
wattbike
Guide

The **Wattbike**

The Ultimate Indoor Bike

With the Wattbike, we set out to create what others thought was impossible: an indoor bike for cyclists. An indoor bike which replicates the feel of the road whilst providing cycling-specific performance data. An indoor bike which makes structured training easy and helps every rider achieve their goals.

Figure 1.0

Hear from the creators of the Wattbike.

Wattbike **Difference**

Power Output

Measures power produced 100 times per second by interval load cells and is displayed on the WPM.

Polar View

Shows how force is being applied at all points in every pedal stroke of each individual leg.

Real Ride Feel

The Wattbike uses a chain and sprocket, exactly like a real bike, to generate the most realistic feel of any indoor bike.

Dual Resistance

The Wattbike uses a combination of both air and magnetic resistance to provide a smooth, realistic ride feel.

Testing Tool

Various tests within the WPM determine your training zones and improve your performance.

2 Training Options

The Wattbike has two bike models to challenge all riding levels from general fitness to the most experienced riders.

"The Wattbike is the best thing I have found in my long career that is so close to riding on the road."

Stephen Roche - Tour de France Winner

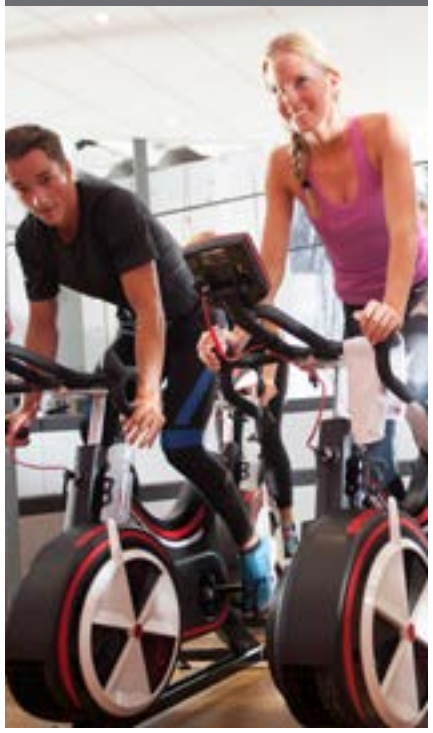
Use the **Wattbike** for

"The Wattbike has helped me achieve the second fastest 100 mile time trial on record."

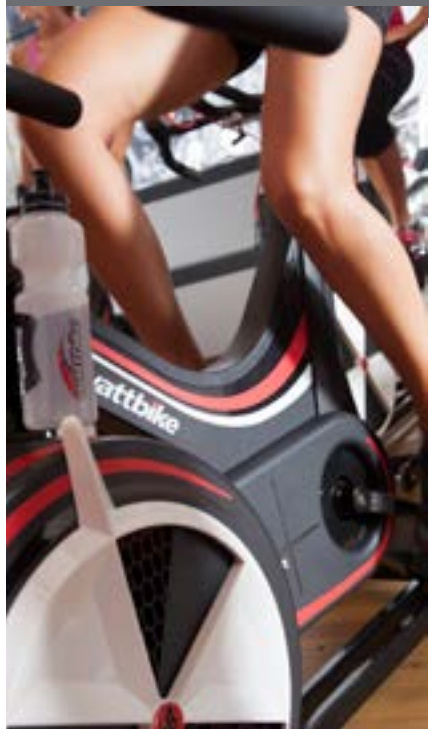
Lucy Gossage - IRONMAN Lanarote 2014 Winner.
10th Female at IRONMAN World Championships 2015.
Wattbike Ambassador

TRAINING
In Your Zones

TEAM
Specific Training



IMPROVING
Pedaling Technique



INDIVIDUAL
Training Goals

Two **Models**

Wattbike offers two different bike models, the Trainer and Pro. The only difference between the two models is the resistance range. The pro has a greater resistance for the more elite cyclist. Both bikes feature the same measurement systems, accuracy, and WPM to deliver a professional range of cadence/power outputs.

Trainer

- Low to medium resistance
- For beginners and youth cyclists
- Suitable for endurance athletes, people just starting to exercise or for injury rehabilitation
- Preferred model for most people

Pro

- Medium to high resistance
- For heavier, more powerful riders
- Suitable for Cross Training or for sport specific training that requires short bursts of high intensity effort.

To distinguish one Wattbike from the other, look on the frame of the bike near the air resistance lever.

Bike **Fit**

It is imperative to set up a safe and comfortable bike fit before starting a workout on the Wattbike. The correct set-up will maximize performance, prevent injury and ensure a comfortable ride, no matter how long you're training.

