**Name of Article:** Building a Basic Foundation to Sprinting: Power Training and Analysis

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There are just a few meters to go and you're feeling really great and thinking about securing a win or some points for an upgrade, and you get ready to burst into a full sprint. But, you find yourself out of gas. Chances are if you had devoted a block of your training to sprinting, you would've managed that explosion late into the race.

Sprinting is often given low priority by cyclists who train by doing intervals. Now here's your chance: You can and will improve your sprinting abilities by using your powermeter and incorporating a variety of intervals and gym workouts.

This is the first of several series I'll be writing about sprinting for next several months. As a coach, I love the idea of breaking everything down into smaller blocks to build up towards a bigger picture. Here is what it will look like:

**Part 1** - Powermeter and how to use one for sprinting
**Part 2** - Technique
**Part 3** - Gym Workouts
**Part 4** - Specific Sprinting Intervals

Right now, we will focus on the importance of powermeter usage and CyclingPeaks software in order to monitor improvement over a period of time. For you as a cyclist and for your coach (whomever you select to coach you), it is critical to build up a foundation of charts utilizing your powermeter data in order to monitor progress over a period of time. A powermeter is nice when you see your new personal best. It's even better when you can adjust your training plan and workouts according to the data you are seeing thus justifying your powermeter purchase.

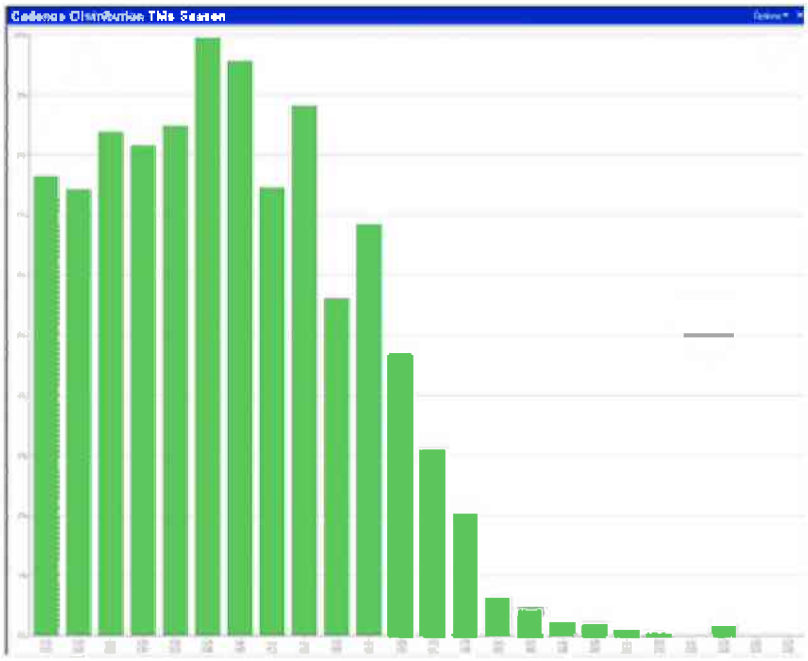
**Powermeter - Part 1**

I've always been a long time supporter of using powermeters for anything that could be decided in matter of inches. This clearly applies to all forms of track racing As well as road races and criteriums which end in a field sprint, can be applied as well of which there are quite a few.

During the training sessions, you don't want to do high intensity efforts only to realize your technique has been off or you're not strong in a specific area (i.e. jump) without using a powermeter. A powermeter allows you to make substantial improvements in sprinting in a short period of time by analyzing the data.

**Use your powermeter to:**

**1.Find your optimal cadence range while doing sprints**

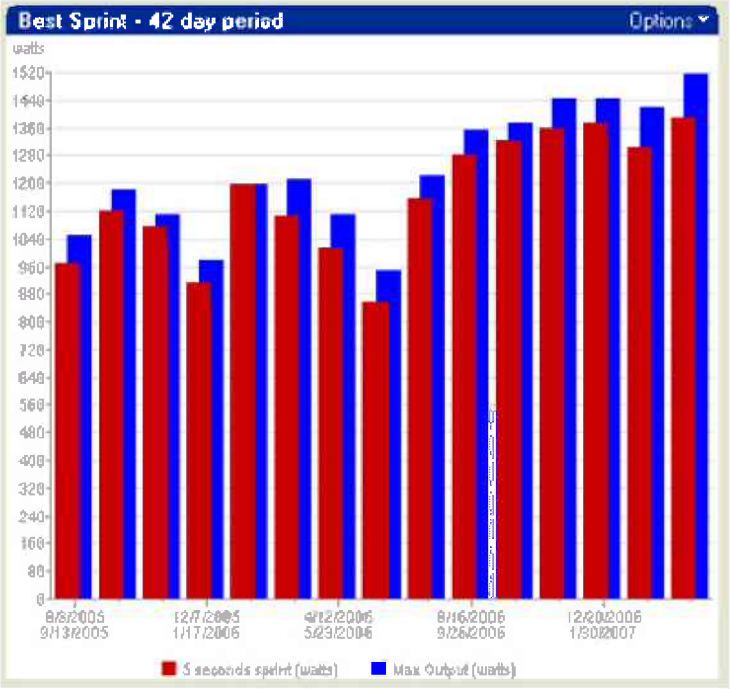



Create a chart finding your cadence between 80-200 RPM. You will start identifying the areas you start producing the most amount of power and the range will get smaller. The chart I like to use for myself is between 110 and 205.

