

Training



Manual

What am I trying to accomplish? [a little nomenclature]

Getting Fit: Fitness is being able to successfully complete a given task. If you can finish a 100-mile ride, you are fit for the task. However, we usually have some time limits to each task and in order to “successfully” complete a task; we need to be fast enough [not just capable] over the distance of the ride. Our riding group or a given event we choose dictates the riding speed. Therefore “fitness” as we define it has both components of duration [or volume] as well as speed [or quality]. “Fit” for a given race strictly means you are capable of winning that event; you are physically, technically, and psychologically capable of meeting all of the demands [tasks] of that event. (“Capable to win” doesn’t mean you are sure to win. That takes some luck and good judgment.)

Conditioning: What condition do you complete a given task you are fit for? Fatigued to a state where you are tired, but ready to drive home and converse your friends? Training improves your physical state so that you are in better condition throughout [which means you are having an easier and more enjoyable time] as well as how you finish.

In shape: What shape are you in relates to the shape of your body. “You look like you are in great shape”, means exactly that; Your body conforms to a particular model we all agree is healthy and apparently ready for action. Are you in good condition, but look like a pear? Do you care? If you do, then toning, diet, and exercise that burns fat is recommended.

Racing or Not: This manual makes several references to racing. It was originated to train Olympic athletes. However, it is a good reference for everyone interested in fitness of all levels. Please read through it and pick out those things you feel are pertinent to you and your goals.

WORK-OUT PROFILES AND FORMATS

These work-outs are designed to help improve your cycling performance. They have been developed based on the demands on the individual. The "principles" of training have been used to construct the work-out formats for each training session, but (again) the overriding idea behind these exercises is progress -- and since the purpose for training is improvement, your specific demands are taken as paramount to whatever principles are "normal". In fact there is no normal. There is what is best for you and everything other consideration is secondary.

Training must always make sense to you. In other words the reason you are doing each training session should be clear. Remember your motivation to do the work must come from you yourself, so you need to understand why you are doing each exercise. The work-outs must stress or challenge you in some way in order to bring about improvement. Most of all training must use your available training time effectively. This is what your program is supposed to do: prepare you for racing as well as possible given the time you can afford to spend.

There are three basic systems you must train, **endurance**, **power**, and something in between we will call "**threshold**" or "**tempo**". In terms of fuels, endurance training burns fat, threshold burns a fat and sugar, and power burns mostly sugar or carbohydrates. In terms of how these systems feel endurance is easy [ergo the abbreviation "e" for endurance/easy], threshold is harder [threshold also relates to your riding speed or "tempo" ergo the "t"], power is the most intense, painful and ballistic [also the most dangerous].

Endurance conditioning itself has three applications, it allows energy to be used efficiently, saving energy, it allows you to recover faster and more completely (that allows you to handle more hard work), and it allows you to better meet the duration of competition.

Power conditioning is important in that the more power you can produce the less percent of your maximum effort will be used to ride at race speed, not to mention your ability to sprint faster. For example: If you can produce enough power to sprint at 35 miles per hour; then at 28 miles per hour you will be at 80% effort. Suppose you do concerted power training and can now sprint at 40 miles per hour; then at 28 miles per hour you will be at only 70% of your maximum.

Threshold training more than anything else, helps you get used to a "desired" speed. Riding at threshold helps improve your endurance more than any other type of work. To improve threshold, training must exceed threshold levels and induce fatigue and oxygen debt.

Secrets of speed

Speed is technically not a basic training system but refers to a very sensitive method where you work to improve your “best” or fastest momentum. Depending on your discipline this can mean a better average speed over a long road ride or the top end you can achieve in a sprint.

