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Do Triathletes Need a Turbocharged Engine in Freestyle Swimming?

Strong Freestyle 6-Beat Kick

My wife drives an Audi Q5 that has a 4-cylinder engine with a turbocharged engine. I like the car because if I drive it conservatively, it gets really good gas mileage. Yet, if I need to pass someone quickly on the freeway, by pressing the accelerator hard, the car shifts into a much more powerful mode and picks up speed right away. Of course, it uses a lot more gasoline when I do that, but it is nice to know that I have that option when I need it.

One can look at the freestyle kick as being similar to the turbocharged engine. In the 50-meter sprint, every swimmer needs to push the accelerator all the way to the floor, maximizing the power of the kick all of the way. But in any event longer than 50 meters, one has to back off the accelerator some in order to keep from running out of gas. The longer the swim, the more careful one needs to be about pushing the legs into turbocharged mode. In the mile, for example, that mode

is often reserved for the finish of the race. It is the turbocharged mode of the kick that enables Sun Yang to swim the last 50 meters in under 26 seconds, or Chris Swanson from U of Penn to swim the last 50 yards in 24.3 seconds and demolish the field. In fact, whenever there is a close race at the finish, I will always bet on the swimmer who has the turbocharged engine available in his/her legs.



The question is, how does one develop a freestyle with the turbocharge option? I have focused many of my articles and blogs on the importance of developing a strong kick, but the truth is, it is not easy to do. It requires developing extraordinary plantar flexibility of the ankle, leg strength for both the down and up kick motions, working both sides of the leg, and leg fitness; lots of it.

When you consider your pulling stroke rate, which may vary between 60 and 100 strokes per minute for any distance over 50 meters, with a six-beat kick, the kicking stroke rate is six times that, or 360-600 kicks per minute. That means that during each stroke cycle, hand entry to hand entry, each leg takes three down kicks and three up kicks. Now consider that your six-beat kick never really has any recovery time, as the legs are either pushing down or pulling upward at all times. That is a lot of sustained effort. It is no wonder that we cannot keep our legs in turbocharged mode for more than 50 meters without reaching exhaustion. If we are to use our legs in turbocharged mode for any part of the race, however, they simply must be extraordinarily fit; even more so than our arms are.

Once you develop the turbocharge capacity in your freestyle kick by gaining ankle flexibility, leg strength and fitness, you must also learn how far down to push the accelerator for each race, and when to push the pedal all the way to the metal. The muscles of the leg are big and strong and if you use the turbocharged mode too early or too long, the lactate produced by this mode will ultimately shut you down.

Build a better swimming engine; one with a turbocharge capacity. Do so by working your legs incessantly, in and out of the water, developing the right tools for kicking propulsion. Then plan your longer races carefully, using the four cylinders at the beginning, getting good gas mileage, and saving the turbocharge option for the right time at the end. Then you can finish the race blowing by everyone, just like Sun Yang or Chris Swanson. It is a great feeling and can help you get in the right position for a successful bike and run.

Try kicking on your back to work that tight six-beat kick for freestyle. Watch this backstroke kick video for tips.

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