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# The Time Trial as a Training Tool

Brian MacKenzie

"How do I CrossFit regularly and not lose my specific fitness for an endurance event?" This is a question I've been asked probably no fewer than 100 times in the past few months. I believe it boils down, at least in part, to effective use of time trials in your training program.

I and the long-distance athletes I train have been successfully implementing training programs that integrate CrossFit and sport-specific endurance work. In each case, our times in our respective sports (running, rowing, cycling, swimming) have gotten faster. And our CrossFit times/numbers keep getting better too. A lot of people I've come in contact with in the last couple of months initially tell me that they think they have to choose to do either CrossFit or marathon/Ironman-specific training and cannot do both successfully. Well, I went on a 10-mile trail run a few weeks back on the same day I had a CrossFit Total lifting event. I ran well—not my fastest time on this course, but within 10 minutes. Then, within two hours, I set personal records on every lift (back squat, press, and deadlift) at the Total. This was a breakthrough day for me.

If you are training for a specific sport, you need to establish your goals for that sport. Are they attainable goals? Or are you like me and tend to set almost unattainable goals and then either hit or miss them, rather than set reachable ones that you can really commit to accomplishing?

Time trials define the endurance sports. They also help define you and how successful you are in training. I like to set up time trials every two to three weeks at various distances for my athletes. You want to think of each of these as much like a race. You don't need to go



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overboard with that, but you should really be prepared to do your best. You need to make sure you get enough sleep, that you eat right and aren't dehydrated, and are stretching to maintain flexibility—all things that should be done every day anyway, especially when CrossFitting, but with a little more attention for the time trial. You don't want any reasons—or excuses—for not doing well!

You need to have a clear view of what you need to do for the time trial. What type of pace will you need to hold for the distance? How hard can you work without undermining your mechanics and technical training? You don't want to try to run, ride, swim, row, etc. outside your ability, but you should be pushing the envelope a bit, because after all without some breakdown, it would be too perfect, which would mean too slow. I've gone out in a 100-mile race pushing sub-9-minute miles in the first 20 miles only to call it a day by mile 20 because I was running way above my ability. I had nothing left and was fried. Dumb!

Once the goals are set, you need to look at any PRs you've had in the past few months. If none, then go out and set a benchmark baseline. For endurance athletes, I like to keep the benchmark test between 20 minutes and 2 hours, depending on skill level. This lets us keep the intensity up a bit, even when the event they may be training for isn't going to need too much intensity. For example, we had a cyclist who started with us last week. He used to ride Cat 3 (this is a mid-level club cyclist; Cat 1 is pro; Cat 5 are new racers) a few years ago; he's 38 and rides pretty consistently still. We sent him out this weekend on a 25-mile time trial knowing that it would hurt but he would recover. I've sent marathoners on time trials of distances ranging from 5k to 13.1 miles. With rowers I've used 1k to 5k time trials, depending on the distances of their races. It all depends on what they can handle at the time—meaning, what do their training schedules look like and have they been riding/running/rowing consistently or have they been CrossFitting more? If it's the latter, I usually make it a shorter time trial and plan to build their endurance as we go.

Once you figure out what kind of a time trial to use, you can then use the result to set up interval training for that particular athlete's training regimen. I like to use 100-meter to 5-kilometer intervals for runners. For cyclists, I use generally use half miles up to 8 miles. For swimmers I use 25 meters to 1000 meters. For rowers I use 100 meters to 1000 meters.

Now let's look at the distance and how it determines interval schemes based on the time trial result. Take the time from the trial and figure out the pace the athlete held. If it was a 10k run and it took 41 minutes, then the athlete held 6.61-minute miles (divide 41 minutes by 6.2 miles/10k). That's a pace of 6:37 per mile or 9.07 mph (60 minutes divided by 6.61). So, I know that the athlete was able to hold a pace 6:37/mile for 6.2 miles, but that will be a pretty easy pace to keep for a 200-meter or even a 1-mile interval. If I want to set up 200-meter repeats, I simply take the original per-mile pace and divide by 8 (since 200 meters goes into a mile eight times). That produces a fraction of .83, or about 50 seconds, for 200 meters. If the athlete is new to interval training, I give 20 percent of their per-mile pace for each 200-meter interval. In our example, this comes out to 39 seconds, which I then apply a bit of cushion to (3 seconds for 200 meters is a decent cushion). I usually set up 8 x 200-meter sets at a pace of 39 to 41 seconds each. What about for 400-meter intervals? Based on the athlete's fitness, I drop about 3 to 7 seconds with each increase. So I would have this athlete come in between 1:24 and 1:27 for 400 meters.