Training to get faster or “Speed Work” has these characteristics:

- Practice efforts are performed at faster than race speed.
- Efforts are done without fatigue or “discomfort”
- Practice sessions exaggerate some element of riding, compelling the rider to pedal faster.
- Sessions typically leave riders feeling they could do “a lot more” efforts

When Speed is focused on a given week:

Take whatever workout(s) are planned and execute them so that any “work” effort is done with some advantage to allow more speed. For example: If you are required to do 30 minutes of hard tempo; choose a long section with the wind or a downhill. A qualified person pacing you can also help accomplish elements of speed work. When doing intervals the same goes, choose a section of road for the work efforts where you get some higher speed due to downhill, tail wind, or even using a lower gear to exaggerate high rpm will do the trick.

The effect of using some form of “lower resistance”, like working with a tail wind, will make you pedal faster, improving your pedaling coordination as well as you timing and bike handling. The overall effect is an improvement in speed.

Why don’t we just do speed work? Because speed still requires a strong “engine” and for that other basic forms of training are required. So you will seldom see only speed as a focus and usually just before an important competition, ride, or test.

Recovery: Rest and recovery are the least respected elements of training but are in fact the true keys to going fast. When your muscles are well rested they are better prepared to perform at their maximum potential. It is the speed with which “opposing muscles”, muscles that act in the opposite direction of your motion, can relax that determines how fast you pedal. Therefore when your muscles are recovered they are in a more relaxed state.

Formats of Training

Training is formatted in three types, intervals, steady state, and series of single effort bouts. Intervals are expressed in these terms: numbers of sets by numbers of repetitions by work versus rest ratios with some indicators of ; work/rest intensity with a recovery indicator for the period between sets. Here's an example of an interval format: 3 sets of 4 repetitions of 30 seconds on 2 minutes off (on = 100%, off = 50%) with 10 minutes between sets at 50%. Steady state is expressed in terms of time at a specific effort , as in 30 minutes at 80%. Series work is given in very specific indicators with the effort of each exercise bout and each recovery period well defined. Unlike intervals there is only a single "set". Five 300 meter sprints with 5 minutes between each effort, is an example of a series.

Training Sessions may include one or a number of different types of training. You may see a single ride where you are supposed to maintain (for instance) a steady 70% the whole ride or you may have a training session with some steady-state riding followed by sets of intervals finishing with more steady-state riding. Many training sessions may remind you of races where the pack starts off riding easy, then there are some half hearted break-away attempts followed by some major "crunches" resulting in small groups steadily hammering to maintain their gaps.

Training with your group: Because you will race in groups, you will do some work-outs with a group. Of course you want to make the most out of a group ride for your own purpose, but mind your manners and practice good pack etiquette. Ride safe. Pace steady. Force the tempo when its called for, and generally keep to the format the group is employing. When you have some individual work you need to complete, its best to do so behind the group. When the effort of the group is too slow for your individual program, you can under-gear, over-gear, take longer pulls, or (again) back off the pack and chase. When the pack is going too fast for your specific program you can "sleigh-ride" a little sitting in the back, take sorter pulls, or otherwise try and ride conservatively.

Your Team Program: This is a training plan for your team. It is designed to bring the riders in your team to optimum race condition for the principle events of the year. The training sessions are meant also to drill the club on specific maneuvers, so the team gets used to coordinating itself under race conditions. Though less important races and training races are often instrumental in this sort of preparation, it will remain necessary to drill also.

Your Individual Program: This program is based on your own goals and your reasons for riding. It is made to optimize your available training time. Your own life-style and personal schedule will dictate how you can keep up with this program. You may switch training sessions around from one day to another throughout a given week if you need to or if weather conditions come into play. If you have some nice conditions; you may want to take the longer ride of the week on that day. Do not move training sessions into another week.

An example week of your program:

Week	Focus	Events or Occasions	Endurance Workouts	Threshold Workouts	Power Workouts	Other Workouts
1	Endurance	Ontario	2x e-s120 1x e-sx e-i1 2x e-s30rec	2x t-i3	H-1 S-3 2x W	2x Yoga Class

Week is the specific week number in the program.

