

# Diagonal Stride / Striding

Diagonal stride is the classic technique's first (low) gear. It is used mostly on uphill where the speed is low, but also for accelerations from a dead start. It is the only sub technique both for classic and skate where the two poles don't have the same pole plant moment and contact time and are working at an opposite time to each other.

Striding is a leg dominant technique, and the arms are supplementing the power from the legs. Top skiers can get a lot of power from both the legs and arms. Getting full balance on each leg, with pressure on the front foot while making the movements go straight back and forth (no rotation) is key to maximizing power output from both the legs and arms.

## Summary

- Short power impulse when kicking and the kicking foot is straight under the body
- Early ski lift, followed by a high gliding position at the back (condition dependent)
- Low pendulum arms in the repositions phase

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## BODY POSITION

### A – Power Position

In the diagonal stride sub technique power position, the ankle is in an acute angle as the feet pass each other resulting in sharp forward pointing knees and full forefoot pressure. Low pendulum arms, and relaxed shoulders is key to get full pressure on the wax pocket. The steeper or slower the speed the more upright the upper body should be to get full grip.

### B – Power Line

The powerline is alignment of the nose, knee and toe when standing on one leg. This gives the ideal body position for a relaxed glide phase leading into optimal power timing potential. Shoulders and hips a level/parallel to the ground without any tilting.

### C – Ski Lift

As the body moves past the kicking leg, the weight should move over to the other leg, and the kicking leg ski lifts. The ski lifts fully from the ground to help full weight the front foot on the gliding leg. This will however vary with different tempos. The steeper and slower the tempo, the less time for gliding and length of ski lift.

## TIMING

### A – Pole Plant

The timing of the pole plant happens at the moment the gliding leg is at its most extended so the leg and arms can work synchronized together through the power position.

### B – Leg Kick/Push

The kick should have a short power impulse centered around the power position when the front foot pressure is straight under the body, aligning pressure to the middle of the wax pocket. A normal mistake is to kick too far back (especially on roller skis) leaving the COM behind the binding with pressure too far back on the wax pocket resulting in potential slips.

### C – Reposition phase

The repositioning foot should come from a high gliding position at the back (condition dependent), then brought forward led by the hip with a sharp knee angle. The touchdown of the repositioning foot should happen in front of the kicking foot, keeping 100% body weight on the kicking leg when in the power position. The repositioning arm/hand should pendulum low with relaxed shoulders.

