

One Skate

This second gear in skate has a huge speed range stretching from slow speeds in relatively steep hills, to full sprinting on the flat terrain. Both tempo and body position can vary from relatively short poling, short glide and quick tempo to slower tempo, long arm swings and long glide time/distance.

We actively use the power created from the explosive lowering the COM through the power position to push us forward, at the same time we want to lower and then elevate the COM as little as possible to use as little energy as possible. Correct timing of pole plant, pole push and leg push are critical to a successful one skate.

Summary

- Tall body position at pole plant standing on one ski
- Pole plant sets leg preload
- Push with the leg and poles at the same time at the power position
- Reposition phase is initiated after pole lift
- Re-establish power line on the gliding leg as soon as possible

Body position

A - Power position

Pressure on the front half of the foot. Body tall with angles in the ankle, knee and hip result in a forward leaning upper body and lower leg with the hips straight over the foot. Hands are close to the body, so the body weight can be applied to the poles, and not just the strength from the arms alone.

B - Power line

The power line is a vertical line between the nose, knee, and toes at the pole plant. The weight is fully (100%) on the glide ski. Maintaining the integrity of the powerline in the core as much as possible throughout the cycle is critical. Under acceleration or climbing, the power line shifts onto the inside edge of the ski sooner during the cycle.

C - Ski lift

Moment in time when the weight/COM is fully transferred from pushing leg to glide leg. The most frequent mistake here is the weight remaining on the pushing leg too long, resulting in a non-ideal repositioning phase.

Timing

A - Pole plant

As introduced in "power line" the athlete needs to be on a flat, gliding ski with full weight and balance on the front of the gliding foot. Here the body position needs to be tall and slightly forward leaning. The pole plant position is similar to a double pole position. The pole plant (catch) sets the preload of the leg push.

B - Leg kick/push

From the pole plant the athlete comes into power position and pushes off with the inner edge of the ski. The push from pole and leg is initiated at the same time in the power position once the load phase is over. The power put into the push has a relatively short power impulse. As described in "ski lift" the push is over and the ski is lifted as soon as the glide ski has been set down straight under the body. Right after the push with the leg and the poles through the power position, the COM stops being lowered any further.

C - Reposition phase

Reposition phase starts with pole lift and ends with pole plant. From pole lift, the athlete then starts repositioning the body back up for the next pole plant, through sequential joint activation.



