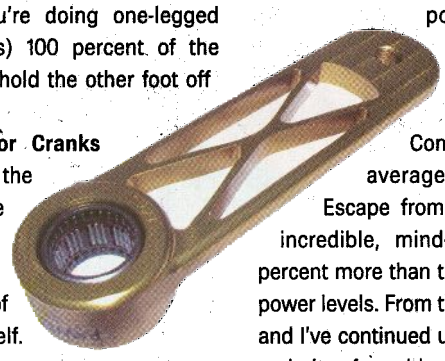
[BIKE REVIEW] POWER CRANKS OR ROTOR CRANKS?

On the bike, nothing is more central to our performance than the cranks. They are the core of each pedal stroke, the driver of our success or our struggles in the cycling portion of our sport. This month, we compare two potential tools for enhancing your cycling performance from several perspectives.

The concept behind **PowerCranks** is to force cyclists to add the upstroke to their pedaling. Most of us are naturally lazy and, without knowing it, depend on the downstroke of our pedaling for the majority of our power. PowerCranks make this laziness impossible because the crankarms operate independently of one another. The actions of your right leg have absolutely *no* impact on what is happening on the left. Essentially, you're doing one-legged pedaling (on both sides) 100 percent of the time—without having to hold the other foot off of the pedals.



PowerCrank

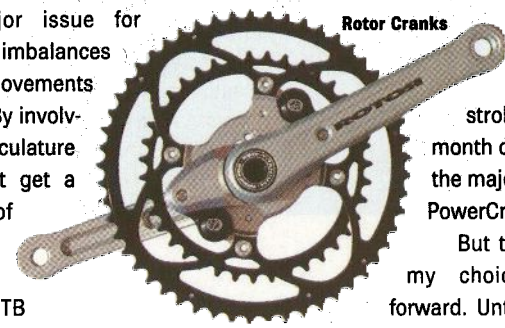
By comparison, **Rotor Cranks** are designed to eliminate the "dead spot" as you come over the top of the pedal stroke, allowing you to put a greater amount of power into the stroke itself. Rotor Crank-style systems are being seen with more and more regularity among top cyclists, including Tour de France riders and triathletes such as super-cyclist Bjorn Andersson.

As a competitive triathlete, I found the "warning" PowerCranks provides to be extremely accurate. The designers are very clear about cautioning that until you create the muscle memory, your time to muscle failure will be quite short regardless of your conditioning level. I started using the PCs during the off-season of last year (essentially November through February), performing 100 percent of my rides on these new cranks. After about 10 days, I was back up to normal mileage. But over the first 3 or 4 "workouts" (a term I use use lightly in this case), I lasted a grand total of 5-10 minutes. As a result, I strongly encourage you to schedule 2- or 3-a-day workouts over the first week or two. During the season, I would typically perform one workout per week on the PCs. But another word of caution: If you get away from regular (weekly) PC rides, don't come back to a long ride. I made that mistake midway through the season, heading out for a 50-miler with some friends on the PCs after not using them for a few weeks. No problems early on, but my hip flexors were screaming at me over the last hour.

As the triathlon season in Colorado got underway, I shifted over from the training I'd been doing on the PowerCranks to the Rotor Cranks as I prepared for racing. The RC's have been shown to produce better times—or equal times with less effort—and that's exactly what I experienced, instantly seeing a jump in my power levels. In fact, after familiarizing myself with the "feel" for a week or two, I tested them out on the CompuTrainer at our clinic. My average power on the complete Escape from Alcatraz course jumped an incredible, mind-boggling 49 watts, or 20 percent more than the previous season's average power levels. From that day forward I was hooked, and I've continued using the Rotor Cranks for the majority of my rides since that time.

Keep in mind that this power jump could likely be attributed to the *combination* of the PowerCranks and the Rotor Cranks based on the training leading up to this eye-opening performance.

As a physical therapist, I'm a big fan of PowerCranks. A major issue for triathletes is muscle imbalances caused by repeated movements in the same direction. By involving the hip flexor musculature (which usually doesn't get a significant amount of work in cyclists), the incidence of overuse injuries such as ITB syndrome is likely to be diminished. In addition, when I suffered a fractured collarbone and rib at the Buffalo Springs Triathlon earlier this year, the PowerCranks offered an alternative to running while I waited for my bones to heal enough to return to the jarring motion of running. When I did return, my run times were as fast or faster than they'd been prior to the time away, which I attribute directly to my PowerCranks training.



Rotor Cranks

Rotor Cranks do not offer this same potential for pseudo "cross-training." However, when combined with a solid core stability training program, they will likely provide a smoother run out of T2 in addition to the enhanced strength through the pedal stroke (getting you *to* the second transition faster).

(And by the way, while the concept behind the Rotor Cranks is similar to the elliptically shaped cranks of the 1980s, they function at a completely different level. My first bike bought somewhere other than a garage sale had an old-style elliptical setup, and we later found it provided little or no benefit. Rotor Cranks work.)

As a dad on a budget, both of these items are tight on mine at around $800 apiece. But like anything else, the price is relative to what you're willing to pay for each minute saved on race day. New wheels will save you two minutes for $1,000-$2,000, right? What would a 10 to 15 percent increase in your wattage save you on race day? I thought so.

In a perfect world, I'd encourage you to try to get your hands on both of these tools, as that will offer you the optimal benefit. Personally, I plan to continue utilizing the PowerCranks for one ride per week during the season to enhance the muscle memory toward hip flexion throughout the pedal stroke. During my "down" month of November, I'll likely do the majority of my rides with the PowerCranks.

But the Rotor Cranks will be my choice for racing going forward. Until I find something better, they've proven to give me the added power necessary to bring my bike times down to match my run. Now, if they would just come up with a SwimCrank.... — BRAD COOPER

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