Focus defines the priority for the week and is usually expressed in what system is most important [Power, Endurance, Threshold] . Sometimes a specific task like climbing or recovery may be prescribed.

[You may see the work “Transition” for a week’s focus. This refers to a week between significantly different training periods and is included in the program to allow you get ready for the change.]

Focus Rule 1: If you want to add workouts or more time to your training week; you add workouts of time in the specific area of focus. In the example (above) you would add endurance workouts or time.

Focus Rule 2: If you want to delete workouts or shorten time to your week; you delete or diminish time in any area EXCEPT the area of focus. In the example (above) you would delete a workout from the Threshold, Power, or Other columns.

Events or Occasions refer to things you have planned or holidays that will occur that week

Workouts [Endurance, Threshold, Power, and Other] express a “shopping list” of workouts prescribed for the week. You distribute the workouts throughout the week yourself. This requires you to think about what you are doing. It also allows you to fit your riding into your lifestyle.

Distribution Rules

Distribute Rule 1: You may combine any number of workouts together into what we call a “session”. In the example you may want to do a e-s120, H-1 and e-s30rec together to make a 2 hour easy ride with a long climb and 30 minutes of recovery.

Distribution Rule 2: You may do as many as 3 “sessions” in one day, but allow yourself at least 2 hours between sessions.

Distribution Rule 3: You may use an existing group ride in your area to replace a specific workout or session. Be sure you match the type of riding (in the group ride) with the workout(s) you are replacing.

Distribution Rule 43: Give yourself a complete day off from training at least one day per week.

Distribution Rule 5: Allow at least one day between any interval workout and a specific event.

Distribution Rule 6: Allow at least 18 hours between Weight workouts.

Important Note: Be sensitive to what distribution of workouts works best for you. Keep records. You may find, for example, that you feel better if you give yourself two days off per week, or you need to do all your threshold work on consecutive days, etc.

“How hard should I be riding for a specific workout?”

The following is a table to help you understand references to training “zones”, degrees of efforts that define how hard you should be riding [for a given workout]. Since people vary in their acuity I have offered several ways to “measure” your effort in the table. This table should also help you use your training devices like heart-rate monitors, power meters, speedometers, etc.

For example:

- If you use a heart-rate monitor or a power meter to monitor your riding effort; you should use % of Max or % of AT columns to monitor your training effort. Your Max and AT are determined during the Endurance Test you have taken according to Youngs test protocol. Let’s say your maximum power is 400 watts. Your zone 3 effort should be between 284 and 332 watts.
- If you use your breathing or how you feel [Rate of Perceived Exertion]; you should use the Breathing or Feel column references. Again, these zones are determined during your Endurance Test.
- If you use a speedometer; use % TT Speed [or your time-trial speed] to determine your specific workout speed. This is more commonly used by triathletes, time-trialists, and track riders where specific speeds [the speeds of their chosen disciplines] are well defined. A triathlete, for example, should know the speed s/he needs to sustain in order to win the bike leg of the event they’re training for.
- Many riders prefer to relate their training/riding efforts to specific [common] riding tasks. I have explained two columns to help you monitor efforts in this manner, Riding Circumstances for people who don’t compete, and Race Tactics for competitors.

Training “Zones”

Training Zone	Heart-rate % OF MAX	% FTP*	BREATHING	FEELING	% TT SPEED on flat terrain	Riding pace	Race TACTICS
0	<55	-50	Able to sing/whistle	Very Easy	50-70	Riding in your neighborhood	First 5 minutes of warm-up
1	55-70	50-70	Able to converse	Easy	70-80	“Chat Pace”, Riding with friends without concern of speed	Promenade of a race
2	71-83	70-90	Talking is hard	Steady	80-90	Trying to ride a “steady pace” Riding easy up a grade/hill Riding into a head wind	Easy Race Tempo [riding in the peloton]
3	84-92	90-110	Forced Breathing	Hard	100	Riding up a long hill Trying catch up to a group	Race Tempo
4	93-97	110-150	Gradually getting out of breath	Very Hard	110--120	Riding up a very steep hill or into a strong head-wind	Chase/Attack Tempo
5	98-100	+150	Out of breath after the effort	Maximum	Max Speed	Emergency! Getting chased by a dog A steep “do or die” hill	Sprint Speed

