

Training Log 09: Climbing Techniques

I hope that you have used the previous article on pack riding basics to become safer and more comfortable while riding in a pack. For me, very little matches the feel of zipping down the road almost effortlessly in a smoothly operating group of riders, sharing a common effort and purpose. As an example, our St. Catharines Cycling Club has a Sunday group ride where about 20-40 of us roll out. On the flat farmroads of the Niagara region, I would average about 270 watts or more while leading the pack at 37 km/h. The difference while sitting in the pack is enormous. Sitting in second position behind the lead rider, my power output might be about 200 W. And sitting slightly further back in the belly of the pack leads to incredible power savings, with my power meter often reading 130 W or less at the same speed.

Again, these simple laws of physics and air resistance are fundamental to the sport of cycling, and it's also key to maximizing the efficiency of a group effort like the GTL ride. The ride from Halifax to Austin would be beyond gruelling to accomplish as a solo ride in nine days, as that is about the distance of the famous RAAM (Race Across America). It would also be really challenging if the relay was done individually rather than in small groups, because the difference in energy expenditure is so dramatic.

It's also a thrill to be "nailing" the exact timing required in moving perfectly within a pack. The thrill is similar to skating when you've got the technique just perfect and almost seem to be effortlessly gliding down the ice, or in rock-climbing when you've got that perfect concentration and flow. Little tricks and tips can make the pack ride even smoother and save you even more energy in the process. Some of these can be read, but real understanding is best done during an actual workout. So this will be one thing we will concentrate on during the training camp August 20-24.

Here are some additional tips and advice about hills and how to tackle them:

1. Hills can be very disruptive to keeping a group smooth unless the riders are tuned in to themselves and to each other. In general, do not try to keep the speed the same, because that will burn a lot of energy. Rather, it's usually preferable to keep the effort similar. This is very dependant on the hill (length, steepness) and also the ability of the group. A strong group of cyclists can keep the speed nearly the same and the group can usually stay together in a tight formation. A group of weaker cyclists will likely have a wide variation in ability in the hills, so will likely need to go slower or else regroup at the top of a hill.
2. When climbing a hill, you will often switch from sitting down to standing up. When you do stand up, switch to a harder gear (1-2 gears harder) to stand up. That's because you can generate more power when you're standing. Switch back down to the easier gear when you sit down again.
3. There's no hard and fast rule for when to stay seated or when to stand while climbing. In general, it takes more energy to stand, because now you're also bracing the weight of the body rather than having the bike do it. However, the tradeoff is that you get more power. So if it's a shorter steep hill, it might make more sense to stand up the whole way. Or to

stand on the steeper parts of a long hill, then sit down again. Bigger, heavier riders pay a bigger energy penalty for standing due to the bigger mass to support.

4. As with anything bike-related, practice makes perfect, or at least will increase your efficiency. So practice standing up on hills. During my time at Simon Fraser University, atop a 5 km climb at 8% grade, I would sometimes stand up for the entire 15-18 min climb to force myself to become more efficient at standing.
5. In that first pedal stroke where you go from sitting to standing, make sure to push down hard on those first couple of strokes. If you don't, the bike will temporarily "stall" and seem to drop back. This makes it dangerous for the riders behind you, because they can end up riding into your rear wheel. If you're not in the lead, then you should anticipate when riders ahead of you might be standing and be on the lookout for this.
6. When standing, the best position for your hands is to grip the brake levers. This gives you the best leverage. This is better than on the "hooks" of the bars (the inner curved part of the bar) because it allows you to breathe better.
7. When standing, you don't want to be too far forward or back. Practice and work on achieving a "natural" position while standing, where your chest is generally no further forward than the headset of your bike.
8. When seated, your hands can be on the brake levers or the top flat part of the handlebars. This again opens up your chest to permit better breathing. At the same time, most riders shift their butt backwards towards the rear part of the saddle. This effectively increases the power and leverage from your thighs.
9. Do not have a death grip on the handlebars while climbing! This just wastes extra energy. Unless the hill is really severe, often I will just drape my hands and fingers over the top of the handlebars and pretend as if I'm playing the piano to keep the hands loose.
10. Climbing and pedalling the bike is not just about mashing downwards on the pedals. Focus on both pushing down and pulling up on the pedals to maximize power transfer.
11. Cadence will inevitably drop while climbing. Rather than the 90-105 rpm that is preferred on flat roads, cadence can drop down to an average of 70-85 on climbs. Use your gears to adjust the cadence and effort.
12. SMILE while climbing! This forces you to relax your muscles rather than involuntarily tensing up. It also annoys the heck out of your riding buddies and does awful mind games on them to see you smiling while they're grunting their way uphill!

Hills and climbing is integral to cycling, and we'll be practicing them during our late August training camp both in the classroom and on the road.

Ride strong and have fun!

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