Eventually you will be able to identify which range you seem to be the most comfortable in, this chart shows 135 to 145 cadence with the most amount of time spent in while sprinting. It drastically drops after about 155 rpm.

Note: It's important to label your Sprint Workouts as "SPRINTS" in the workout code field. Once you have accumulated several sprint workouts, you will be able to correctly identify the range of cadence for sprints only by using the Chalkboard after you use the search field to find workouts with workout code: SPRINTS only.

**2. Show your maximum output, and five-second output output for each 42-day period.**

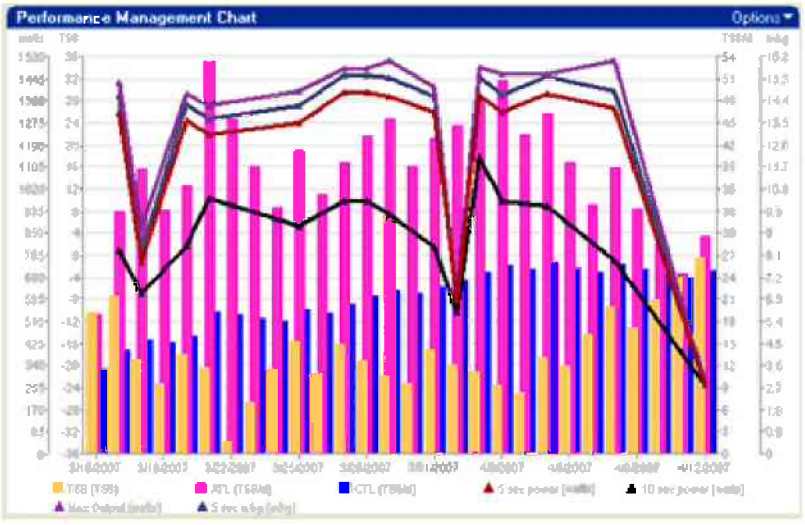



You can add more such as 15 seconds, 30 seconds and 1 minute as well into this chart to find out what type of a sprinter you are (explosive/short sprinter, or a long sprinter).

You can also modify the number of days (from 42 days to 7 days if you are doing sprint workouts on more frequent basis). This chart will also allow you to evaluate different gym workouts, techniques and sprinting intervals.

As in this chart, you can see that this cyclist's power went up between 8/16/2006 to 1/30/2007. That's when the gym workouts were incorporated in this cyclist's program for the first time. The results of the gym workouts (i.e. squats, deadlifts and more) can be reflected in an improvement in the maximum and 5 seconds output.

**3.Combine your Performance Manager chart with the Chart #2 to create a new chart.**



Use the chart #1 and combine it with the Performance Management Chart to monitor your TSB/ATL/CTL in relationship with the most important sprinting factors (Maximum output, 5 seconds and more). Using TSB to correctly identify your peak is the primary goal of this chart. However, for each individual sprinter, some questions still remain:

1. Do you recover quickly enough to peak for a race where sprinting ability is important?

2. Do you require a long resting period in order to peak effectively for a race?

All of those questions can be answered by using a Performance Management Chart to identify your TSB/CTL/ATL in order to peak for a race based on your previous data from races.

**4. Create a Mean Maximal chart showing your Sprint power curve**


This chart shows how much of time you would be able to spend at certain watts per kilogram. The reason why I am suggesting watts per kilogram is because you don't have to increase your sprinting power in order to have higher watts per kilogram. If you can drop some body fat %, you will be able to sprint more effectively as well.

If you have an explosive/short sprint, you will be able to see a drastic drop after several seconds of sprints. With that in mind, you have can continue to push up for a higher watts per kg and extend your sprint curve.

If you're a long sprint, extending the curve will allow you to determine when it's a good time to get away from the field if you don't have an explosive jump and continue that way to the finish line. This will also encourage you to work hard on the initial jump with specific workouts.

Getting yourself all ready with Powermeter and Cyclingpeaks software

When you've set up those charts, you'll be ready to move onto the Part 2 - Techniques which will be discussed next month on www.peakscoachinggroup.com.

In the meantime, ride hard and have fun!

*Robin is USAC certified coach, owner of Threshold Power, Inc. and a member of the Peaks Coaching Group. Check out his bio page to learn more about Robin and his ideas on coaching.*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