

HUNTER ALLEN'S 8 WEEK POWER TRAINING PLAN





Hunter Allen is internationally known as one of the top experts in power meter coaching. He founded Peaks Coaching Group (PCG) in 1996 to focus on developing the artful science of efficient power training for which PCG is still known today.

As a former professional cyclist, power coach, co-author of the book *Training and Racing with a Power Meter*, and co-developer of Training Peaks WKO software, Hunter has been deeply involved in all aspects of data-based training, from user to application builder to educator. He has now coached over 400 athletes, and learns something new from each one.

Greetings!

Hi, I am Hunter Allen and your coach for the next eight weeks. I built this plan using all of the same power training principles and coaching philosophies that I use with my personal clients. I have spent years coaching riders at every level and have worked with thousands of clients in over 15 countries. I have developed software (TrainingPeaks WKO+), written books on training with power, and taught over 500 coaches the secrets of power training and data analysis. Along the way, I have learned many things about success in cycling. I have learned that you can produce more watts by blending science, data analysis, and a power meter. Combining those secrets with my own personal coaching philosophies can raise your wattage output even more. Follow this guide with a clear conviction, continual focus, and dogged determination, and I know you will become faster, stronger, and more powerful.

Prepare to succeed!

Hunter Allen

Introduction

Welcome to your training plan designed to improve your functional threshold power, enhance your endurance, and prepare you for those weekend races, group rides, and even gran fondos. This plan will be challenging yet realistic. It is built to give you just the right amount of work when you can handle it, along with rest so that you can adapt and improve. Make sure you have a solid foundation of training before you embark on this plan. Rest weeks come every fourth week, but feel free to take a rest week sooner if you need to. Keep in mind that it is ideal to complete the workouts in the order planned, but that it is OK to move them around.

SPECIAL THANKS to **Dr. Andy Coggan** for generously allowing us to incorporate some of his articles and tables.



GETTING STARTED WITH TRAINING WITH POWER

First and foremost, you need to start some formal testing with it. The very first test you should do is a test in which you just start to find out how the thing works and establish your 'fitness baseline'.

Three easy steps:

1. Test FUNCTIONAL THRESHOLD POWER (FTP)
2. Establish Training Zones
3. Follow the included plan

STEP 1: TEST FUNCTIONAL THRESHOLD POWER OR THRESHOLD HEART RATE

POWER USER:

So, how do you go about determining your functional threshold power (FTP)? One way is with laboratory testing and invasive blood sampling, but few people have access to such testing on a regular basis. In addition, power at lactate threshold determined in this manner is often significantly below what athletes and coaches tend to think of as a "threshold". A more convenient and possibly more accurate way of determining your FTP is to simply rely on data collected using your power meter in the field. There are a number of different ways of doing so, each of which has its advantages and disadvantages, but all of which provide very similar estimates of threshold power. FTP is your best one-hour average power, which is difficult to test directly on a regular basis. One hour is a long time (when you are on the limit), and in many places it might be difficult to find an uninterrupted section of road that's long enough. With this in mind, the test that I give my athletes is the 20-minute test, which is a great proxy for the hour test, if you subtract 5% from your 20-minute average. This number will be close to your FTP for an hour, and a 20-minute test is infinitely more doable than an hour test! If you already have a good amount of power data, you should be able to find your FTP in the data. Below are two other methods to find your FTP. Use whichever is best for you right now.

1. Monthly 20-Minute Test

The monthly 20-minute test does not have to be done monthly as the name implies. However, you should definitely test every six weeks at minimum. The test is a great workout in and of itself, so don't think that you are losing anything by completing it.

Begin with a 20-minute warm-up, and then do three fast pedaling efforts of 100rpm for one minute each and with one minute between each effort. These are to help open up the legs and finish warming up the muscles. After the fast pedaling, ride for three minutes easy at under 150 watts. The next effort is a test of your anaerobic capacity: Do (2) x 1 minute efforts with five minutes between each. Start out of the saddle and accelerate hard up to speed, really pushing until you explode at the end of the minute. This is a great test to see what your peak one-minute power is, so that when you repeat this later in the plan, you'll have a reference point. It's also meant to pre-fatigue your anaerobic system so that your average power at the end of your 20-minute test will be closer to your one-hour power.

Ride easy for 10 minutes or till fully recovered.

Finally, it's time for a 20-minute time trial! Again, remember that your goal is to produce the best average power you can for the entire 20 minutes, so don't start out too hard and blow up in the first five minutes. It's important that you really give it your all. Focus and push hard! If possible, do this on a climb or on a flat road. If you have a rolling road, it's hard to get a good average because your power tends to drop on the down hills. It might be best to do the test indoors if you live in a highly populated area. Just make sure you are always being consistent with your test, and you use the same location for the next one.

Cool down for 15-30 minutes of easy pedaling

2. Review Past Power Data

You can often get a good estimate of your functional threshold power by simply uploading all of your training data into TrainingPeaks WKO+ and then examining the power frequency distribution on your "Athlete Home Page". Because exercising above threshold power is quite strenuous and there is a limit to how long you can do so, there will often be a rather noticeable drop-off above this point in this graph. (This same approach works even better for identifying an individual's spontaneously-achieved maximal heart rate, thus reducing or even eliminating the need for formal testing!) Of course, this method works best if the time period being examined includes some high-intensity training and/or racing, which serves to clarify the distinction between sub-threshold and supra-threshold efforts. Also, sometimes the drop-off in time spent above threshold power is more apparent when the width of each power "bin" is reduced from the default of 20W to a smaller value like 5W or 10W. TrainingPeaks WKO+ has been specifically designed with customizable graphs to make this analysis possible.

3. Review Normalized Power Data from a Race

Perhaps an even more precise way of determining your threshold power, yet one which still doesn't require any formal testing, is to examine your normalized power from hard mass-start races that are approximately an hour long. Because TrainingPeaks WKO+ automatically calculates normalized power even if you haven't yet entered a value for your threshold power, using the program to analyze several race files may be the quickest way to get a good estimate of your threshold power.

4. Full FTP Testing

By definition, the best measure of performance is performance itself. Therefore, the most direct way to estimate of your sustainable (threshold) power is to simply do a one-hour time trial. By examining the horizontal graph of the data from such a TT in TrainingPeaks WKO+ (perhaps with a little smoothing applied), you will be able to quickly tell whether your effort was well-paced, or if perhaps you started out too hard and then later faded, resulting in an average power somewhat lower than your true threshold power. Entering your local 40k time trial is a great way to get a clean number (make sure you ride the event on your road bike, TT Bikes can reduce power output).

Since one goal of any training program is to increase power at threshold, you should periodically reassess the FTP value you have entered into TrainingPeaks WKO+ to be certain it is still accurate. (In particular, an intensity factor of more than 1.05 - meaning that normalized power is more than 5% greater than threshold power - during a one-hour mass-start race is often evidence that threshold power is greater than the value entered into the program.) How often threshold power will change significantly depends in part on an individual's training history and habits - for example, someone who is just beginning or returning to cycling may see large and rapid changes in threshold power, whereas an experienced rider who has been training for many years and/or maintains a high level of conditioning year-round will probably experience much less variation. In general, however, it is sufficient to assess threshold power a few times per year (e.g., near the start of training as a baseline, partway through the pre-competition period to track improvement, and during the season to determine when peak fitness is achieved).

STEP 2: ESTABLISH TRAINING ZONES

With more and more cyclists using power meters, there is more demand for power-based training programs akin to those used with heart rate monitors. To help meet this demand, a series of power-based training levels, or zones, are built directly into TrainingPeaks WKO+ software. These training levels, described below, were developed using principles of exercise physiology and extensive lab and field testing.

Basis for system/number of levels:

Power at lactate threshold (LT) is the most important physiological determinant of endurance cycling performance, because it integrates VO2 max, the percentage of VO2 max that can be sustained for a given duration, and cycling efficiency. Therefore, it is ideal to define training zones according to an athlete's threshold power. Seven different levels represent the full range of physiological responses to power exertion and adequately describe the different types of training required for competitive cycling. The table below lists the primary physiological adaptations expected to result from training at each level, although these will obviously be influenced by initial fitness, the duration of each workout, and time off between each interval.