* FTP = Functional Threshold Power (watts)

Zone	Purpose
0	Balance: at this effort you practice balance and agility
1	Recovery: at this level your body is allowed its best opportunity to recover
2	Endurance: aerobic training is done mostly at this degree of effort
3	Threshold: sugar is now the predominant fuel, allowing you to produce speed
4	Deficit: a little too much speed for the oxygen you have available, you’re getting into trouble and may need to drop to zone 1 to recover before the task is done...
5	Power: Full Throttle and there’s no tomorrow... recovery will take +10 minutes!

Warm-up

One of the most critical tasks in your riding is the warm-up. No matter if you’re going to do a race or a fun ride; its wise to prepare yourself .

Warm-up literally means to get your working muscles to a temperature of optimum performance where capillaries are open and the circulatory system is delivering oxygen and nutrients to the muscles efficiently.

A good format for warming up:

Stretch

Begin with a stretch, gently pulling or reaching upper body, trunk and legs. Establish your own stretching routine and make it part of your pre-ride habit for any kind of activity.

Ride

10'+ [over 10 minutes]	in zone 1	
5'	in zone 2	[Fun rides: warm-up ends here]
3'	in zone 3	[Century rides: warm-up ends here]
2'	in zone 4	[Road races: warm-up ends here]
20"	sprint	
5-10'	in zone 1	

Finish your warm-up 5-10' before the start of your ride.

Training Abbreviations:

t-ix: threshold intervals **t-sx:** threshold steady state **r-x:** race simulations
e-ix: endurance intervals **e-sx:** endurance steady state
s-x: sprints **h-x:** hills

note: x is usually replaced with a number referring to a specific format or duration of the workout. *If an x is expressed instead of a number; this means you choose any format or any duration for the workout.*

Group Training Abbreviations:

g-cx: Group Chases where x is a specific format number
g-sx: Group Sprints where x is a specific format number
g-px: Group Pace Lines where x is the number of minutes

Other Work-out Abbreviations:

Z1, Z2, Z3, Z4, Z5: training zones
Wt: weights **Wtu.** weights with upper body emphasis **Wtl.** emphasis on legs
Cr: Circuits **Os:** other sport or activity

Other Abbreviations:

hr = heart rate	bpm = beats per minute	hrm = hear-rate monitor
AT = threshold	max. = maximum effort	rpe = rate of perceived effort
minutes = '	seconds = "	x = multiple or "by"
rec. = recovery	rte. = rate	w/ = with
w/o = without	xls = accelerations	rep = repetitions
bet = between	m = meters	mi. = miles
km = kilometers	o-gr. = over gear	u-gr. = under gear
wm-up = warm up	@ = at	

Training Formats

Note: At any time you see an **X** instead of a number of minutes, use any format for the session and at least 60 minutes of duration.

Threshold Intervals: Gears should be slightly larger than race gears [low rpms]. Recovery between sets should bring your heart-rate below 50% of your maximum where you have your breath back completely.

t-i1: 3 sets of 3 x (3'on / 3' off) work = Z4, rest = Z2, 5' rec. bet [Z1]
t-i2: 3 sets of (2'on/3'off/1'on/2'off/2'on) work = Z5, rest = Z1, 8' rec. bet [Z1]
t-i3: 3 sets of 5x (1'on/2'off) work = Z5, rest = Z1, 10' rec. bet [Z1]
t-i4: 3 sets of 8x (30"on/1'off) work = Z5, rest = Z1, 9' rec. bet [Z1]
t-i5: 6 sets of 10x (30"on/30"off) work = Z5, rest = Z1, 5' rec. bet [Z1]
t-ix: Any format above