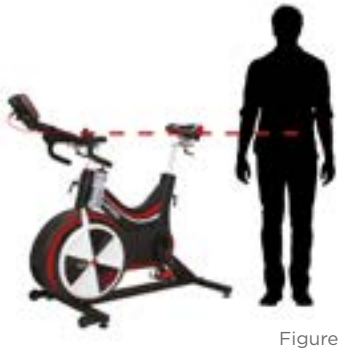


Figure 2.1

Saddle Height

- Top of saddle should be level with the boney protrusion of the hip

Handlebar Height

- Same height as saddle
- For advanced riders, adjust 4 to 10 cm lower than the saddle

Figure 2.2

Saddle Fore/Aft Position

- With pedals horizontal, your knees should bisect the pedal spindle

Handlebar Fore/Aft Position

- Adjust to sit comfortably
- Look for 90 degree angle at your elbow

Make your custom fit easier with these handy tools:

- plumb-line
- gnoniometer
- level or light bar

Watch a rider get fit for the Wattbike.

For more in-depth measurements, visit wattbike.com

Wattbike Performance **Monitor**

The Model B Performance Monitor measures over 40 parameters, including power, cadence and heart rate, over 100 times per second. The monitor gives you the ability to create your own sessions and even undertake pre-programmed fitness tests.

Easily toggle through different display screens by pressing the up and down arrows.

Figure 3.0

Heart Rate Monitoring

The WPM is compatible with a variety of different Heart Rate belts. They can be paired by selecting **Link HR Belt** on the main menu and navigating through to the corresponding brand of HR monitor.

Connectivity

The WPM is able to talk to other ANT+ ready fitness gadgets such as Garmin cycle monitors and watches. Once connected to the WPM, it will transmit the Watts and Cadence data directly to your connected device.

To do this:

1. Select **ANT Channel** on the main menu, scroll to and select **SPC + PWR**

2. You can search for the Power, Speed, and Cadence sensors now being transmitted by the Performance Monitor on your ANT+ device. The ANT ID number is displayed at the bottom of your screen, should you need to select your monitor.

Recharge Ability

The WPM has an internal battery that requires a full charge before it is used. The bike also has an integrated generator, so when cycling above 60 rpms, the battery is self-charging.

Heart Rate Monitor Compatible

The Wattbike Trainer is compatible with a variety of different heart rate monitors including all Garmin, Suunto, Polar and MyZone models as well as other ANT and ANT+ devices.

Watch the step by step on how to create a user profile as well as the basics of the WPM.

The **Polar View**

The Polar View is a unique innovation that will help you to become a better cyclist. The shapes that are shown on the screen reflect how the power is being applied throughout each pedal stroke.

When pedaling, aim for even force (50/50) from both legs. It will fluctuate between strokes, however the ideal range is between 48%-52%.

"The killer feature of the Wattbike is the real-time pedal technique analysis that's delivered a real improvement to my pedal stroke out on the road."

Dean Downing - Former Professional Cyclist. National Criterium Champion. Wattbike Ambassador

Want a more detailed explanation? Learn all about the Polar View.

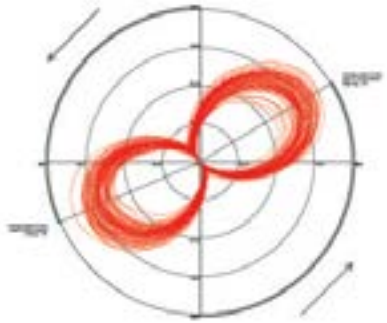


Figure 4.1

Beginner (Figure 8)

The cyclist is only using the muscles on the front of the thigh and is "stamping" on the pedals. This loses all momentum between the left and right leg and wastes energy.

Try using cycling shoes which will help sustain power through the pedal stroke.

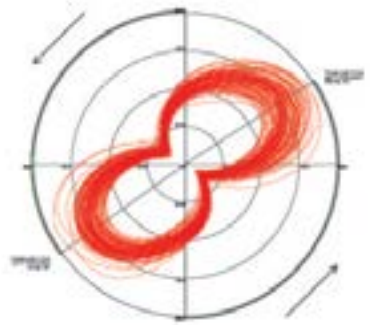


Figure 4.2

Intermediate (Peanut)

The cyclist retains some momentum and is starting to use the posterior chain muscles.

Imagine scraping mud off the sole of your shoe to engage the muscles on the back of the leg.

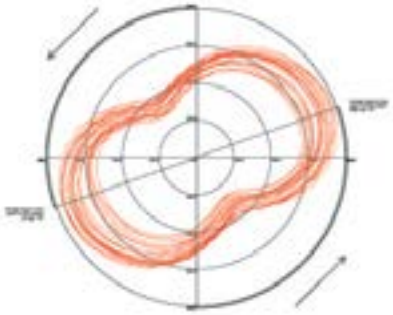


Figure 4.3

Elite Cyclist (Sausage)

The cyclist has an excellent technique with very little loss of momentum between left and right leg. There is a good even distribution of power throughout the pedal stroke and excellent balance between left and right leg.