POWER TRAINING LEVELS FOR CYCLISTS

LEVEL	NAME	% OF THRESHOLD POWER	% OF THRESHOLD HEART RATE	RPE	TIME
1	Active Recovery	≤ 55%	≤ 68%	< 2	70 – 80 years
2	Endurance	56 – 75%	69 – 83%	2 – 3	2.5 hours to 14 days
3	Tempo	76 – 90%	84 – 94%	3 – 4	2.5 – 8 hours
4	Lactate Threshold	91 – 105%	95 – 105%	4 – 5	10 – 60 minutes
5	VO ₂ Max	120%	> 106%	6 – 7	3 – 8 minutes
6	Anaerobic Capacity	121 – 150%	N/A	> 7	30 seconds to 2 minutes
7	Neuromuscular Power	N/A	N/A	MAXIMAL	5 – 15 seconds

POWER TRAINING LEVEL FOR TRIATHLETES

ENDURANCE CORNER	RER	FAT	CHO	LACTATE	HEART RATE	RPE	RACE DISTANCE	FRIEL	DANIELS	MAFFETONE	LYDIARD	% THRESHOLD POWER (COGGAN)
												< 55%
Easy	0.80	67%	33%	~ 0.7 - 1.5 mmol/L	65 - 72%	10	Ironman (Novice)	1	Easy		1/4 Effort	
Steady							Ironman (Intermediate)					56 - 75%
				~ 1.0 - 2.5 mmol/L	72 - 80%		Ironman (Advanced)	2				
Moderately Hard	0.85	50%	50%	~ 2.4 mmol/L	80 - 85%	13	Ironman (Elite) Half Ironman (Intermediate)	3	Marathon Pace	Max Aerobic	1/2 Effort	76 - 90%
Threshold	1.00	0%	100%	~ 3.5 mmol/L	85 - 92%	15	Half Ironman (Advanced)	4	Tempo		3/4 Effort	91 - 100%
							Olympic	5a				100 - 105%
VO2 Max	1.1			~ 5.15 mmol/L	92 - 100%	17	5K Run	5b	Intervals		Repetitions	106 - 120%
				~ 10 - 20 mmol/L		19 20	800m Run 400m Run	5c	Reps		Sprint Training	121 - 150%

Table 1 - Power Based Training Levels (Coggan Power Zones)

Level	Name	Avg. Power	Avg. HR	Perceived Exertion	Description
1	Active Recovery	<55%	<68	<2	"Easy spinning" or "light pedal pressure", i.e., very low level exercise, too low in and of itself to induce significant physiological adaptations. Minimal sensation of leg effort/fatigue. Requires no concentration to maintain pace, and continuous conversation possible. Typically used for active recovery after strenuous training days (or races), between interval efforts, or for socializing.
2	Endurance	56-75%	69-83%	2-3	"All day" pace, or classic long slow distance (LSD) training. Sensation of leg effort/fatigue generally low, but may rise periodically to higher levels (e.g., when climbing). Concentration generally required to maintain effort only at highest end of range and/or during longer training sessions. Breathing is more regular than at level 1, but continuous conversation still possible. Frequent (daily) training sessions of moderate duration (e.g., 2 h) at level 2 possible (provided dietary carbohydrate intake is adequate), but complete recovery from very long workouts may take more than 24 hrs.
3	Tempo	76-90%	84-94%	3-4	Typical intensity of fartlek workout, 'spirited' group ride, or briskly moving pacerline. More frequent/greater sensation of leg effort/fatigue than at level 2. Requires concentration to maintain alone, especially at upper end of range, to prevent effort from falling back to level 2. Breathing deeper and more rhythmic than level 2, such that any conversation must be somewhat halting, but not as difficult as at level 4. Recovery from level 3 training sessions more difficult than after level 2 workouts, but consecutive days of level 3 training still possible if duration is not excessive and dietary carbohydrate intake is adequate.
4	Lactate Threshold	91-105%	95-105%(may not be achieved during initial phases of effort(s))	4-5	Just below to just above TT effort, taking into account duration, current fitness, environmental conditions, etc. Essentially continuous sensation of moderate or even greater leg effort/fatigue. Continuous conversation difficult at best, due to depth/frequency of breathing. Effort sufficiently high that sustained exercise at this level is mentally very taxing - therefore typically performed in training as multiple 'repeats', 'modules', or 'blocks' of 10-30 min duration. Consecutive days of training at level 4 possible, but such workouts generally only performed when sufficiently rested/recovered from prior training so as to be able to maintain intensity.
5	VO ₂ Max	106-120%	>106%	6-7	Typical intensity of longer (3-8 min) intervals intended to increase VO ₂ max. Strong to severe sensations of leg effort/fatigue, such that completion of more than 30-40 min total training time is difficult at best. Conversation not possible due to often 'ragged' breathing. Should generally be attempted only when adequately recovered from prior training - consecutive days of level 5 work not necessarily desirable even if possible.
6	Anaerobic Capacity	>121%	N/A	>7	Short (30 s to 3 min), high intensity intervals designed to increase anaerobic capacity. Heart rate generally not useful as guide to intensity due to non-steady-state nature of effort. Severe sensation of leg effort/fatigue, and conversation impossible. Consecutive days of extended level 6 training usually not attempted.
7	Neuromuscular Power	N/A	N/A	(Maximal)	Very short, very high intensity efforts (e.g., jumps, standing starts, short sprints) that generally place greater stress on musculoskeletal rather than metabolic systems. Power useful as guide, but only in reference to prior similar efforts, not TT pace.

Table 2 - Expected physiological/performance adaptations resulting from training at levels 1-7:

	1	2	3	4	5	6	7
Increased plasma volume		✓	✓ ✓	✓ ✓ ✓	✓ ✓ ✓ ✓	✓	
Increased muscle mitochondrial enzymes		✓ ✓	✓ ✓ ✓	✓ ✓ ✓ ✓	✓ ✓	✓	
Increased lactate threshold		✓ ✓	✓ ✓ ✓	✓ ✓ ✓ ✓	✓ ✓	✓	
Increased muscle glycogen storage		✓ ✓	✓ ✓ ✓ ✓	✓ ✓ ✓	✓ ✓	✓	
Hypertrophy of slow twitch muscle fibers		✓	✓ ✓	✓ ✓	✓ ✓ ✓	✓	
Increased muscle capillarization		✓	✓ ✓	✓ ✓	✓ ✓ ✓	✓	
Interconversion of fast twitch muscle fibers (type IIb -> type IIa)		✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓	✓	
Increased stroke volume/maximal cardiac output		✓	✓ ✓	✓ ✓ ✓	✓ ✓ ✓ ✓	✓	
Increased VO2 Max		✓	✓ ✓	✓ ✓ ✓	✓ ✓ ✓ ✓	✓	
Increased muscle high energy phosphate (ATP/PCr) Stores						✓	✓ ✓
Increased anaerobic capacity ("lactate tolerance")					✓	✓ ✓ ✓	✓
Hypertrophy of fast twitch fibers						✓	✓ ✓
Increased neuromuscular power						✓	✓ ✓ ✓

