

Cleat Positioning

By Mary Paterson

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Positioning of the cleats is one of the most important elements of a bike setup because power is transferred from the rider to the bike through the foot/pedal interface. Proper cleat position will improve biomechanical alignment between the body and the bike, optimizing efficiency and comfort. Proper cleat placement is essential in preventing injuries, particularly knee injuries. With up to 5,000 pedal strokes in an hour of riding, a repeated twist through the lower leg can lead to undue stress and an overuse injury.

The best place to adjust and test your cleat setup is on a trainer. While there are many variations in preferences between riders, here are some general guidelines to help you set up your cleats properly. There are a number of adjustments to make when setting up your cleats.

Fore and Aft Position

Position

First, adjust the forward and backward position of the cleats on your shoes. As a general rule you should be pushing through the ball of the foot as you pedal. This is the position that suits most riders. Your goal is to get your cleat forward, as close to the ball of the foot as you can, but not ahead of it. There are many reasons for choosing this position:

- It is the widest, stiffest part of your foot, providing a stable base through which to transfer power.
- It provides a good lever for your calf muscles to push off.
- It helps clear your toes from the wheel in front (toe overlap).
- It brings your knees over the pedal axle for better power transfer.

- It prevents foot numbness and discomfort.

However, there are times when you should not choose this position:

- Hot spot or burning under the ball of your foot.
- Achilles pain/tendonitis (too long a lever)

Set Up



Find the widest part of your foot, the ball of the foot, through the side of your cycling shoe. Mark it with a dot on your shoe. Remove your shoe and slide the cleat forwards or backwards, to line up the middle of the cleat with the dot on your shoe. When you clip in, the ball of the foot, the dot on the shoe, should now be directly over the pedal axle, which is the middle of the pedal. Your goal is to get as close to the ball of the foot as you can, but not ahead of it. Placing the cleat ahead of the ball of the foot will create too long a lever for your calf muscles, predisposing it and your achilles tendon to an overuse injury.

Medial-Lateral Adjustment

Position

Some cleats can be adjusted medially (in) and laterally (out). When riding, your feet should be naturally aligned below your hips. Feet that are set wider or narrower than your natural stance can create unwanted stress on your lower legs and diminish power. Generally, a good neutral starting position is to centre your cleats. Exceptions to this placement include:

- Your heel or any part of your shoe is hitting the bike: Move the cleats in to give your foot more clearance. If the shoe is still hitting, then washers can be placed between the crank arm and pedal axle to further widen your stance.
- Your foot position is too wide or too narrow for the width of your hips: Move the cleats in to widen your stance or out to bring your feet closer to the bike.

Setup

Simply move your cleats in or out and retest pedaling for shoe clearance and comfort.

Rotational Adjustment

Position

Rotational adjustment is the most crucial part of cleat set up. Most clipless pedal systems offer a certain amount or degrees of float. Float is the available side-to-side movement of the foot within the pedal. While this allows your foot to change position as you go around the pedal stroke, careful cleat placement is essential to allow your legs to freely follow their natural path. Forcing your legs to go in an unnatural direction for your body will create unwanted tension on muscles and tendons, which over time can cause an injury. A minimum of 6 degrees of float is preferred. Sometimes more is needed if you have bad knees or hips. Float can sometimes be increased by loosening the tension on the pedal spring. For more information on float see the previous article: [Clipless Pedals](#).

Setup

Ninety-five percent of the time how we stand and walk off the bike tells us how to set up our cleats. Look down at your feet and see which way your toes point naturally. Are you toed out (duck-footed), toed in (pigeon-toed) or are your toes pointing straight ahead? One foot may be different from the other. This will give you a starting position to set up your cleat rotation. Looking at the bottom of the shoe, if you need a toed out/heel in position, then aim your cleat in and vice versa. It may take a bit of trial and error to find the exact position that matches your body.

As this is the trickiest and most critical adjustment, if you are not 100% satisfied with your position, seek the assistance of a professional bike fitter to help you dial-in your ideal position.

Final Position

The true test is always the road test, so some fine tuning may be required post-setup. In your final position, efficiency and comfort should be optimized. Your feet should be comfortable and your legs should be going where they want to go. You shouldn't feel tension or any twisting sensation in your legs.

Once you are satisfied that you have dialed-in your perfect position, mark it by drawing a line around it with a permanent marker or white-out pen. That way, when your cleats wear down and you change them, or if your cleat accidentally shifts, you will have your perfect position outlined.

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