

Offset - Regular

The first gear in skate, used for the slowest speeds, usually meaning uphill, but also a very effective technique for accelerations. Offset stands out as a technique because of both timing and positions. It is asymmetric, not only in the fact that we have only one pole push per cycle (pole plant only on one side), but also because the body rotation at pole plant results in the arms not being parallel to each other. In the animation we see an athlete at a pole plant. Leg and arm A is called the dominant side, and leg/arm B the free side. Pole plant and ski put down on the dominant side happens at the exact same time.

Summary

- Pole plant and ski set down at the same time on dominant side
 - Nose aligned just inside the knee and toe on both sides before pushing.
 - Even rhythm for both legs: dominant and free side.
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Body position

A - Power position

We still look at roughly the same angles in the ankle, knee and hips as seen from the side moving through one cycle in offset. The usual mistakes are to either end up sitting, meaning not a sharp angle in the ankle and weight back, or too much forward lean with the upper body and straight legs.

B - Power line

When speed decreases sufficiently, there is no significant gliding phase, and the athlete moves from push to push. The athlete sets the feet down further apart to balance between having skis facing the direction of travel and being able to create an angle on the ski to push from. To get a good push we still want a power line between the nose, knee, and toe.

Since there is almost no glide phase the power line is just on the inside of the ski because we are pushing straight away after the ski is set down. At pole plant and ski set down on the dominant side we want the nose to be aligned just on the inside of the knee and toe, then the same at ski set down on the free side.

To maximize force application through the poles, the athlete should aim to use the larger muscle groups: Lats, Traps, Pecs, shoulder girdle. This is achieved by keeping the elbow outside at 90° to the hand.

(See figure ^{Offset}A)

C - Ski lift

Ski lift for each leg should be symmetrical and COM movement is minimized in the up and down movement. At ski lift, the body should form a straight line from ankle to shoulder through the hip this ensures that we are landing on the opposite ski with hips forward. The only asymmetry is that the arms are in front of the skier at the pole plant on the dominant side and behind the skier for the pole lift at the free side.

Timing

A - Pole plant

The critical moment that defines offsetting or not: pole plant and ski set down on the poling side is at the exact same time in offset. There are small variations to this that we will come back to in “speed adaptations’ and ‘accelerations’ later in the document but setting the ski and the poles down at the same time is critical for the timing in offset.

B - Leg kick/push

Even if there is only a pole push on the dominant side we are pushing equally from both legs. This means that the rhythm should be the same for both pushes. If an athlete changes dominant side mid hill this should not be noticeable on the leg pushes, only in the upper body and the arms. Keep the legs under you, and don't step too far up the hill. We push to the side from under us to keep moving forward, not by stepping big steps forward, we achieve this by keeping the hip over the forefoot through hip articulation. Athletes offsetting properly look like they are “gliding up the hill” effortlessly. Exceptions when accelerating will be addressed later.

C - Reposition phase - pole lift to pole plant

The reposition phase is timing the arm lift with the leg push - as the athlete pushes on the non-polling side, the arms are lifted and repositioned to be ready for pole plant. There is minimal to no change in the torso angle to maintain core-hip connectivity.