8 WEEK FTP BUILDER TRAINING PLAN

BY HUNTER ALLEN

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
<p>Custom : WELCOME!</p> <p>Workout Description: It's your first day of your new training plan!</p> <p>—</p> <p>Congratulations on taking a positive step towards improving your cycling! This plan will really make a difference but YOU have to do the work! Trust in my plan for you and I know you will make significant improvements in just 8 weeks.</p> <p>—</p> <p>Each workout has been designed to build on the previous ones, so all workouts are important.</p> <p>—</p> <p>Make sure that you have read the attached document (click on the paperclip in the top right hand corner). It's important that you understand why you are doing the workout as well as just getting out there and doing it! The document also contains testing protocol.</p> <p>—</p> <p>Also be sure to check out the instructional video that explains how to set your training zones within TrainingPeaks. The video can be found here: http://www.youtube.com/watch?v=b8WYmYUjcn8&feature=youtu.be</p> <p>—</p> <p>Make it a great week! You are on the right track!</p> <p>Bike : WEEK 1 GOALS:</p> <p>Workout Description: Now it's time for you to set some goals! 1-3 goals a week. Write them down!</p>	<p>Bike : TEMPO w/NP BURSTS</p> <p>Duration (P): 1:30:00</p> <p>Workout Description: WU: 10-15 minutes working into Endurance (Power Z2, HR Z2, RPE 2-3) with 3 x 1-minute fast pedals to wake up legs.</p> <p>—</p> <p>MS1: Start out with a 15-minute effort with watts at Endurance (Power Z2, HR Z2, RPE 2-3), smooth and steady. Then pick up the intensity and complete 1 x 60-minute Tempo (Power Z3, HR Z3, RPE 3-4). Do 15 bursts within this hour to watts at Neuromuscular Power (MAXIMAL) for 30 seconds.</p> <p>—</p> <p>CD: 10-15 minutes with watts at Active Recovery (Power Z1, HR Z1, RPE <2).</p> <p>Pre Activity Comments: Target the low end of your TEMPO zone for MS1.</p> <p>—</p> <p>You are working on your ability to change speeds quickly and</p>	<p>Bike : ENDURANCE Ride</p> <p>Duration (P): 1:15:00</p> <p>Workout Description: WU: 10-15 minutes working from Active Recovery (Power Z1, HR Z1, RPE <2) training zone into Endurance (Power Z2, HR Z2, RPE 2-3) with 2-3 x 1 minute fast pedals to wake up legs.</p> <p>—</p> <p>MS1: Endurance ride. Set a pace at Endurance (Power Z2, HR Z2, RPE 2-3) and hold this pace for the prescribed workout time. Focus on riding smooth and staying relaxed. Vary your cadence. Vary terrain.</p> <p>—</p> <p>CD: 5-15 minutes of easy pedaling in Active Recovery (Power Z1, HR Z1, RPE <2).</p>	<p>Day Off : REST DAY Off</p> <p>Workout Description: Today is about resting off the bike and recovering. Great day to relax: take a nap, casual walk or just plain nothing. Recover both physically and mentally.</p>	<p>Bike : ACTIVE RECOVERY - Easy Spin</p> <p>Duration (P): 1:00:00</p> <p>Workout Description: MS: Today is an Active Recovery day targeting ONLY Active Recovery (Power Z1, HR Z1, RPE <2). Focus on relaxing on the bike and enjoying the ride. If you have to climb some hills try to use easier gear and spin easy. Today is about recovery, so go for easy spin!</p> <p>Pre Activity Comments: Keep it shorter, so you can make it a great weekend!</p>	<p>Bike : ENDURANCE Ride with TEMPO</p> <p>Duration (P): 2:30:00</p> <p>Workout Description: WU: 10 minutes working into your Endurance (Power Z2, HR Z2, RPE 2-3). Then complete 3 sets of 1-minute fast pedals with a 1-minute rest in between to open up legs.</p> <p>—</p> <p>MS1: We're building endurance today! Once warmed up, ride in your Endurance (Power Z2, HR Z2, RPE 2-3) over flat to rolling terrain. Focus on staying relaxed on the bike and spinning circles while keeping your cadence between 90 and 100. During the ride, complete one 30-minute Tempo effort (Power Z3, HR Z3, RPE 3-4) using a gear that results in a cadence of 75-85. Complete the TEMPO effort as close to the end of the ride as possible while still allowing ten minutes for cool-down.</p> <p>—</p> <p>CD: 5-15 minutes of easy pedaling in Active Recovery (Power Z1, HR Z1, RPE <2).</p>	<p>Bike : ENDURANCE Ride</p> <p>Duration (P): 2:00:00</p> <p>Workout Description: WU: 10-15 minutes working from Active Recovery (Power Z1, HR Z1, RPE <2) training zone into Endurance (Power Z2, HR Z2, RPE 2-3) with 2-3 x 1 minute fast pedals to wake up legs.</p> <p>—</p> <p>MS1: Endurance ride. Set a pace at Endurance (Power Z2, HR Z2, RPE 2-3) and hold this pace for the prescribed workout time. Focus on riding smooth and staying relaxed. Vary your cadence. Vary terrain.</p> <p>—</p> <p>CD: 5-15 minutes of easy pedaling in Active Recovery (Power Z1, HR Z1, RPE <2).</p> <p>Pre Activity Comments: This should be an easy endurance ride! A touch easier than yesterday</p>