Threshold Steady-State, t-sx where x is the duration in minutes. Use race gears [gears that feel most comfortable] in accord with the conditions. Try and maintain over 100 rpm unless otherwise noted in the program. Think of the race situation that is represented by each steady state duration. For example 3-9' efforts are chases, very intense. Use the following chart to determine the effort or speed you should maintain:

Time of Effort	+91'	60-90'	30-59'	15-29'	10-14'	3-9'
% of max	71-80	80	85	90	92	95
Zone	2	2-3	3	3-4	4	4-5

Endurance Intervals: Use slightly lower than race gears, making your pedaling smooth and circular. Recovery speed should be about 65-70% in very low gears (39x16 or similar). The shorter the work period the higher % of effort you should do. During work intervals try and maintain as aerodynamic posture as you can. Have teammates help you see if you are in the right posture.

e-i1: 3 sets of 3 x (5'on/5'off) work = Z3, rest = Z2, 6' rec. bet [Z1]
e-i2: 2 sets of (8'on/6'off/3'on/3'off/5'on/6'off/8'on), work = Z3, rest = Z2, 10' rec. bet. [Z1]
e-i3: 3 sets of 2 x (3'on/3'off/2'on/2'off) work = Z3, rest = Z2, 5' rec. bet [Z1]
e-i4: **1 set of 3x 20'on/5'rest work = Z3, rest = Z1**
e-ix: Any endurance interval format

Endurance Steady State e-sx where x is the duration in minutes: Use gears that will keep you between 85 and 110 rpm. Effort level should be at Z2.

For recovery rides e-sxrec where x is the number of minutes: You should stay in Z1. Maintain over 100 rpms during the entire recovery ride.

Sprints: These efforts should be Z5 of your max. You should use similar gears you normally sprint in or as noted in your program. Recovery between sprints should be complete within 10 minutes of easy riding. If your heart-rate does not recover to less than 50% of your maximum within 10 minutes; do not continue doing more sprints. Otherwise do as many sprints as you can within 30 minutes.

s-1:	Lead-outs. Lead rider attacks 200-400 meters from the finish line. Second place rider passes, sprinting to the finish when the lead rider begins to slow. [6 sprints]
s-2:	Time-trial or individual sprints. These are sprints at 100% max. Distance between 150 to 500 meters [12-35 seconds]. [6 sprints w/6 minutes bet.]
s-3:	Jumps. Over-gear (53x14 or greater) and go full effort for 100 meters. Vary starting in and out of the seat. [10 jumps]
s-x	Any Sprint format

Hills: Just as weights are used to stress your power systems, hills are used to increase resistance on your bike. For efforts longer than 2 minutes use gears that allow you to maintain 80-100 rpm. For efforts less than 2 minutes, over-gear slightly. For efforts less than 30 seconds, over gear to a greater extent. Use this table to monitor effort. Use a 3-8% grade. Between efforts you should ride easy in low gears allowing your heart-rate to recover to below 50% of your max before. The total session should take between 30-45 minutes.

Training Type	h-1 (climbs)	h-2 (tempo)	h-3 (attacks)	h-4	h-x [any format]
Repetitions	1	2-4	3-5	4-6	
Time	30' +	3-29'	45"-3'	30-44"	
% Max Effort	85-90	92-95	95-98	100	
Zone	3-4	4	4-5	5	

Hill training tactics: Because most hills are followed by a down hill, I advise the last 30-45" of any hill or climb you put in a Zone 5 effort over the top. This will allow you to use the down hill to recover [pay back the Oxygen debt].

