Observe Figures 2 to 7. They illustrate the correct positioning of the legs from the instant Tim Seaman's left leg strikes the ground, as his body passes directly over the leg and beyond, until his left foot is about to leave the ground behind his body. Observe Figure 2, where his heel has just made contact with the ground. A few things happened simultaneously.

A race walker’s feet land in an almost exact straight line. After you learn to use your hips efficiently, your foot placement changes slightly to imitate this near straight-line placement.

Observe Figure 2, NARRII && RRAACCEEWWAALLKK..CCOOMM’ss

Just before contact, as his leg was swinging forward, it straightened, with toes pointed up (between 30 to 45 degrees from the ground). Nearly simultaneously with those actions, his heel struck the ground. Achieving this smooth synchronized action is the key to success.

Between Figure 2 and 7, the body moves forward, over the left leg. This is where the body moves forward, over the left leg. This is where walkers tend to violate the definition of race walking. The leg must remain straightened until it is in the vertical position as shown in Figure 4. Once the left leg is beyond the vertical position, as in Figure 5, it may bend. However, when it comes time to lift your left foot off the ground, if your left leg is still straightened, you get an extra thrust forward by pushing off your rear foot (Figure 6). With proper flexibility and strength your leg stays straightened longer giving you this extra thrust. Ideally, the leg remains straightened until the heel of your rear foot lifts off the ground.

Figure 7 is just after your effective push off and just before rear-foot toe off, with an obvious bend in the leg. It is impossible to race walk with any efficiency and keep the leg straight as it swings forward. Notice that as his rear (left) leg leaves the ground, his front (right) leg is already in position. Also, note (as we observed with Jared Tallent) that the legs do not create a symmetrical triangle. More of Tim’s stride is behind his body than in front.

This is achieved through proper hip action. Figures 8 through 11 show the foot swinging through as low to the ground as possible. This averts loss of contact problems that might occur if you drive your foot too high coming through your stride. If your foot is too high, you might have a propensity to drive the leg up instead of forward, thus making you at risk of visible loss of contact and getting disqualified.

Figures 8 through 11 show Tim’s progression as his rear foot leaves the ground (Figure 8) until just after the same foot strikes the ground in front of the body. When his rear foot leaves the ground, it swings forward with the leg flexed at the knee (Figure 8 - 10). Note the constant angle between his upper and lower leg during this phase. Once he begins straightening his leg, he uses his quadriceps to extend it (Figures 10, 11, and 2). Finally, his foot makes contact with the ground and his leg is straightened and no longer flexed at the knee (Figure 2).

Observe Figures 2 to 7. They illustrate the correct positioning of the legs from the instant Tim Seaman’s left leg strikes the ground, as his body passes directly over the leg and beyond, until his left foot is about to leave the ground behind his body. Observe Figure 2, where his heel has just made contact with the ground. A few things happened simultaneously.

Between Figure 2 and 7, the body moves forward, over the left leg. This is where walkers tend to violate the definition of race walking. The leg must remain straightened until it is in the vertical position as shown in Figure 4. Once the left leg is beyond the vertical position, as in Figure 5, it may bend. However, when it comes time to lift your left foot off the ground, if your left leg is still straightened, you get an extra thrust forward by pushing off your rear foot (Figure 6). With proper flexibility and strength your leg stays straightened longer giving you this extra thrust. Ideally, the leg remains straightened until the heel of your rear foot lifts off the ground.

Figure 7 is just after your effective push off and just before rear-foot toe off, with an obvious bend in the leg. It is impossible to race walk with any efficiency and keep the leg straight as it swings forward. Notice that as his rear (left) leg leaves the ground, his front (right) leg is already in position. Also, note (as we observed with Jared Tallent) that the legs do not create a symmetrical triangle. More of Tim’s stride is behind his body than in front.

This is achieved through proper hip action. Figures 8 through 11 show the foot swinging through as low to the ground as possible. This averts loss of contact problems that might occur if you drive your foot too high coming through your stride. If your foot is too high, you might have a propensity to drive the leg up instead of forward, thus making you at risk of visible loss of contact and getting disqualified.

Figures 8 through 11 show Tim’s progression as his rear foot leaves the ground (Figure 8) until just after the same foot strikes the ground in front of the body. When his rear foot leaves the ground, it swings forward with the leg flexed at the knee (Figure 8 - 10). Note the constant angle between his upper and lower leg during this phase. Once he begins straightening his leg, he uses his quadriceps to extend it (Figures 10, 11, and 2). Finally, his foot makes contact with the ground and his leg is straightened and no longer flexed at the knee (Figure 2).

Observe Figures 2 to 7. They illustrate the correct positioning of the legs from the instant Tim Seaman’s left leg strikes the ground, as his body passes directly over the leg and beyond, until his left foot is about to leave the ground behind his body. Observe Figure 2, where his heel has just made contact with the ground. A few things happened simultaneously.

Between Figure 2 and 7, the body moves forward, over the left leg. This is where walkers tend to violate the definition of race walking. The leg must remain straightened until it is in the vertical position as shown in Figure 4. Once the left leg is beyond the vertical position, as in Figure 5, it may bend. However, when it comes time to lift your left foot off the ground, if your left leg is still straightened, you get an extra thrust forward by pushing off your rear foot (Figure 6). With proper flexibility and strength your leg stays straightened longer giving you this extra thrust. Ideally, the leg remains straightened until the heel of your rear foot lifts off the ground.