<p>Remember – these are to keep you feeling focused. Make sure you put some thought into what you want to achieve this week.</p> <p>Bike : ACTIVE RECOVERY - Easy Spin Duration (P): 1:30:00 Workout Description: MS: Today is an Active Recovery day targeting ONLY Active Recovery (Power Z1, Heart Rate Z1, RPE <2). Focus on relaxing on the bike and enjoying the ride. If you have to climb some hills try to use easier gear and spin easy. Today is about recovery, so go for easy spin!</p> <p>Other : INSTRUCTION KEY - Setting FTP In TrainingPeaks Workout Description: IMPORTANT: Watch the attached video on how to set your FTP in TrainingPeaks as this will allow you to continually update your training zones.</p> <p>Follow this link for the video: http://www.youtube.com/watch?v=b8WYmYUjcn8&feature=youtu.be</p>	<p>accelerate quickly as well.</p>				<p>Pre Activity Comments: The goal today is to extend your mileage a bit and build your 'engine'. You need to improve your aerobic capacity and getting in some solid endurance/tempo miles will do that. Drink before you are thirsty, Eat before you are hungry.</p>
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<p>Bike : WEEK 2 GOALS: Workout Description: Motivation can be hard to find but writing down your goals will help keep you going.</p> <p>Don't limit yourself! Make your goals something you have to work for and will feel proud of achieving.</p> <p>Day Off : REST DAY Off Workout Description: Enjoy a day of nothing! No bike, no training, no worries! Just relax and have fun!</p>	<p>Bike : CLASSIC FTP INTERVALS 2 x 10 Min Duration (P): 1:30:00 Workout Description: WU: 15-20 minutes working into Endurance (Power Z2, HR Z2, RPE 2-3) During this warm-up, complete 1 x 5 Minute Effort at (or just below) FTP zone (Power Z4, HR Z4, RPE 4-5), then spin for 5 minutes easy before starting MS1, MS1: FTP Builder Intervals. Complete 2 x 10-minute FTP Intervals</p>	<p>Bike : TEMPO w/NP BURSTS Duration (P): 1:45:00 Workout Description: WU: 10-15 minutes working into Endurance (Power Z2, HR Z2, RPE 2-3) with 3 x 1-minute fast pedals to wake up legs. MS1: Start out with a 5-minute effort with watts at Endurance (Power Z2, HR Z2, RPE 2-3), smooth and steady. Then pick up the intensity and complete 1 x 60-minute</p>	<p>Bike : ACTIVE RECOVERY - Easy Spin Duration (P): 1:15:00 Workout Description: MS: Today is an Active Recovery day targeting ONLY Active Recovery (Power Z1, HR Z1, RPE <2). Focus on relaxing on the bike and enjoying the ride. If you have to climb some hills try to use easier gear and spin easy. Today is about recovery, so go for easy spin!</p>	<p>Bike : BIG GEAR NP EFFORTS Duration (P): 1:30:00 Workout Description: WU: 15 minutes working into Endurance (Power Z2, HR Z2, RPE 2-3) with 3 x 1-minute fast pedals to wake up legs. MS1: Time to get your legs ready for the big gear efforts. Complete 5 minutes at FTP (Power Z4, HR Z4, RPE 4-5) and then complete 5 minutes at Endurance (Power Z2, HR Z2, RPE 2-3). You</p>	<p>Bike : ENDURANCE Ride with TEMPO Duration (P): 3:00:00 Workout Description: WU: 10 minutes working into your Endurance (Power Z2, HR Z2, RPE 2-3). Then complete 3 sets of 1-minute fast pedals with a 1-minute rest in between to open up legs. MS1: We're building endurance today! Once warmed up, ride in your Endurance (Power Z2, HR Z2, RPE 2-3) over flat</p>	<p>Bike : ENDURANCE Ride Duration (P): 1:45:00 Workout Description: WU: 10-15 minutes working from Active Recovery (Power Z1, HR Z1, RPE <2) training zone into Endurance (Power Z2, HR Z2, RPE 2-3) with 2-3 x 1 minute fast pedals to wake up legs. MS1: Endurance ride. Set a pace at Endurance (Power Z2, HR Z2, RPE 2-3) and hold this pace</p>
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	<p>in your FTP zone (Power Z4, HR Z4, RPE 4-5), with 5-10 minutes of rest between the intervals. Ride all other times at Endurance (Power Z2, HR Z2, RPE 2-3). Terrain: Flat to rolling (or steady, low-grade climb if available). Cadence: 85-105.</p> <p>CD: 10 minutes of easy spinning in Active Recovery (Power Z1, HR Z1, RPE <2).</p> <p>Pre Activity Comments: Remember: You'll want to start out too fast on these intervals. Don't do it! Allow the first minute to be a 'build up'</p>	<p>Tempo (Power Z3, HR Z3, RPE 3-4). Do 15 bursts within this hour to watts at Neuromuscular Power (MAXIMAL) for 20 seconds. Space the NP bursts 2-4 minutes apart throughout the 60-minute Tempo interval.</p> <p>CD: 10-15 minutes with watts at Active Recovery (Power Z1, HR Z1, RPE <2).</p> <p>Pre Activity Comments: A "BURST" is an out of the saddle effort trying to reach at least 180% of your FTP for the 10 seconds. Make sure cadence stays high - over 100rpm. No more than 1-2 gear changes if any at all.</p>		<p>are now ready for MS2.</p> <p>MS2: For the next 60 minutes you are going to do a 20 second effort at Neuromuscular Power (MAX) every 5 minutes. From a standing stop or rolling less than 2mph, start the Neuromuscular Power effort in the 53:13 or 12, whichever is your biggest gear. Stay seated and pedal as hard as you can! The goal is to develop muscle strength from your core. Contract your core abdominal muscles just before this effort and then see if you can bring that force into your legs and push the big gear. In between your Neuromuscular Power efforts, ride at Endurance (Power Z2, HR Z2, RPE 2-3) with a self-selected cadence.</p> <p>CD: 10 minutes with watts at Active Recovery (Power Z1, HR Z1, RPE <2).</p>	<p>to rolling terrain. Focus on staying relaxed on the bike and spinning circles while keeping your cadence between 90 and 100. During the ride, complete one 35-minute Tempo effort (Power Z3, HR Z3, RPE 3-4) using a gear that results in a cadence of 75-85. Complete the TEMPO effort as close to the end of the ride as possible while still allowing ten minutes for cool-down.</p> <p>CD: 5-15 minutes of easy pedaling in Active Recovery (Power Z1, HR Z1, RPE <2).</p> <p>Pre Activity Comments: Make sure to work on smooth pedaling today! Pretend that you are scraping the mud off the bottom of your shoes as you pull through the bottom of the pedal stroke. Drive your knee towards the handlebar when you go over the top of the stroke.</p>	<p>for the prescribed workout time. Focus on riding smooth and staying relaxed. Vary your cadence. Vary terrain.</p> <p>CD: 5-15 minutes of easy pedaling in Active Recovery (Power Z1, HR Z1, RPE <2).</p> <p>Pre Activity Comments: Have fun today and enjoy the sights. Just getting in the time.</p>
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<p>Bike : WEEK 3 GOALS: Workout Description: Stay focused and hungry!</p> <p>Keep thinking about what you want to achieve week to week.</p> <p>Day Off : REST DAY Off Workout Description: Today is about resting off the bike and recovering. Great day to relax: take a nap, casual walk or just plain nothing. Recover both physically and</p>	<p>Bike : ACTIVE RECOVERY - Easy Spin Duration (P): 1:15:00 Workout Description: MS: Today is an Active Recovery day targeting ONLY Active Recovery (Power Z1, HR Z1, RPE <2). Focus on relaxing on the bike and enjoying the ride. If you have to climb some hills try to use easier gear and spin easy. Today is about recovery, so go for easy spin!</p>	<p>Bike : CLASSIC FTP INTERVALS 2 x 10 Min Duration (P): 1:45:00 Workout Description: WU: 15-12 minutes working into Endurance (Power Z2, HR Z2, RPE 2-3) During this warm-up, complete 1 x 5 Minute Effort at (or just below) FTP zone (Power Z4, HR Z4, RPE 4-5), then spin for 5 minutes easy before starting MS1, MS1: FTP Builder</p>	<p>Bike : TEMPO w/ FTP Duration (P): 1:45:00 Workout Description: WU: 10-15 minutes working into Endurance (Power Z2, HR Z2, RPE 2-3), with 3 x 1-minute fast pedals to wake up legs. MS1: Tempo intervals help build aerobic fitness and muscular endurance. Complete 1 x 45-minute Tempo effort (Power Z3, HR Z3, RPE 3-4).</p>	<p>Bike : ACTIVE RECOVERY - Easy Spin Duration (P): 1:15:00 Workout Description: MS: Today is an Active Recovery day targeting ONLY Active Recovery (Power Z1, HR Z1, RPE <2). Focus on relaxing on the bike and enjoying the ride. If you have to climb some hills try to use easier gear and spin easy. Today is about recovery, so go for easy spin!</p>	<p>Bike : ENDURANCE with BURSTS Duration (P): 3:00:00 Workout Description: WU: 10-15 minutes working from Active Recovery (Power Z1, HR Z1, RPE <2) training zone into Endurance (Power Z2, HR Z2, RPE 2-3) with 2-3 x 1 minute Fast Pedals to wake up legs. MS1: Endurance ride. Set a pace at Endurance</p>	<p>Bike : ENDURANCE Ride Duration (P): 2:30:00 Workout Description: WU: 10-15 minutes working from Active Recovery (Power Z1, HR Z1, RPE <2) training zone into Endurance (Power Z2, HR Z2, RPE 2-3) with 2-3 x 1 minute fast pedals to wake up legs. MS1: Endurance ride. Set a pace at Endurance</p>
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mentally.		<p>Intervals. Complete 2 x 10-minute FTP Intervals in your FTP zone (Power Z4, HR Z4, RPE 4-5), with 5-10 minutes of rest between each interval. Ride all other times at Endurance (Power Z2, HR Z2, RPE 2-3). Terrain: Flat to rolling (or steady, low-grade climb if available). Cadence: 85-105.</p> <p>CD: 10 minutes of easy spinning in Active Recovery (Power Z1, HR Z1, RPE <2).</p> <p>Pre Activity Comments: Let's continue to build your engine!</p>	<p>Terrain: Mixed. Cadence: 75-85 (try using one harder-to-pedal gear and then one self-selected). Ride all other times at Endurance (Power Z2, HR Z2, RPE 2-3) pace, flat to low grade climbing. Ride for 10 minutes in Endurance Z2, then go on to MS2.</p> <p>MS2: FTP effort. Complete 1 x 10-minute in your FTP Zone (Power Z4, HR Z4, RPE 4-5).</p> <p>CD: 10-15 minutes of easy spinning in Active Recovery (Power Z1, HR Z1, RPE <2).</p> <p>Pre Activity Comments: Reach for level 4 watts for the whole 10 minutes FTP Interval in MS2 and make your cadence 5 rpm higher than your normal cadence.</p>	<p>(Power Z2, HR Z2, RPE 2-3) and hold this pace for the next 2.5 hours. Throughout the ride, do a 10 - 8 second out-of-the-saddle bursts into your Neuromuscular Power Zone (MAX). Make sure cadence stays high. Vary terrain.</p> <p>CD: 5-15 minutes of easy pedaling in Active Recovery (Power Z1, HR Z1, RPE <2).</p> <p>Pre Activity Comments: For this workout, complete the BURST as an 8 second sprint effort, out of the saddle, and at an effort of 80% of what you would do a full sprint.</p> <p>The goal is to get your cadence HIGH (over 105rpm), create a hard, sharp effort in the muscles and begin to improve your neuromuscular capacity.</p>	<p>(Power Z2, HR Z2, RPE 2-3) and hold this pace for the prescribed workout time. Focus on riding smooth and staying relaxed. Vary your cadence. Vary terrain.</p> <p>CD: 5-15 minutes of easy pedaling in Active Recovery (Power Z1, HR Z1, RPE <2).</p> <p>Pre Activity Comments: Hydrate and eat! Wear your sunscreen if it's hot out!</p>
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<p>Bike : WEEK 4 GOALS: Workout Description: Even though it is a rest week, make sure you are thinking of some goals.</p> <p>For example, on a rest week allowing yourself the recovering time or make sure you're not overeating as your training is cut back this week. You can do it!</p> <p>Day Off : REST WEEK! Workout Description: This is a rest week. You are going to allow the</p>	<p>Bike : ACTIVE RECOVERY - Easy Spin Duration (P): 1:15:00 Workout Description: MS: Today is an Active Recovery day targeting ONLY Active Recovery (Power Z1, HR Z1, RPE <2). Focus on relaxing on the bike and enjoying the ride. If you have to climb some hills try to use easier gear and spin easy. Today is about recovery, so go for easy spin!</p>	<p>Day Off : REST DAY Off Workout Description: Today is about resting off the bike and recovering. Great day to relax: take a nap, casual walk or just plain nothing. Recover both physically and mentally.</p>	<p>Bike : ACTIVE RECOVERY - Easy Spin Duration (P): 1:15:00 Workout Description: MS: Today is an Active Recovery day targeting ONLY Active Recovery (Power Z1, HR Z1, RPE <2). Focus on relaxing on the bike and enjoying the ride. If you have to climb some hills try to use easier gear and spin easy. Today is about recovery, so go for easy spin!</p>	<p>Day Off : REST DAY Off Workout Description: Today is about resting off the bike and recovering. Great day to relax: take a nap, casual walk or just plain nothing. Recover both physically and mentally.</p>	<p>Bike : ENDURANCE Ride with TEMPO Duration (P): 2:30:00 Workout Description: WU: 10 minutes working into your Endurance (Power Z2, HR Z2, RPE 2-3). Then complete 3 sets of 1-minute fast pedals with a 1-minute rest in between to open up legs.</p> <p>MS1: We're building endurance today! Once warmed up, ride in your Endurance (Power Z2, HR Z2, RPE 2-3) over flat</p>	<p>Bike : Threshold Plan TEST – FTP 20 minute/ Vo2 Max Test Test Duration (P): 1:30:00 Workout Description: WU: 10-20 minutes working into Endurance Zone (Power Z2, HR Z2, RPE 2-3) with 3 x 1-minute fast pedals to wake up legs.</p> <p>MS1: 5-Minute Hard Effort. This 5-minute effort should be done at maximum. Start the effort at a high pace, but not so hard that you</p>
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body to recover, rest, and adapt to the last 3 weeks of stress.

