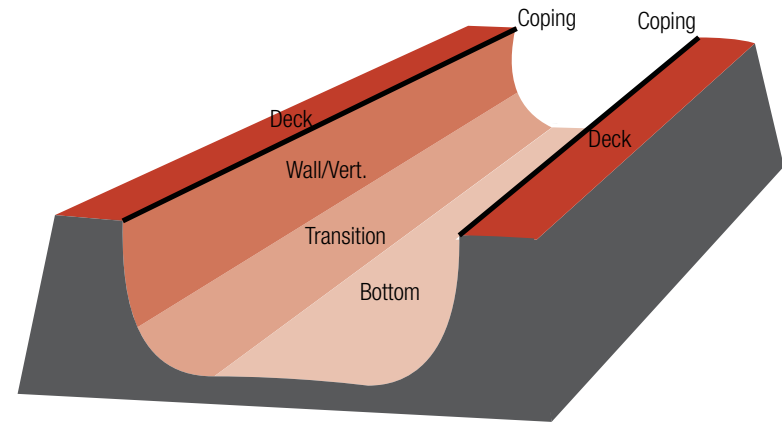
Half Pipe — Introduction

Before entering the pipe, students should know the parts of a half pipe. Identify the deck, coping, wall, transition and bottom. The shape of the half pipe creates a natural acceleration and deceleration. Like the swing of a pendulum, the speed is greatest at the bottom of the pipe and decelerates as the skier moves up the wall (pendulum effect).



Quarter Pipe

One half of a half pipe. The quarter pipe can be parallel or perpendicular to the line of travel. As with any skill progression, a gradual approach builds confidence. Intermediate skiers should start at the lowest part of the pipe, where slope inclination is moderate and less impressive. As they improve, they should hike up higher, slowly making their way towards the top of the structure. Make sure skiers are well skilled and developed at each stage of the learning process and gradually increase difficulty.

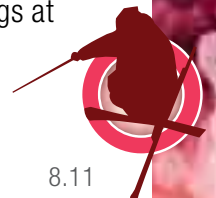


Half Pipe

Directly inspired from the skateboard ramps, a half pipe is basically a U-shaped bowl which enables the rider to link jumps while riding from one side of the wall to the other. Technically, this feature is very demanding. However, it is possible to teach jumps early in the progression on smaller features. The half pipe must be inspected before starting any manoeuvres in order to assess the general shape as well as the height and verticalness of the walls.

Use a “kiddy-pipe” or embankments to get an initial feel. The traverse angle across the pipe determines the skiers’ speed. Because intermediate skiers tend to go across the fall line more often, they carry less speed in the pipe and therefore less momentum. Considering this, they will not go as far up the walls as advanced skiers could. Use shallow turns down the pipe, slightly riding the walls to feel the resistance against the skis.

Teach students to safely enter and exit the pipe. Start on one deck and have students stay perpendicular to the wall as they enter. Learn to exit by starting at the bottom of the pipe. Bend the legs at the coping and move forward to a stop on the deck.



“Zero G” and Straight Hits

Introduce the “zero gravity” feeling as skiers go up the walls. The moment when skiers stall and begin moving backwards is the moment of “zero gravity”. Use the zero gravity point to retract the feet off the wall and turn back towards the other wall. Traveling more down the pipe requires less spin to go back across the pipe, but will be faster. Although approaching the wall from across the pipe more will keep the speed down, it will require a more aggressive rotation to initiate the direction change. Retract the feet to maintain stability against the pipe wall and in the air. Initiate the spin by turning the shoulders in the direction of the rotation and extending the legs. Once the spin is started, direct upper body towards the next wall.



“Air to Fakie”

Travel straight up the wall, using a slight feet retraction. Then travel switch, straight back down the wall, making sure to look over your downhill shoulder.



“Alley Oops”

Simply spin uphill instead of downhill. An “Alley Oop” can be done either in the pipe transition or off the walls. To reduce the amount of rotation needed to get around, turn uphill slightly approaching the wall. Try doing “Alley Oops” on both walls.

Above the Coping

Start with straight air above the coping. With more air, use less leg retraction as the pipe provides energy. Speed can be increased by traversing the pipe closer to the fall line and by pumping or resisting throughout the transition. Increasing speed will also allow skiers to get more air and travel further down the wall before re-entering the pipe. In order for the wall to set trajectory and avoid bringing skiers to a flat landing, legs should resist yet be relaxed as skiers leave the pipe’s lip. Start introducing grabs if students clear the wall. When grabbing, pull feet up towards the body to allow more maneuver time. Use the same grab progression as for jumps.

Getting up the Walls

As confidence builds, skiers will go further up the walls. To increase speed, skiers should start changing the approach angle by traveling closer to the fall line. Resisting the compression of the transition will generate speed and take skiers higher up the walls. Finally, sending the feet up the wall ahead of the body will allow skiers to stay perpendicular to the vertical part of the half pipe. It will also keep the feet supporting the centre of mass.