Figure 7 is just after your effective push off and just before rear-foot toe off, with an obvious bend in the leg. It is impossible to race walk with any efficiency and keep the leg straight as it swings forward. Notice that as his rear (left) leg leaves the ground, his front (right) leg is already in position. Also, note (as we observed with Jared Tallent) that the legs do not create a symmetrical triangle. More of Tim’s stride is behind his body than in front.

This is achieved through proper hip action. Figures 8 through 11 show the foot swinging through as low to the ground as possible. This averts loss of contact problems that might occur if you drive your foot too high coming through your stride. If your foot is too high, you might have a propensity to drive the leg up instead of forward, thus making you at risk of visible loss of contact and getting disqualified.

Figures 8 through 11 show Tim’s progression as his rear foot leaves the ground (Figure 8) until just after the same foot strikes the ground in front of the body. When his rear foot leaves the ground, it swings forward with the leg flexed at the knee (Figure 8 - 10). Note the constant angle between his upper and lower leg during this phase. Once he begins straightening his leg, he uses his quadriceps to extend it (Figures 10, 11, and 2). Finally, his foot makes contact with the ground and his leg is straightened and no longer flexed at the knee (Figure 2).

Observe Figures 2 to 7. They illustrate the correct positioning of the legs from the instant Tim Seaman’s left leg strikes the ground, as his body passes directly over the leg and beyond, until his left foot is about to leave the ground behind his body. Observe Figure 2, where his heel has just made contact with the ground. A few things happened simultaneously.

Between Figure 2 and 7, the body moves forward, over the left leg. This is where walkers tend to violate the definition of race walking. The leg must remain straightened until it is in the vertical position as shown in Figure 4. Once the left leg is beyond the vertical position, as in Figure 5, it may bend. However, when it comes time to lift your left foot off the ground, if your left leg is still straightened, you get an extra thrust forward by pushing off your rear foot (Figure 6). With proper flexibility and strength your leg stays straightened longer giving you this extra thrust. Ideally, the leg remains straightened until the heel of your rear foot lifts off the ground.

Figure 7 is just after your effective push off and just before rear-foot toe off, with an obvious bend in the leg. It is impossible to race walk with any efficiency and keep the leg straight as it swings forward. Notice that as his rear (left) leg leaves the ground, his front (right) leg is already in position. Also, note (as we observed with Jared Tallent) that the legs do not create a symmetrical triangle. More of Tim’s stride is behind his body than in front.

This is achieved through proper hip action. Figures 8 through 11 show the foot swinging through as low to the ground as possible. This averts loss of contact problems that might occur if you drive your foot too high coming through your stride. If your foot is too high, you might have a propensity to drive the leg up instead of forward, thus making you at risk of visible loss of contact and getting disqualified.

Figures 8 through 11 show Tim’s progression as his rear foot leaves the ground (Figure 8) until just after the same foot strikes the ground in front of the body. When his rear foot leaves the ground, it swings forward with the leg flexed at the knee (Figure 8 - 10). Note the constant angle between his upper and lower leg during this phase. Once he begins straightening his leg, he uses his quadriceps to extend it (Figures 10, 11, and 2). Finally, his foot makes contact with the ground and his leg is straightened and no longer flexed at the knee (Figure 2).
Efficient race walkers do not let their feet lift passively off the ground; instead, just before the rear foot breaks contact with the ground, they actively push the big toe against the ground. Done properly, overall race walking technique becomes less mechanical and movements feel as if they are flowing together in a forward motion. Done improperly, an overly hard push off causes over-striding and flagrant loss of contact with the ground. Care must be taken to carry your foot forward in a relatively straight line after you push off. When your foot leaves the ground and is swinging forward, try not to twist the foot to the side as your leg progresses.

As the walker’s right foot is about to leave the ground with the right hip behind the body (C), the right hip begins moving forward. As it does, it arcs out slightly. Once the knee swings under the body (D), the hip continues forward while arcing inward back to the starting position (A).

Elite race walkers generate their primary source of forward locomotion from rotating the hips forward. By repeatedly pivoting the hips forward, they act as the body’s motor, propelling it forward one step at a time. Actively swinging the hip forward lengthens the stride from the top of the legs, while increasing stride length behind the body. In a flexible race walker, the gain can be as much as six inches per stride. If you add as little as 1 inch to a typical 1 meter race walking stride, the net gain is approximately 10 meters per lap on a track.

Look back to Figure 1. Notice again how Tallinn’s stride is distributed more behind the torso than in front of it. This is directly due to hip rotation. Good forward hip rotation is a key solid race walking technique. The hip rotates forward at the same time as the leg swings forward. The leg does not swing forward before the hip rotates. Since the two motions occur simultaneously, any reduction in cadence is minimal and greatly outweighed by the increase in stride length.

The exact motion of the hips during race walking is a bit complicated. The hip moves in three dimensions, its primary movement is forward, but it also must move slightly in and out as well as up and down. To further understand proper technique, observe the following three figures which show how the motion varies from perspective.

Imagine a small circular sticker being placed on the outside of the center of the race walker’s hip. This sticker represents the center point of the hip in the following figures as the hip moves through key points of the walker’s stride. Figure 19 shows this center point of the right hip as a race walker completes one stride when walking on a road or track as viewed from the side. The walker’s right hip strikes the ground at (A) as the center point of the hip is in the neutral position. As the body moves forward over a straightened leg, the center point of the hip rises until the straightened leg passes directly beneath the body.