The goal is to have your muscles, heart, and mind fresh at the beginning of next week so you can really do a great week of training.

Go easy this week. You need to be ready for next week!

to rolling terrain. Focus on staying relaxed on the bike and spinning circles while keeping your cadence between 90 and 100. During the ride, complete one 40-minute Tempo effort (Power Z3, HR Z3, RPE 3-4) using a gear that results in a cadence of 75-85. Complete the TEMPO effort as close to the end of the ride as possible while still allowing ten minutes for cool-down.

CD: 5-15 minutes of easy pedaling in Active Recovery (Power Z1, HR Z1, RPE <2).

cannot finish strong. Really hammer out the last 45 seconds. The goal is to generate a max 5-minute Vo2 Max test while really opening up the legs for the test and really dispense the initial freshness to help produce more accurate power in the 20-minute test. Once complete, spin easily for 15 minutes of recovery, working back into Endurance Zone (Power Z2, HR Z2, RPE 2-3), and then go on to MS2.

MS2: 20-Minute Time Trial. Try to do this on a road that is fairly flat and allows you to put out strong, steady power for the entire 20-minute effort. Don't start too hard! You can also do this on a steady climb or into a headwind to help produce steady power throughout the 20-minute effort. Once complete, spin easy for 10 minutes in Endurance Zone (Power Z1, HR Z1, RPE <2). Your FTP is the power average for the 20-minute effort minus 3-5%.

CD: 10-15 minutes of easy spinning.

Pre Activity Comments:
This is your "mid-plan" test. Warm up well and really CRUSH IT!! Once complete, make sure you watch the instructional video again and update your FTP and all training zones in TrainingPeaks!