When starting out, I usually have a beginner athlete recover 3 minutes between each set, and start them off with about one mile of interval work. The greater the ability the more they can handle, and the less recovery time they need. But as you get closer to a race, you want to sharpen the recovery times to 1 minute or less; then, the week of a race, give them 2 to 3 minutes of recovery, with the same high work speeds they have been training at.

If the athlete tells me the intervals are too easy or is recovering in under a minute, I speed it up a second or two. If they are just holding on by the skin of their teeth, I wait it out a week or two to see if the next week gets easier. If they just can't get through it, I back off a couple seconds to where they can now make the intervals. This does not change until the intervals become easier and/or recovery gets quicker.

I usually program interval work two times a week in training, with one day of hill repeats that is also interval-based. For the days my athletes do intervals, I make sure they do them before their CrossFit workouts, and pay close attention to the performance in their intervals. If they are not making the set then you may need to slow the interval pace a tad until an adjustment is made. If the athlete continues not to make the intervals, then you



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probably need to pull back some either on the CrossFit training or the total amount of training they are doing. All of this is assuming the athlete is eating correctly to support their work. In two to three weeks you should see a change in performance. You will probably be able to make the intervals longer (I never go over 2.5 miles of interval training, even with elite-level athletes), or mix them up by steadily increasing duration and slowing the pace slightly.

As for CrossFit, they might see a dip in performance on WODs at first when you introduce the interval days, but it should come back up. Some days should be solely for CrossFit and no other sport-specific training. You eventually want to CrossFit someone four to six times a week, with sport-specific training four to five days a week. However, this doesn't mean two hours of training a day. It should be more like one hour, in most cases. If you are going to design your own CrossFit workouts rather than following the daily Workout of the Day (WOD) from the website, I suggest incorporating three or four of the classic benchmark workouts ("the girls") each month. These give the best assessment of overall fitness, and that's something you don't want to jeopardize.

CrossFit programming (as represented by the WODs posted on CrossFit.com) is ideally what I want my athletes doing every week. Unfortunately, a lot of them can't handle the prescription, so we scale workouts or create our own until they are strong enough follow the WODs as prescribed. I have found that the athletes who can CrossFit each week as prescribed on the main site and also follow my (relatively low-volume) sport-specific programming are the ones who make the most gains in their sports and also maintain the best overall health.

So what about revisiting the time trial? About three weeks after the first one, back off the training for a couple days before a time trial by scaling back on intensity and/or load, and just watch what happens. You don't necessarily need to use the same time trial as before, either. (Maybe go a 5k or 10 miles?) In my second week of training like this I PR'd my 5k-, 10k-, and 10-mile paces on the 10-mile run. You can't guarantee this result for anyone, of course, but the possibilities are there. Just the other day, one of our newer athletes who has been training this way ran a 50-mile run on Catalina Island in Southern California (this is the athlete I called "Rookie" when I presented his training plan in the January 2008 CrossFit Journal). He averaged 12:26 pace, finishing in 10 hours and 22 minutes. In his last race, a 50k (only 31 miles), his time was 6 hours and 36 minutes, or a pace of 12:41 per mile. Both were mountainous runs, and he went faster in the 50-miler.

Every other week or so I also like to throw in an easier run/ride/swim/row that is aerobic, sometimes in the week following a poor time trial. What is the reasoning behind this? Most athletes I deal with use heart rate monitors, and although they are poor indicators of intensity and measures of performance, I can use them to see how quickly an athlete's heart rate recovers after an event or interval, and, more to the point here, I can send an athlete out on a time trial that has a target heart rate attached to it (usually requiring them to stay at around 80 percent of calculated max heart rate). This sometimes gives me a faster performance then the unmonitored time trial. I've had athletes go out on runs or rides where they PR'd an aerobic time trial (according to what they thought their heart rate monitor was telling them), thinking they were going easier, only to find out they just put all the components of technique, pacing, and intensity together. This is a huge mental boost. And that boost is essentially is what we are looking for, because a happy athlete is an athlete who wants to train.

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