Training Stress Score

Many athletes training with power have probably heard the term Training Stress Score (TSS). What does it mean, how is it calculated, and perhaps most importantly, how can understanding TSS make you a better cyclist?

Training Stress Score is a number that quantifies the overall stress of a single workout. Trainingpeaks considers both intensity and duration when calculating TSS, so a 3 hour endurance ride could have the same stress stress score as a 90 minute intense training session. Ultimately, TSS (and nearly every other metric in Trainingpeaks) is anchored to the athletes' threshold power. **It is therefore critical to know an athletes threshold power before examining stress scores from certain workouts**. Having an incorrect value for your threshold power could lead to under or overtraining. Imagine two cyclist riding at 200 watts for one hour- If one has a threshold of 300 watts and the other has a threshold of 230 watts, the ride will be considerably more taxing for the athlete with the lower threshold, so he would have a higher Training Stress Score.

Riding for one hour at functional threshold power is equal to 100 TSS points. Therefore, if an athlete scores more than 100 TSS points in an hour their functional threshold power has increased. Keep in mind, one hour at threshold power is difficult, and most cyclist (the exception being a masochistic 40K Time Trial specialist) would shy away from such a challenge. Most well trained cyclist can recover within 24 hours from training bouts less than ~125 TSS.

What I find so powerful about TSS is that it assigns a very accurate and quantifiable value to each ride, which allows me to make sure the cumulative stress of the training program is progressing within a manageable range. Coaches can accurately measure the weekly, monthly, or even annual TSS of a cyclist, and make very reasonable projections about what kind of workload the athlete can maintain during the next training cycle, especially if the athlete is tapering for a key event. It also illustrates the importance of downloading and reviewing power files daily. Is the athlete tired because of training or because of something else? Was his cumulative TSS last week higher than in weeks past? Without downloading, none of these questions can be answered.

Next month we'll discuss Trainingpeaks' Performance Management Chart (including Chronic Training Load, Acute Training Load, and Training Stress Balance), how it relates to TSS, and how to incorporate it into your training.

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