GET FAST

Training for ultra-endurance mtb events

part 2

In the last Enduro magazine we explored the philosophy of training and the pros and cons of the different approaches. In this issue we will outline some specific workouts that can be used and try to justify the reasons for using them.

WORDS BY MARK FENNER
PHOTOS: SPORTOGRAF.DE

With our lives being so hectic nowadays there is an ever-increasing demand on our time. Training for ultra endurance events can become a juggling act. As I noted in the last issue, the LSD (long slow distance) approach can create an even greater stress on our lives when we have competing family and work commitments. Trying to complete 3 to 6 hours of riding a day is just not going to happen for the average person. When pressed for time we need to create training sessions that promote all the right physiological adaptations within the time constraints of our modern lives.

AEROBIC BASE DEVELOPMENT

Developing a good solid aerobic foundation for your training program is essential. It is generally considered that to develop this foundation, many hours must be done riding at lower intensities at or around 60 to 75% of your maximum heart rate (MHR). Research has shown, however, that greater physiological adaptations occur at or around 85 – 92% MHR over shorter training rides. If you have limited time, it is in this range where you should focus a large proportion of your training in structured aerobic intervals.

Below is a selection of some of the basic aerobic development sessions that can be used in the initial base/build phase of training (more on training phases next issue), I have also included some higher-end, aerobic development VO2 max sessions. Generally speaking most riders looking at these intensities would not consider them as base-building workouts as they are hard work, requiring focus and concentration to complete. They are, however, fundamental components of the 'less is more' workout routine. Structured correctly into a program, they can promote serious improvements in both performance and fitness.

As we will see, each workout is generally broken down into intervals of various durations. Each session has a standardised warm-up and blowout effort. This allows the body to overcome the initial freshness at the beginning of the session and also serves to prepare the body for the hard efforts to come. This is then followed by a couple of minutes easy pedalling before the session starts in earnest. Generally the higher the intensity of the interval being completed, the shorter the duration.

FOR EXAMPLE:

VO2 max sessions are generally between 3 to 8 minutes in duration and are at the limit of our aerobic energy system's capacity to produce Adenosine Tri-Phosphate (ATP) to fuel our muscle contractions. Threshold (FTP) intervals, however, can be up to 30 or 40 minutes long with the aim on increasing functional threshold power and the rider's sustainable power and speed. Each workout is also given a 'progression' and 'notes' section to allow for the gradual progressive overload principle to be applied to the training program.

SESSION 1 Endurance/Tempo

// Warm Up = 10 minutes @ 50 – 75% MHR

// Main Session = 100 minutes @ 65 – 75%MHR with high cadence 95 – 105rpm

// Cool Down = 10 minutes @ 75 – 50% MHR with high cadence 95 – 105 rpm

// Weekly Overload & Variation = Add 10 minutes to main session each week up to a total of 300 minutes

* Notes – Endurance/Tempo session try to keep below 80% MHR and work on maintaining a high cadence

SESSION 2 Threshold

// Warm Up = 8 mins gradually increase HR up to 80% MHR

// Blowout Effort = 2 mins @ 90% MHR (High RPM 100-130)

// Easy Effort = 5 mins @ 70% MHR

// Main Set = 5 mins @ 80% + 5 mins @ 85% + 5 mins @ 90% MHR x 2 Sets with 5 minute recovery between intervals

// Cool Down = 15 mins @ 70 – 50% MHR

// Weekly Overload & Variation = Add 1 minute to each interval each week. Bring total time up to 3 x 30 minutes

SESSION 3 Threshold/SST

// Warm Up = 8 mins gradually increase HR up to 80% MHR

// Blowout Effort = 2 mins @ 90% MHR (High RPM < 120)

// Easy Effort = 5 mins @ 70% MHR

// Main Set = 3 x 12 mins @ 80 - 85% MHR with 5 mins recovery between efforts

// Cool Down = 15 mins @ 70 – 50% MHR

// Weekly Overload & Variation = Add 1 minute to each interval each week up to a total of 3 x 20 minutes of SST. Every 2 minutes increase effort for 10 seconds to simulate a small pinch climb for example

SESSION 4 Threshold

// Warm Up = 8 mins gradually increase HR up to 80% MHR

// Blowout Effort = 2 mins @ 90% MHR (High RPM < 120)

// Easy Effort = 5 mins @ 70% MHR

// Main Set = 2 x 20 mins @ 85 - 90% MHR with 5 minutes recovery between efforts

// Cool Down = 15 mins @ 70 – 50% MHR

// Weekly Overload & Variation = each interval can be completed at a different cadence 60 – 80 – 100 rpm for variation