J = Jumps: (after a spin of at least 20')

- use a flat straight/open section of +200 meters of road or parking lot with smooth surface (also may be done on trainer – not rollers -)
 - – Big chain ring and 14 – 12 rear cog (**be sure the chain is running smoothly!!!**)
 - 6X MAXIMUM – EXPLOSIVE 75 – 100 meter efforts:
 - o 1. Roll in at 30-35 kph – jump in the saddle
 - o 2. Roll in at 25-30 kph – jump in the saddle
 - o 3. Roll in at 20-25 kph – jump in the saddle
 - o 4. Roll in at 15-20 kph – jump out of the saddle
 - o 5. Roll in at 10-15 kph – jump out of the saddle
 - o 6. Roll in at 5-10 kph – jump out of the saddle
- [rest – return to start – 2-3' between jumps]

Race Simulation: These workouts are designed to give you work at race effort. Various scenarios have been devised to give you accurate formats, requiring you to work as if you were in the critical part of a race. Physiologically this work is best done indoors on your trainer. However, if done outside be sure to use open roads clear of traffic and hazards.

The advantage of indoor training, besides the obvious lack of traffic and stop lights, is your temperature regulation system is stressed more than outside; that is if the outside temperature is below 80 degrees. Because you are not moving, air does not as easily evaporate water from your skin, cooling you off. As a result, your temperature regulations system adapts, making it easier for you to handle warmer conditions. At these warmer conditions [indoors or outside when its over 80 degrees] the “training effect” is more profound [you get more fit in less time].

You should note there is NO REST period during the workout. You repeat the workload over and over the prescribed number of times. For some of the shorter work periods you may want to use speed, power, or “feeling” parameters to determine work zone as heart rate may not change fast enough to give you useable readings.

r-1: 45 x [30” Z3 / 30” Z2] note: ride Z3 over 120 rpm

r-2: 20 x [2’ Z3 / 30” Z5] note: ride Z3 over 120 rpm, Z5 in biggest gear

r-3: 8 x [5’ Z2 / 2’ Z3 / 30” Z5] note: maintain over 100 rpm the entire ride

Group Training Sessions: These are work-outs designed to train the team as a unit to perform certain team tasks that may occur during a race. You should use the best gear that will allow you to correctly perform each task. This means you will need to be sensitive and learn what works. After each exercise you should briefly go over with your teammates what happened and make any modifications to the next exercise if necessary. Relate each exercise to some real race situation. Remember that you are training to develop the coordinated efforts (as a team) that will allow you and your teammates to win bike races.

g-c1: Individual chase. Put a rider off the front by 15-30 seconds and gradually pull in the break-away rider. Do this by first having a leader in the group bring the pace up to that which matches the break. Then begin a smooth pace-line that gradually builds, but keeps the group in tack as the break is pulled in. Keep up the effort until the break is pulled in. Then regroup and repeat. Do this for about an hour. It is especially effective to use as break riders those riders who are trying to work on their individual time-trial.

g-c2: Group Chase: Split the pack into three groups with an experienced rider in each as a leader. Put the first group off the front of the second by 30 seconds and the second in front of the third by 15 seconds. At a pre-determined starting point all groups get up to race speed with the second group marking the same pace as the first. The third group should start to chase the second right away -- and when caught, the second group should join the third in a single pace-line to chase down the first bunch. When the first group is caught, allow 10-15 minutes of easy riding for recovery and repeat with the groups changing position (or riders joining different groups). Do about 60-90 minutes of these exercises.

g-s1: Rocket Ships. These are like short full speed group chases where there are two groups sprinting, one before the other. Everyone starts sprinting at the same time about 400 meters from the finish with the lead group (of two) about 15-20 meters in front and to the right of the second. The second group holds the gap until the leader of the first sprint team is some 100-150 meters from the finish. At that time the leader of the second group closes the gap to the first and moves slightly to the right allowing the following riders in the second group to sling up to the first group. Do 4-6 Sprints per session.