<p>Bike : WEEK 5 GOALS: Workout Description: You've had some rest, you are rejuvenated, now time for some fresh goals!</p> <p>What do you want to achieve? Get those goals written down!</p> <p>Bike : AC SPEED BUILDING INTERVALS Duration (P): 1:15:00 Workout Description: WU: 15-20 minutes working into Endurance (Power Z2, HR Z2, RPE 2-3) with 1 x 5 -minute effort at FTP (Power Z4, HR Z4, RPE <6). Then pedal easy for 5 minutes and go to MS1; _____ MS1: AC "Speed Building" Intervals. Find a long stretch of road where you can complete this workout without stopping or interrupting the interval efforts. Complete 6 x 2 minutes at Anaerobic Capacity (Power Z6, HR Z6, RPE >7), but really "big-gear accelerate" the last 15 seconds and blow through the finish line of each interval! Rest 4 minutes between intervals. Discontinue intervals if efforts fall below 118% of FTP. Cadence: Self-selected. Terrain is flat to medium grade hill. _____ CD: 10 minutes of easy spinning in your Active Recovery (Power Z1, HR Z1, RPE <2).</p>	<p>Bike : CLASSIC FTP INTERVALS 2 x 15 Min Duration (P): 1:30:00 Workout Description: WU: 10-20 minutes working into Endurance (Power Z2, HR Z2, RPE 2-3) with 5 x 1-minute fast pedals to wake up legs. _____ MS1: FTP Builder Intervals. Complete 2 x 15-minute FTP Intervals in your FTP Zone (Power Z4, HR Z4, RPE 4-5), with 5-10 minutes of rest between the intervals. Ride all other times at Endurance (Power Z2, HR Z2, RPE 2-3). Terrain: Flat to rolling (or steady, low-grade climb if available). Cadence: 85-105. _____ CD: 10 minutes of easy spinning in your Active Recovery (Power Z1, HR Z1, RPE <2). Pre Activity Comments: In the warm-up, really work on your fast pedaling more than just higher watts, rest one minute between each. _____ MS1: is all about building FTP so these efforts are done right at and just a touch above your FTP in order to stimulate that threshold to move higher and higher.</p>	<p>Bike : ACTIVE RECOVERY - Easy Spin Duration (P): 1:15:00 Workout Description: MS: Today is an Active Recovery day targeting ONLY Active Recovery (Power Z1, HR Z1, RPE <2). Focus on relaxing on the bike and enjoying the ride. If you have to climb some hillstry to use easier gear and spin easy. Today is about recovery, so go for easy spin!</p>	<p>Bike : TEMPO w/NP BURSTS Duration (P): 1:30:00 Workout Description: WU: 10-15 minutes working into Endurance (Power Z2, HR Z2, RPE 2-3) with 3 x 1-minute fast pedals to wake up legs. _____ MS1: Start out with a 15-minute effort with watts at Endurance (Power Z2, HR Z2, RPE 2-3), smooth and steady. Then pick up the intensity and complete 1 x 60-minute Tempo(Power Z3, HR Z3, RPE 3-4). Do 15 bursts within this hour to watts at Neuromuscular Power (MAXIMAL) for 30 seconds. _____ CD: 10-15 minutes with watts at Active Recovery (Power Z1, HR Z1, RPE <2). Pre Activity Comments: Target the low end of your TEMPO zone for MS1. _____ You are working on your ability to change speeds quickly and accelerate quickly as well. Hit this burst at high cadence, get a great jump!</p>	<p>Bike : ACTIVE RECOVERY - Easy Spin Duration (P): 1:30:00 Workout Description: MS: Today is an Active Recovery day targeting ONLY Active Recovery (Power Z1, HR Z1, RPE <2). Focus on relaxing on the bike and enjoying the ride. If you have to climb some hills try to use easier gear and spin easy. Today is about recovery, so go for easy spin!</p>	<p>Bike : ENDURANCE Ride with FTP Intervals Duration (P): 3:30:00 Workout Description: WU: 10 minutes working into your Endurance (Power Z2, HR Z2, RPE 2-3). Then complete 3 sets of 1-minute fast pedals with a 1-minute rest in between to open up legs. _____ MS1: We're building endurance today! Once warmed up, ride in your Endurance (Power Z2, HR Z2, RPE 2-3) over flat to rolling terrain. Focus on staying relaxed on the bike and spinning circles while keeping your cadence between 90 and 100. During the ride, complete 2 x 15-minute FTP Intervals in your FTP Zone (Power Z4, HR Z4, RPE 4-5), with 5-10 minutes of rest between each interval. Ride all other times at Endurance (Power Z2, HR Z2, RPE 2-3). Cadence: 85-105. _____ CD: 5-15 minutes of easy pedaling in Active Recovery (Power Z1, HR Z1, RPE <2). Pre Activity Comments: During the last hour of the ride (after the intervals) see if you can keep a Tempo pace for the ride home! This will help boost your stamina and late race performamnce! Great time to push a little harder!</p>	<p>Bike : ENDURANCE Ride Duration (P): 2:30:00 Workout Description: WU: 10-15 minutes working from Active Recovery (Power Z1, HR Z1, RPE <2) training zone into Endurance (Power Z2, HR Z2, RPE 2-3) with 2-3 x 1 minute fast pedals to wake up legs. _____ MS1: Endurance ride. Set a pace at Endurance (Power Z2, HR Z2, RPE 2-3) and hold this pace for the prescribed workout time. Focus on riding smooth and staying relaxed. Vary your cadence. Vary terrain. _____ CD: 5-15 minutes of easy pedaling in Active Recovery (Power Z1, HR Z1, RPE <2).</p>
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<p>Pre Activity Comments: Set your power meter so you can see the average mode in 'interval' mode.</p> <p>This will allow you to also review each interval after it is completed, so you can have a goal for the next one, or to know when to stop.</p> <p>Stop the intervals if your efforts fall below 118% of FTP</p>						
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<p>Bike : WEEK 6 GOALS: Workout Description: Are there any goals you haven't achieved so far? Go back, revisit them, and see if you can knock them out!</p> <p>Day Off : REST DAY Off Workout Description: Today is about resting off the bike and recovering. Great day to relax: take a nap, casual walk or just plain nothing. Recover both physically and mentally.</p>	<p>Bike : TEMPO w/ VO2Max Duration (P): 1:30:00 Workout Description: WU: 10-15 minutes working into Endurance (Power Z2, HR Z2, RPE 2-3), with 3 x 1-minute fast pedals to wake up legs.</p> <p>MS1: Tempo intervals help build aerobic fitness and muscular endurance. Complete 1 x 45-minute Tempo effort (Power Z3, HR Z3, RPE 3-4). Terrain: Mixed. Cadence: 75-85 (try using one harder-to-pedal gear and then one self-selected). Ride all other times at Endurance (Power Z2, HR Z2, RPE 2-3) pace, flat to low grade climbing. TO GIVE YOU A LITTLE EXTRA POWER BOOST, TRY ADDING 3 x 3 min VO2Max efforts in your VO2MAX Zone (Power Z5, HR Z5, RPE 6-7), with 3-minute rests between intervals to the</p>	<p>Bike : NP SPRINTS Duration (P): 1:30:00 Workout Description: WU: 15-20 minutes working into Endurance (Power Z2, HR Z2, RPE 2-3) with 3 x 1-minute fast pedals to wake up legs.</p> <p>NP Sprint Intervals. Find a quiet road that allows for sprints up to 250 yards, then do the following NP Sprint Sets.</p> <p>MS1: 6 x 50-yard Small Ring Sprints (39:16). Start each sprint rolling at about 12 mph in the little ring and then spin up to fast pedal power (target cadence 120 and above). Rest 2-3 minutes between sprint efforts. Recover with 5-10 minutes of easy spinning and then complete MS2.</p> <p>MS2: 3 x 150-yard Middle Ring Sprints (53:17). Start each sprint rolling around 16 mph and then really jump on</p>	<p>Bike : TT practice Duration (P): 1:30:00 Workout Description: WU: 10-15 minutes working into Endurance (Power Z2, HR Z2, RPE 2-3), with 3 x 1-minute fast pedals to wake up legs.</p> <p>MS: Use your TT aerobars today. Complete 6 x 6-minute Mock TT efforts at FTP (Power Z4, HR Z4, RPE 4-5). TARGET 105 % of FTP!!! You will be riding fast but not hammering at max pace. A nice solid effort. Rest for at least 6-8 minutes between each at Endurance (Power Z2, HR Z2, RPE 2-3).</p> <p>CD: 15 minutes of easy spinning in Active Recovery (Power Z1, HR Z1, RPE <2).</p> <p>Pre Activity Comments: Go for it! Make these strong efforts. Start each from about 10mph.</p>	<p>Day Off : REST DAY Off Workout Description: Today is about resting off the bike and recovering. Great day to relax: take a nap, casual walk or just plain nothing. Recover both physically and mentally.</p>	<p>Bike : ENDURANCE Ride with HILL CLIMB Intervals Duration (P): 3:30:00 Workout Description: WU: 10-15 minutes working into your Endurance (Power Z2, HR Z2, RPE 2-3). Then complete 3 sets of 1-minute fast pedals with 1-minute rests between to open up legs.</p> <p>MS1: Build endurance today! Once warmed up, ride in your Endurance (Power Z2, HR Z2, RPE 2-3) over flat to rolling terrain. Focus on staying relaxed on the bike and spinning circles while keeping cadence between 90 and 100. During the last 60-90 minutes of the ride, complete 3 HILL CLIMB INTERVALS at FTP watts (Power Z4, HR Z4, RPE 4-5) for 5-20 minutes each. If you only have "rollers" really jam every climb at FTP, rack up the climbing!!</p>	<p>Bike : ENDURANCE Ride Duration (P): 2:30:00 Workout Description: WU: 10-15 minutes working from Active Recovery (Power Z1, HR Z1, RPE <2) training zone into Endurance (Power Z2, HR Z2, RPE 2-3) with 2-3 x 1 minute fast pedals to wake up legs.</p> <p>MS1: Endurance ride. Set a pace at Endurance (Power Z2, HR Z2, RPE 2-3) and hold this pace for the prescribed workout time. Focus on riding smooth and staying relaxed. Vary your cadence. Vary terrain.</p> <p>CD: 5-15 minutes of easy pedaling in Active Recovery (Power Z1, HR Z1, RPE <2).</p>
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	<p>TEMPO effort. Try to "recover" at the tempo watts targets, teach your body to recover while still going hard.</p> <p>CD: 10-15 minutes of easy spinning in Active Recovery (Power Z1, HR Z1, RPE <2).</p> <p>Pre Activity Comments: Remember to do your best in pedaling! Make sure to work on smooth pedaling today! Pretend that you are scraping the mud off the bottom of your shoes as you pull through the bottom of the pedal stroke. Drive your knee towards the handlebar when you go over the top of the stroke.</p>	<p>it. Shift up as 1 time only as you spin out gear. Rest 2-3 minutes between efforts. Recover with 5-10 minutes of easy spinning and then go on to MS3.</p> <p>MS3: 3 x 250-yard Big Ring Sprints (53:16). Start each sprint rolling around 18 mph and then really get on it. Shift up 2 times till you are at max speed and effort. Sprint for the win!</p> <p>CD: 10 minutes of easy spinning in your Active Recovery (Power Z1, HR Z1, RPE <2).</p>			<p>CD: 5-15 minutes of easy pedaling in Active Recovery (Power Z1, HR Z1, RPE <2).</p> <p>Pre Activity Comments: Make this a hilly ride today! If you have lots of rolling hills, then do everything you can to get in plenty of those today. If you have some longer climbs (20 minutes or greater) near you, then get at least one climb in today. This is an endurance/tempo ride, but I want to make sure you are getting in some great hill work today! This is critical.</p>	
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2/23	2/24	2/25	2/26	2/27	2/28	2/29
<p>Bike : WEEK 7 GOALS:</p> <p>Workout Description: Are you completing all workouts as written? Completing those tough and hard days? If not, make it a goal to do so. You can do it!</p> <p>Day Off : REST DAY Off</p> <p>Workout Description: Today is about resting off the bike and recovering. Great day to relax: take a nap, casual walk or just plain nothing. Recover both physically and mentally.</p>	<p>Bike : CLASSIC FTP INTERVALS 2 x 15 Min</p> <p>Duration (P): 1:30:00</p> <p>Workout Description: WU: 10-20 minutes working into Endurance (Power Z2, HR Z2, RPE 2-3) with 5 x 1-minute fast pedals to wake up legs. Focus on RPM over 110 while holding form, do not target high watts, just focus on your fast pedaling.</p> <p>MS1: FTP Builder Intervals. Complete 2 x 15-minute FTP Intervals in your FTP Zone (Power Z4, HR Z4, RPE 4-5), with 5-10 minutes of rest between the intervals. Ride all other times at Endurance (Power Z2, HR Z2, RPE 2-3).</p> <p>Terrain: Flat to rolling (or</p>	<p>Bike : TEMPO w/ FTP – 45 Min</p> <p>Duration (P): 1:45:00</p> <p>Workout Description: WU: 10-15 minutes working into Endurance (Power Z2, HR Z2, RPE 2-3), with 3 x 1-minute fast pedals to wake up legs.</p> <p>MS1: Tempo intervals help build aerobic fitness and muscular endurance. Complete 1 x 45-minute Tempo effort (Power Z3, HR Z3, RPE 3-4). Terrain: Mixed. Cadence: 75-85 (try using one harder-to-pedal gear and then one self-selected). Ride all other times at Endurance (Power Z2, HR Z2, RPE 2-3) pace, flat to low grade climbing. Ride for</p>	<p>Bike : ACTIVE RECOVERY - Easy Spin</p> <p>Duration (P): 1:30:00</p> <p>Workout Description: MS: Today is an Active Recovery day targeting ONLY Active Recovery (Power Z1, HR Z1, RPE <2). Focus on relaxing on the bike and enjoying the ride. If you have to climb some hills try to use easier gear and spin easy. Today is about recovery, so go for easy spin!</p>	<p>Bike : TEMPO w/NP BURSTS</p> <p>Duration (P): 1:45:00</p> <p>Workout Description: WU: 10-15 minutes working into Endurance (Power Z2, HR Z2, RPE 2-3) with 3 x 1-minute fast pedals to wake up legs.</p> <p>MS1: Start out with a 15-minute effort with watts at Endurance (Power Z2, HR Z2, RPE 2-3), smooth and steady. Then pick up the intensity and complete 1 x 60-minute Tempo (Power Z3, HR Z3, RPE 3-4). Do 15 bursts within this hour to watts at Neuromuscular Power (MAXIMAL) for 20 seconds.</p> <p>CD: 10-15 minutes with</p>	<p>Bike : LONG ENDURANCE Ride</p> <p>Duration (P): 4:00:00</p> <p>Workout Description: WU: 10-15 minutes working from Active Recovery (Power Z1, HR Z1, RPE <2) training zone into Endurance (Power Z2, HR Z2, RPE 2-3) with 2-3 x 1 minute fast pedals to wake up legs.</p> <p>MS1: Endurance ride. Set a pace at Endurance (Power Z2, HR Z2, RPE 2-3) and hold this pace for the prescribed workout time. Focus on riding smooth and staying relaxed. Vary your cadence. Vary terrain.</p> <p>CD: 5-15 minutes of easy pedaling in Active</p>	<p>Bike : ENDURANCE Ride</p> <p>Duration (P): 2:30:00</p> <p>Workout Description: WU: 10-15 minutes working from Active Recovery (Power Z1, HR Z1, RPE <2) training zone into Endurance (Power Z2, HR Z2, RPE 2-3) with 2-3 x 1 minute fast pedals to wake up legs.</p> <p>MS1: Endurance ride. Set a pace at Endurance (Power Z2, HR Z2, RPE 2-3) and hold this pace for the prescribed workout time. Focus on riding smooth and staying relaxed. Vary your cadence. Vary terrain.</p> <p>CD: 5-15 minutes of easy pedaling in Active</p>

