Diagonal Hill Steps

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Objective:

- To simulate the entire movement of the crossover in motion.
- To feel the lean on the crossover while in motion.
- To feel maximum pressure in to the ground before the push.
- To feel the explosion of the leg on each push.
- To simulate the rhythm and timing of the crossover while in motion.

Method:

- Start from a standing position with the feet about shoulder width apart and pointing straight ahead.
- Stand so that your left foot is up the hill, right foot down the hill, with all of the weight on the left foot. Both feet are pointing perpendicular to the slope of the hill.
- The upper body should be low and relaxed, with the back and shoulders slightly rounded and the butt tucked. Your right arm should be extended forward in a relaxed position with the upper arm close to the body and a slight bend at the elbow. The hand should not cross the centerline of the body.
- Extend the right leg directly to the side and lift the heel about 1 inch off the ground with the ball of the foot still in contact. Keep the right foot in line with the left foot and pointing straight ahead.
- The weight on the left foot is about mid foot with the knee slightly in back of the toes and the knee bent to 90 degrees.



Execution:

- From the set-up position, bend the left ankle slowly forward as far as you can and feel the weight advance to the outside part of the ball of the foot. The left knee should drop forward to a position well ahead of the toes. At the same time, lean the entire body towards the hill until you feel like you will fall over.
- Next, the left leg extends fully, driving your body up the hill. Throughout this whole sequence the weight remains on the ball of the foot. At the same time, the right leg drives across and the foot drops slightly ahead of, and to the inside of, the left foot and remains pointing straight ahead.
- Now, while leaning towards the hill, slowly bend the right ankle so that the right knee advances forward and down past the toes. Keep pressing the knee forward and down until you cannot bend the ankle any further and the angle is closed as much as possible. At the point of instability, the knee of the left leg bends and starts its drive towards the back part of right knee. The left knee should be lower than the right knee.
- Keeping the pressure on the ball of the foot, extend the right leg so that the hip, knee and ankle are straight. At the same time the left leg continues its drive forward and across and the foot lands slightly ahead of, and to the inside of, the right foot. Be sure not to overstep as this will throw your center of gravity back on your heels and down the hill.
- Each step should take you diagonally up the hill, as you are driving the weight slightly forward as well as to the side.
- Keep stepping for 5-6 complete crossovers. Go through the movements slowly at first, and then gradually speed up the movements as you get better at performing the correct motions.

Technical points:

- On the landing of each foot the weight should be under the mid portion of the foot.
- The left foot lands so that the left hip is to the left side of the left foot. The right foot lands so that the left hip is to the inside of the right foot.
- Both feet should be pointing straight ahead on landing and you land on the edge of your sneaker (not the flat).
- Before each push, the weight drops to the ball of the foot by bending the ankle forward and you lean the body to a point of instability.
- The upper body should be low and relaxed, with the back and shoulders slightly rounded and the butt tucked. Your shoulders and hips must not rotate at any time and must remain square to the hill.
- Be sure there is no collapsing of the ankle to the inside. The ankle should only bend in a forward direction.
- The hip, knee and ankle extend fully to the straightened position, all the time maintaining the pressure under the ball of the foot.
- Make sure to use a strong, full right arm swing.
- In both the start and finish positions on the left leg there should be a straight line from the left ankle to the left knee to the left hip to the left shoulder. Any break in the line means you may have rotated or twisted, or simply haven't leaned enough.

- In both the start and finish positions on the right leg there should be a straight line from the right ankle to the right knee to the left hip to the left shoulder. Any break in the line means you may have rotated or twisted, or simply haven't leaned enough.
- Wait until you are just about to the point of instability before starting each push and crossover.
- The finish of the push with one leg and the landing of the other foot should occur simultaneously.
- Each step takes you up the hill diagonally to more closely simulate the direction of travel on a crossover.

Feelings associated with the movement:

- The right ankle feels compressed, locked and strong when in the power position.
- As you drop the knee forward and down, and lean, you feel the entire body sink down and in toward the hill.
- Just before the push you feel the body has reached a point of instability such that if you did not push off you would fall in toward the hill.
- When the knees are as far forward as possible you feel pressure under the ball of the foot.
- As you speed up the movement and the ankle angle closes more rapidly you feel a
 nice light bouncy rhythm as you compress in to and explode out of the power
 position.
- Each extension of the legs feels like an explosion of power as you drive up the hill.