g-s2: The Sweep: In this 800-1,000 meter sprint two or three riders change pace at near full (but smooth) effort. A sweep rider allows the pacing riders back into their line with a minimal of lateral movement. There may be a fifth and sixth rider on the sweeper. With 150 meters to go the sweep rider attacks to the outside and sprints to the finish. If there are riders sitting on the sweeper, the sweeper should go out

per further from the finish, acting as a lead-out rider for the others. Do 4-6 Sprints session.

g-p1: The quick pace: This is an exercise where the group exchanges the lead, as soon as the lead is taken the next rider is coming through. This creates a line going up and one coming back. Riders should pay particular attention to getting back on smoothly and with a minimal of effort. When going through to the front it must be emphasized for riders not to pick the tempo up significantly. Begin the exercise by having one rider bring the group up to tempo. The object is to maintain the speed to a specific geographic point. Make each exercise at least 6 minutes long and not over 10. Regroup between pace exercises. Use a nice long stretch preferably with a tail wind. After each jam then it'll be easy to turn around and pick up the stragglers as you go back to the start point. Do 3-5 jams per session.

g-p2: The tempo pace line: Like the quick pace, you should use a long straight about the same distance (3-5 miles) with a tail wind. Each rider is required to stay at the front as long as s/he can maintain the established speed. Some will pull long, others will pull very short, but everyone should have a good chance to stay with the group. Do 3-5 jams per session.

Test results: Tests are done in order to establish new training parameters and to track progress. Certainly race and time-trial results will do this to an extent, but any results performed outside are effected by weather and other conditions . Testing should occur every three to six weeks.

Keeping your training diary: Maintaining a log is important in order to keep account of your training. The data is used to see what works and what does not work for you. This will allow us to produce better and better training programs for you -- and will in the long run help you use your time to its maximum. Note the example training log [here](#).

Routines: Each work-out should be preceded with a routine stretch and warm-up. A good warm-up will gradually build you through 5 various levels of effort over 12-20 minutes. Allow at least 10 minutes after the warm-up before beginning a training session that will take you above 80% effort. Routine manners will also help you keep your training data consistent, keep your nutritional habits straight, and will in general allow you to get the most out of your time. You do not need to be compulsive, just organized and consistent.

Training Venues: You have the opportunity to choose training equipment and venues each with their unique advantages and disadvantages.



Road: Open roads provide the best “real life” conditions like weather, hills, corners, and varying surfaces, helping you adapt to the demands you will meet in most of the rides you’re training for. Any training rides can be done on the road, but special attention needs to be taken when using the road for intervals and hills. You need to find a park or open section of road in order to have an uninterrupted interval set and (of course) you need to choose a hill correct for the given type of hill workout.

Velodrome: The velodrome is the best place to do intervals because of it’s closed and consistent characteristics. Also, using a track bike promotes a better training response because of the fixed gear. Endurance rides can also be done on the track and (I recommend) lowering an e-s workout by 1/4 in order to get the same training effect. Therefore: an e-s120 on the track should be e-s90.


Trainer: Using a trainer, like the velodrome, can provide a perfect place to do intervals, but due to the challenging (stationary) nature I recommend reducing any interval format by 1/3, making an e-i1 into 2 sets instead of 3.

Rollers: The best set up for recovery rides, rollers provide high rpm while easy to keep the effort in the recovery zone. Like trainer workouts when using rollers you should lower the workout duration by 1/3. Though it’s OK to use rollers for endurance rides, it’s not recommended. Never use rollers for intervals unless you can apply resistance.


THE FIVE MINUTE CYCLE STRETCHING PROGRAM




10 TIMES -
BOTH DIRECTIONS




2 TIMES -
10 SECONDS




15 - 30 SECONDS




15 - 30 SECONDS
EACH LEG




20 - 30 SECONDS
EACH SIDE




20 SECONDS




30 SECONDS



15 - 20 SECONDS



10 - 15 SECONDS
LEFT AND RIGHT



20 - 30 SECONDS
LEFT AND RIGHT