	<p>steady, low-grade climb if available). Cadence: 85-105.</p> <p>CD: 10 minutes of easy spinning in your Active Recovery (Power Z1, HR Z1, RPE <2).</p> <p>Pre Activity Comments: These efforts are done right at and just a touch above your threshold in order to stimulate that threshold to move higher and higher.</p>	<p>10 minutes in Endurance Z2, then go on to MS2.</p> <p>MS2: FTP efforts. Complete 2 x 10-minute in your FTP Zone (Power Z4, HR Z4, RPE 4-5). 5 minutes of rest between the intervals.</p> <p>CD: 10-15 minutes of easy spinning in Active Recovery (Power Z1, HR Z1, RPE <2).</p>		<p>watts at Active Recovery (Power Z1, HR Z1, RPE <2).</p>	<p>Recovery (Power Z1, HR Z1, RPE <2).</p> <p>Pre Activity Comments: 4 hours is your main goal today. It's just another goal to reach for. Continually pushing the bar higher. Today, you need to just ride and have fun. Complete the work, and make sure to stay hydrated and strong throughout. Keep your watts in the lower side of Zone 2 for the first hour, and then try to stay in the middle of Zone 2 for the next 2 hours. In the last hour, let's see if you can stay at the VERY TOP of Zone 2, push hard heading home!!!</p>	<p>Recovery (Power Z1, HR Z1, RPE <2).</p>
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<p>Bike : WEEK 8 GOALS: Workout Description: Testing is coming! What are your goals? Do you have an increase in mind you are hoping to achieve? WRITE IT DOWN!</p> <p>Day Off : REST WEEK! Workout Description: This is your 2nd rest week in this plan.</p> <p>Again, it's highly important that you take it easy this week.</p> <p>The goal is to have your muscles and heart and mind fresh at the beginning of next week so you can really do a great week</p>	<p>Bike : ACTIVE RECOVERY - Easy Spin Duration (P): 1:15:00 Workout Description: MS: Today is an Active Recovery day targeting ONLY Active Recovery (Power Z1, HR Z1, RPE <2). Focus on relaxing on the bike and enjoying the ride. If you have to climb some hills try to use easier gear and spin easy. Today is about recovery, so go for easy spin!</p>	<p>Day Off : REST DAY Off Workout Description: Today is about resting off the bike and recovering. Great day to relax: take a nap, casual walk or just plain nothing. Recover both physically and mentally.</p>	<p>Bike : ACTIVE RECOVERY - Easy Spin Duration (P): 1:15:00 Workout Description: MS: Today is an Active Recovery day targeting ONLY Active Recovery (Power Z1, HR Z1, RPE <2). Focus on relaxing on the bike and enjoying the ride. If you have to climb some hills try to use easier gear and spin easy. Today is about recovery, so go for easy spin!</p>	<p>Day Off : REST DAY Off Workout Description: Today is about resting off the bike and recovering. Great day to relax: take a nap, casual walk or just plain nothing. Recover both physically and mentally.</p>	<p>Bike : ENDURANCE Ride with TEMPO Duration (P): 2:00:00 Workout Description: WU: 10 minutes working into your Endurance (Power Z2, HR Z2, RPE 2-3). Then complete 3 sets of 1-minute fast pedals with a 1-minute rest in between to open up legs.</p> <p>MS1: We're building endurance today! Once warmed up, ride in your Endurance (Power Z2, HR Z2, RPE 2-3) over flat to rolling terrain. Focus on staying relaxed on the bike and spinning circles while keeping your cadence between 90 and 100. During the ride, complete one 60-</p>	<p>Bike : Threshold Plan – FTP 20 minute/ VO2 Max Test Duration (P): 1:30:00 Workout Description: WU: 10-20 minutes working into Endurance Zone (Power Z2, HR Z2, RPE 2-3) with 3 x 1-minute fast pedals to wake up legs.</p> <p>MS1: 5-Minute Hard Effort. This 5-minute effort should be done at maximum. Start the effort at a high pace, but not so hard that you cannot finish strong. Really hammer out the last 45 seconds. The goal is to generate a max 5-minute Vo2 Max test while really opening up the legs for the test and really dispense the initial freshness to help produce more accurate power in the 20-minute test. Once complete, spin easily for 15 minutes of recovery, working back into Endurance Zone (Power Z2, HR Z2, RPE 2-3), and then go on to MS2.</p> <p>MS2: 20-Minute Time Trial. Try to do this on a road that is fairly flat and</p>
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<p>of training.</p> <p>Go easy this week.</p> <p>Your threshold will increase this week as a result of the rest, so make sure you retest it before moving onto the next plan!</p>				<p>minute Tempo effort (Power Z3, HR Z3, RPE 3-4) using a gear that results in a cadence of 75-85. Complete the TEMPO effort as close to the end of the ride as possible while still allowing ten minutes for cool-down.</p> <p>CD: 5-15 minutes of easy pedaling in Active Recovery (Power Z1, HR Z1, RPE <2).</p>	<p>allows you to put out strong, steady power for the entire 20-minute effort. Don't start too hard! You can do this on a steady climb or into a headwind to help produce steady power throughout the 20-minute effort. Once complete, spin easy for 10 minutes in Endurance Zone (Power Z1, HR Z1, RPE <2). Your FTP is the power average for the 20-minute effort minus 3-5%.</p> <p>CD: 10-15 minutes of easy spinning.</p> <p>Pre Activity Comments: This is your "8 Week" test. Warm up well and really CRUSH IT!! Once complete, make sure you watch the instructional video again and update FTP and all training zones in TrainingPeaks!</p> <p>You are ready for the next plan now!</p> <p>Go to www.TrainingPeaks.com/Plans/Hunter and get the Cycling Threshold Improvement Plan Weeks 9-16!</p>
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APPENDIX

WHAT IS FTP & HOW DO I MEASURE IT?

Threshold power: what is it, why is it important, and how do I measure it?

Andrew R. Coggan, Ph.D.