SESSION 5 Recovery

// Warm Up - 10 minutes @ 50 – 65% MHR

// Main Session - 60 minutes @ 50 – 65%MHR with high cadence 95 – 105rpm

// Cool Down - 10 minutes @ 65 – 50% MHR with high cadence 95 – 105 rpm

* Notes - Super easy session try to keep below 70% MHR and maintain a high cadence. This session is for recovery not training GO VERY EASY

SESSION 6 VO2

// Warm Up = 8 mins gradually increase HR up to 80% MHR

// Blowout Effort = 2 mins @ 90% MHR (High RPM < 120)

// Easy Effort = 5 mins @ 70% MHR

// Main Set = 5 x 3 mins @ 90 - 95% MHR with 3 minute recovery between efforts + 5 x 2 mins @ 90 - 95% MHR with 2 minute recovery. These should be maximal efforts and should take around 1 minute to raise HR to the desired levels

// Cool Down = 15 mins @ 70 – 50% MHR

SESSION 7 VO2

// Warm Up = 8 mins gradually increase HR up to 80% MHR

// Blowout Effort = 2 mins @ 90% MHR (High RPM < 120)

// Easy Effort = 5 mins @ 70% MHR

// Main Session

// Interval 1 = 5 minutes at 85% MHR

// Interval 2 = 5.5 minutes at 88% MHR

// Interval 3 = 6 minutes at 90% MHR

// Interval 4 = 6.5 minutes at 92% MHR

// Interval 5 =7 minutes at 95% MHR

// 3 minutes recovery between each Interval.

//Cool Down = 15 mins @ 70 – 50% MHR

The Rationale for the Higher Intensity Training Program (HIT)

If you can remember back to the 'principles of training' article from the last issue you will remember that one of the basic principles was specificity of exercise. How then does this HIT program apply to 8, 12 or 24 hour endurance racing? The basic philosophy is that if we can raise our top-end aerobic power or power-at-threshold then it stands to reason that at any given percentage of this we will be going faster. This increase in power at threshold will be due to physiological adaptations. These include increased mitochondrial density, increased oxidative enzymes and increased capillarisation in the working muscles (or peripherally) and to the stroke volume of the heart, along with improvements in respiratory muscles.

Again science has shown that the greatest rate of adaptation to the aerobic system occurs at 85 – 92% MHR, meaning that this type of training will develop your aerobic system faster and more time efficiently than the LSD approach.

These HIT sessions can be completed during the week before or after work in most cases. The longer rides can be structured for the weekend when generally there is more time available.

Putting it all together

The burning question is how do we put it all together? How many Threshold sessions and VO2 max sessions should I complete in any given week? When should I structure in a recovery week? What about recovery days, how many should I have in any given week? What happens if I have to miss some sessions because of work commitments? What happens if I feel too tired to complete a session? What if I get ill, what should I do?

In the next edition of Enduro magazine we are going to put it all together and answer all of the questions above. Structuring and putting a training program together should not be rocket science. However, it does require a solid structure based on sound principles and practices. It is my intention that by the 3rd article in this series I will have provided enough tools and underpinning knowledge to allow you to do just that - plan, structure and write a training program to enable you to increase performance as efficiently as possible in whatever ultra endurance event you decide to compete in. Until then have fun out on the trails!

Cheers
Mark Fenner
www.ftptraining .com

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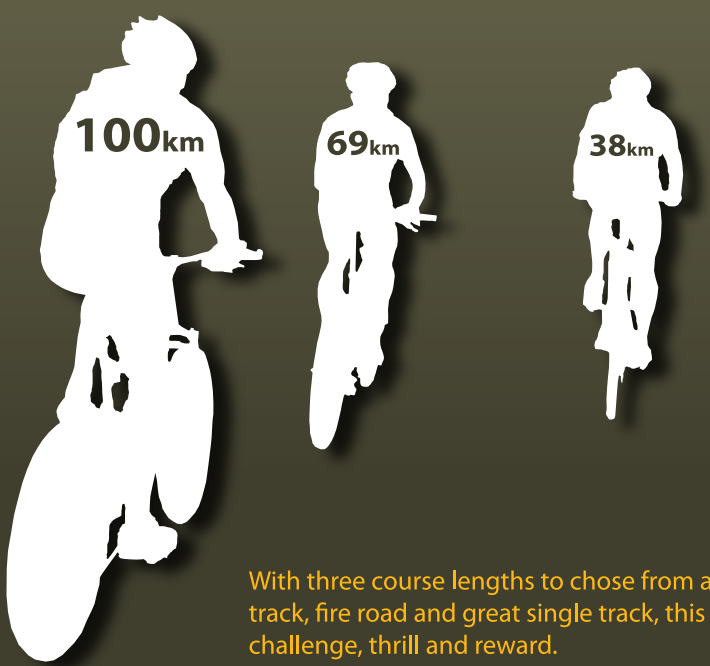

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