

Starting Blocks 101

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Power Foot - The power foot is found on the athlete's strongest leg. The athlete's 'power foot' should be placed in the *front* starting block.

Quick-Side Foot - The 'Quick-Side Foot' is located on the quickest side of the athlete's body. Place the 'Quick-Side Foot' foot in the *back* starting block.

Quick Side Testing – A simple test is used to find the quickest side of the athlete's body.

- 1) The athlete places both hands down on the sides of his/her body against his/her hips.
- 2) The coach says "Go"!
- 3) The athlete slaps his/her hands very quickly across his/her chest leaving his/her hands on his/her chest.
- 4) The coach looks at the hand placement and determines which hand has touched the athlete's body first.

The hand that touches the body first is considered the "Quick Side" of the athlete's body. The slower hand is then considered the "Power Side" of the athlete's body.

Placement of Front Starting Block – The placement of the *front* starting block should equal 1.5 to 2 of the athlete's shoe size in distance from the starting line.

Placement of Back Starting block - The placement of the *back* starting block should be 2.5 to 3 feet in distance from the starting line.

Stretch Reflex – Stretch reflex is the position of the calf muscle and Achilles tendon that maximizes momentum. The effect is similar to pulling the rubber band way back and releasing it – the rubber band flies across the room. When the rubber band isn't stretched it falls to the ground and goes nowhere because it has no momentum.

Angle of Starting Blocks – The angle of the starting blocks should be at a 45 degree angle to maximize the "stretch reflex" of the calf muscle and the Achilles tendon. Even though the smaller the angle the greater the stretch reflex, the athlete would not be able to get their foot on the pedal. The 45 degree angle enables the athlete to explode once the gun goes off.

Foot Placement on Starting Blocks - On the ground prior to the set position the athlete should have his/her foot touching the block pedals. The athlete should dig the front two spikes of his/her shoe into the track and place the rest of the foot on the block pedal to again maximize the "*stretch-reflex*" of the lower leg.

Hand Placement for Starting Blocks - The athlete should be on his/her fingertips with the hand located 2-3 inches in front of the shoulders and 2-3 inches outside of the knee

so that when the athlete starts to take off and is swinging his/her arms, he/she will not hit his/her knee. If the athlete places his/her hands too far away from the body he/she will lose the ability to produce “maximum arm drive” as he/she leaves the starting blocks.

Angle of Legs in “Set Position” - In the “set position” the rear leg is lifted off of the ground. Both legs are flexed. The front leg is 90 degrees at the knee and the back leg 120 to 135 degrees.

Apply Pressure to the Starting Blocks - The athlete is in the “set position” and places foot pressure against *both* block pedals. The athlete’s hips are raised slightly above the shoulders.

Eye Position In Starting Blocks - The sprinter’s eyes should not be focused on any one point. Instead the athlete should be looking out 2-3 feet ahead on the track.

Head Position in Starting Blocks -The sprinter’s head should always remain down in a relaxed “neutral” head position. *The head should remain relaxed at all times.*

Position of Shoulders in the “Set” Position -The athletes should place their blocks in a comfortable position that will allow them to have their shoulders actually 2-3 inches behind the hands. This will allow the athlete to have better block contact as well as produce great force application once the gun goes off.

Locking the Hips in the “Set Position” – Locking the hips in the “set position” is the ability for the athlete to totally lock out his hips when he/she is in the “set position.” When the athlete is in the “set position” and at the last moment tightens or squeezes his abdominal muscles. This action forces the hips to move backwards an additional 2-3 inches. “Locking the hips” in the “set position” enables the athlete to have 100% force application against the block pedals once he or she hears the sound of the starting gun.

Correct Foot Placement When Driving From Blocks - The athlete does not have an ample amount of time to do the normal running cycle. The athlete’s initial 4-5 steps out of the blocks will actually land slightly behind the knee instead of under the knee. Because of the shortness of the stride, this low heel recovery allows for a quick placement of the first step to the track. The front leg extends forcefully to provide a strong drive. Those first short steps aid the athlete in creating more power as he drives out of the starting blocks. The athlete’s stride will continue to grow in length and frequency during the first four to five strides.

Stumbling as the Athletes Come out of the Starting Blocks –Stumbling is caused when the athlete is taking either too long of a stride as he/she leaves the block or because he/she is taking a stride that is outside of their “center of mass”. Outside of the “center of mass is usually a step that is thrown outside the athlete’s shoulder and lands near the edge of the athlete’s lane. The end result is a slow step that creates no power and often the results in the athlete stumbling.

Using the Upper Body to Drive Effectively from the Starting Blocks - To ensure a strong drive out of the starting blocks, the athlete must position his/her hands to be on the fingertips placed 2-3 inches directly in front of the shoulders. When the athlete hears the gun, he/she strongly punches the arm/hand of the front starting foot forward. At the

same time the athlete punches the hand of the back starting foot hand backwards. The “driving of the arms” initiates the start from the starting blocks

Action vs. Reaction - This is a basic law of physics, in which the more “force application” the athlete places against the block pedals the greater the force they have to propel themselves forward away from the starting blocks. If the athlete doesn’t push strongly against the pedals there is no need to use starting blocks. A common mistake seen with young athletes is that they step off the pedals instead of driving hard against the pedals to get the momentum they need to propel them forward.

Stimulating the Fast Twitch Muscle Fibers Prior to the Start – Before entering the blocks, the athlete should do several “jump-tucks” in the air to stimulate the fast twitch muscle fibers in the lower legs. Those are the muscles used during the starting process. Doing the “jump-tucks” prepares the athlete’s body to be on auto-pilot when the gun goes off.

Relaxation in the Starting Blocks – It is important for the athlete to be totally relaxed prior to the start of the race. To do this, the athlete should position himself/herself in the starting blocks then take 2-3 deep breaths. Last but not least he/she should be prepared to be held 3-4 seconds once in the “set position” prior to the gun sounding. Athletes that cannot hold themselves in the “set position” for that length of time are not properly relaxed.

Jumping the Gun – Prior to the race it is important that the athlete work on his/her concentration. Once the athlete is in the “set position” and before the gun sounds, the athlete must be patient and concentrate on listening for the gun so he/she can react instantly when he/she hears the sound of the gun. If the athlete isn’t mentally prepared he/she will not be focused and usually “jump the gun”. Jumping the gun = disqualified. “Jumping the gun” is a sign the athlete is not mentally prepared for the race and is concentrating too hard on the wrong thing or not concentrating at all.

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- 45 Minute Workout “cookbook” Running events (Book & DVD)
- Coach Silvey “Texas Tech” Training Program (Book) “Year of Workouts”

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