For more than 30 years, exercise physiologists have known that the exercise intensity at which lactate begins to accumulate in a person's blood - that is, their lactate threshold (LT) - is a powerful predictor of their endurance performance ability. This is because although an individual's cardiovascular fitness, i.e., their maximal oxygen uptake (VO₂max) sets the upper limit to their rate of aerobic energy production, it is their metabolic fitness, i.e., their LT, that determines the percentage or fraction of their VO₂max that they can utilize for any given period of time. The physiological factors determining LT are complex, but in this context blood lactate levels essentially serve as an indirect marker for biochemical events within exercising muscle. More specifically, a person's LT reflects the ability of their muscles to match energy supply to energy demand, which in turn determines the fuel "mix" (i.e., carbohydrate vs. fat) used and the development of muscle fatigue. Consequently, LT - especially when expressed as a power output, which also takes into account cycling efficiency - is the single most important physiological determinant of performance in events ranging from as short as a 3 km pursuit to as long as a 3 week stage race. Just as importantly, because the metabolic strain experienced when exercising at a given intensity is dependent upon the power output relative to power at LT, this parameter provides a physiologically sound basis around which to design any power meter-based training program.

TrainingPeaks WKO+ software explicitly recognizes the crucial importance of power at LT by allowing you to enter a value for your current "threshold power" (and threshold heart rate) into your "Athlete Settings" file. This value is then used to calculate the intensity factor and training stress score for every file you analyze [see "What are normalized power, intensity factor (IF), and training stress score (TSS)?"]. In addition, if you wish TrainingPeaks WKO+ will use your threshold power to automatically calculate seven suggested training ranges, or levels. Alternatively, TrainingPeaks WKO+ also allows to custom define your own power-based training levels.

So, how do you go about determining your threshold power? Obviously, one way is via laboratory testing with invasive blood sampling, but few people have access to such testing on a regular basis. In addition, power at LT as determined in this manner is often significantly below what athletes and coaches tend to think of as a "threshold". A more convenient and possibly more accurate way of determining your functional threshold power is therefore to simply rely on data collected using your power meter in the field. There are a number of different ways of doing so, each of which has its advantages and disadvantages, but all of which provide very similar estimates of threshold power. In order of increasing complexity, these are:

A good estimate of your functional threshold power can often be obtained by simply uploading all of your training data into TrainingPeaks WKO+, and then examining the power frequency distribution found on your "Athlete Home Page". Because exercising above threshold power is quite strenuous and there is a limit to how long you can do so, there will often be a rather noticeable drop-off above this point in this graph. (This same

approach works even better for identifying an individual's spontaneously-achieved maximal heart rate - thus reducing or even eliminating the need for formal testing!) Of course, this method works best if the time period being examined includes some high intensity training and/or racing, which serves to make the distinction between sub-threshold and supra-threshold efforts more distinct. Also, sometimes the drop-off in time spent above threshold power is more apparent when the width of each power "bin" is reduced from the default of 20 W to a smaller value, e.g., 5 or 10 W. TrainingPeaks WKO+ has been specifically designed to allow you to customize graphs, to make such analyses possible.

Another way of estimating your threshold power without performing any formal testing is to simply evaluate the steady power that you can routinely produce in training during longer hard efforts, e.g., intervals or repeats aimed at raising LT, or during longer climbs. In TrainingPeaks WKO+, perhaps the easiest way of doing this is to add a horizontal grid line to a "stacked" graph of an appropriately-chosen workout (or race), and looking for places where your power is quasi-constant for some minutes at a time. You can then adjust the gridline up or down as needed to hone in on the best estimate of your threshold power.

Perhaps an even more precise way of determining your threshold power, yet one which still doesn't require any formal testing, is to examine your normalized power during hard ~1 hour mass start races. Since TrainingPeaks WKO+ automatically calculates normalized power even if you haven't yet entered a value for your threshold power, using the program to first analyze several race files may be the quickest way to deriving a good estimate of your threshold power.

Since by definition the best measure of performance is performance itself, the most direct estimate of your sustainable (threshold) power will be obtained by simply doing a ~1 hour TT. By examining the horizontal graph of the data from such a TT in TrainingPeaks WKO+ (perhaps with a little smoothing applied), you will be able to quickly tell whether your effort was well-paced, or if perhaps you started out too hard and then later faded, resulting in the average power somewhat underestimating your true threshold power.

Finally, those who are more mathematically inclined may wish to perform formal testing to determine their "critical power" as described in the scientific literature. Briefly, this approach consists of plotting the total work performed (in joules) during a series of relatively short (i.e., between 3 and perhaps 30 min), all-out efforts against their duration (in seconds), then fitting a straight line to the data points. The slope of this line is critical power, which corresponds quite closely with functional threshold power determined using any of the previously-described methods.

Since one goal of any training program is to increase power at threshold, the value you have entered into TrainingPeaks WKO+ should be periodically reassessed to be certain it is still accurate. (In particular, an intensity factor of more than 1.05 - meaning that normalized power is more than 5% greater than threshold power - during a ~1 hour mass start race is often evidence that threshold power is greater than the value entered into the program.) How often threshold power will change significantly will depend in part on an individual's training history and habits - for example, someone who is just beginning in and/or returning to cycling may see large and rapid changes in their threshold power, whereas an experienced rider who has been training for many years and/or an athlete who maintains a high level of conditioning year round will probably experience much

less variation. In general, however, assessing threshold power a few times per year (e.g., near the start of training as a baseline, partway through the pre-competition period to track improvement, and during the season to determine peak fitness achieved) is probably sufficient.

WORKOUT TERMS AND CODES

TERMS:

FTP: *Functional Threshold Power* - The highest power that a rider can maintain in a quasi-steady state without fatiguing for approximately one hour. When power exceeds FTP, fatigue will occur much sooner, whereas power just below FTP can be maintained considerably longer.

THR or FTTHR: *Threshold Heart Rate or Functional Threshold Heart Rate* - The heart rate corresponding to functional threshold power, or your highest average heart rate you can maintain for a minimum of 20 minutes.

RPE: *Rate of Perceived Exertion* - An individual's subjective evaluation of how intense or strenuous a particular exercise intensity feels. Typically rated on either a linear 20-point or a nonlinear 10-point scale, both of which were developed by Dr. Gunnar Borg. We use the 10 point scale in our training plans as this is an exponential scale and better correlates with the changes in the body.

ZONES:

AR: *Active Recovery* - Level 1. An embarrassingly slow pace. When you go out for a recovery ride, it should really be slow and all about recovery. If you go above the upper limit of wattage for this range, you are riding too hard. It is important to do Active Recovery rides because they help to flush out your system of built-up waste products, keep your body in rhythm or riding, and maintain suppleness in your muscles.

END: *Endurance* - Level 2. This is the level you ride at to build a base of endurance and enhance your aerobic fitness. Over time, training in this range will lead to the development of a stronger heart muscle, increase mitochondrial levels in the cells, develop more capillarization in muscles, and result in an overall increase in stamina.

TEMP: *Tempo* (or “fartlek”) – Level 3. From Swedish, meaning “speed play”; workouts performed at an intensity that is “up tempo” from what a rider normally trains at when riding at a comfortable level.

SST: *Sweet Spot* - A small area of intensity characterized by 88-93 percent of one's FTP.

FTP: Functional Threshold Power - Level 4. The exercise intensity at which the release of lactate into the blood first begins to exceed its rate of removal, such that blood lactate levels begin to rise. From the perspective of most athletes and coaches, LT is a relatively low intensity, approximately corresponding to the transition between Levels 2 and 3.

VO2max - Level 5. The maximal rate of whole-body oxygen uptake that can be achieved during exercise. VO2max is primarily limited by the ability of the cardiovascular system to deliver O₂-carrying blood to exercising muscle; hence, VO2max is considered the best measure of a person's cardiovascular fitness and sets the upper limit to aerobic power production.

AC: Anaerobic Capacity - Level 6. The overall quantity of work (not the rate of doing such work, which is power) that you can perform by relying on anaerobic metabolism. Usually trained by performing short (e.g., 30-second to 3-minute), very high-intensity intervals.

NP: Neuromuscular Power - Level 7. These exercises are super-short, high-intensity efforts usually lasting less than 10 seconds each. They place a larger load on the musculoskeletal system than on the metabolic systems. You want to perform these workouts when you are the most 'fresh' during the week, as the intensity of the workout is very high and you will need to be highly energized for them.

CODES:

WU: Warm Up

MS: Main Set

CD: Cool Down

AR: Active Recovery

END: Endurance

SST: Sweet Spot

FTP: Functional Threshold Power

AC: Anaerobic Capacity

NP: Neuromuscular Power

FTP: Functional Threshold Power

RPE: Rate of Perceived Exertion