What **You Need to Know**

To get the most out of your workouts on the Wattbike, determine the following values prior to starting a regular training regimen:

- Estimated Maximum Heart Rate (MHR)
- Maximum Minute Power (MMP)
- Six Power Training Zones
- The feel of various cadences and air resistance settings on both the Pro & Trainer

Once your training zones have been calculated, the Wattbike will display which zone you are in during subsequent training sessions, guiding you to more efficient HR monitoring and overall smarter training.

Wattbike **App**

The Wattbike**Hub** app gives you a seamless way to track your workout in real time on your phone. The app allows you to train anywhere and have all your workouts stored in one location.

Check out the App

Maximum **Heart Rate**

The Wattbike accurately measures Heart Rate when paired with a coded ANT or ANT+ Sport (Garmin or Suunto) or Polar chest strap. To find your estimated MHR, we suggest that people use the age predicted maximum heart rate calculation below.

To calculate your maximum heart rate:

MHR = 220 minus your age

NOTE: Your cycling MHR is generally 5-10 beats lower than your running MHR.

As you improve and gain a better understanding, you can fine tune the heart rate and power training zones.

Watch how to link your heart rate monitor before training.

Maximum **Minute Power**

Power is defined as the rate at which you transfer energy. Power is measured in Watts and is an excellent way to monitor your training. Watts can be used to establish training zones as well as track your progress.

Your Maximum Minute Power can be estimated by using the average power achieved in a Wattbike 3 minute aerobic test. Your maximum heart rate can also be taken from this test and used as a starting point for heart rate calculations.

Watch how to link your heart rate monitor before training.

Power **Training Zones**

The training zones are provided upon completion of a Wattbike test within the WPM.

Once your training zones are determined, you can choose to train by any combination of heart rate, power, cadence, and air resistance settings.

General training zone reference:

50 beats below MHR is recovery or base endurance
30-50 beats below MHR is endurance training
15-30 beats below MHR is intensive training
0-15 beats below MHR is maximal intensity training

Detailed Training Zones

Your 6 training zones are determined by a percentage of MHR, percentage of MMP, and duration. Each training zone has a different purpose as defined in the table below:

Training Zone	Purpose	%MHR	%MMP	Time (minutes)
Recovery	Regeneration & Recovery	<60	<35	<60
Basic	Establish Base Endurance	60-65	35-45	1.5-6
Basic	Improve Efficiency	65-75	45-55	1-4
Intensive	Improve Sustainable Power	75-85	55-65	45-120 seconds
Intensive	Push Threshold Up	82-89	65-75	30-60 seconds
Maximal	Sustain a High percentage of Maximal Aerobic Power	89-94	75-85	14-40 seconds
Maximal	Increase Maximum Power Output	>94	85-100	4-10 seconds
Supra-Maximal	Increase Sprint Power Output	N/A	>100	Short Intervals

Figure 5.0

See Figure 6.0 - Page 39 for a scale to gauge intensity while training within your zones.

Discover why heart rate and watts are effective training tools.

Air Resistance

Cadence **& Air Resistance**

Cadence is the frequency at which you pedal and is measured by the WPM in revolutions per minute (RPM). Cadence can be manipulated along with the Wattbike air and magnetic resistance to produce specific power outputs required by your training program.

The ideal setting is one that allows comfortable pedal spinning at a cadence of between 70-90 pedal revolutions per minute (r/m). More experienced cyclists may be able to maintain a cadence of 90-110 revolutions per minute. Trained cyclists will be able to reach an excess of 110 revolutions per minute.

See how adding resistance can help you reach your zones.

Magnetic Resistance

Air Resistance is controlled by the **Air Resistance** lever located on the left side of the bike. This creates a quick and easy transition to a higher resistance for more intense workout. Once you've maxed out the air resistance, you can use the **Magnetic Resistance** to further increase intensity of the ride. The magnetic resistance dial is located on the right side near the handlebar shaft.

Low gears ideal for:

- High leg speed (cadence drills)
- A starting point for beginners
- Focused on technique sessions
- Endurance training

High gears ideal for:

- Short intervals or HIIT (high intensity interval training)
- Power development training
- Testing stronger riders

ALWAYS establish the fitness level, ability of rider, and great cycling technique BEFORE adding heavy resistance.

The **Warm Up**

The Warm up and cool down are an important part of every single Wattbike training session. The purpose of a warm up is to gradually increase muscle and core temperature without causing fatigue or reducing stored energy. It also increases blood flow as well as improves the transportation and utilization of oxygen. A warm up prepares your body both physically and mentally for your training session ahead.

Recommended Wattbike Specific Warm Up

10 MINUTES

MINUTES	CADENCE
0-1	80
1-2	85
2-3	90
3-4	95
4-5	100
5-6	80
6-6:06	Rev Out (120-130)
6:06-7	Recovery (80-90)
7-7:10	Rev Out (120-130)
7:10-8	Recovery (80-90)
8-10	80

Suggested Air Resistance Levels
Pro 1
Trainer <5

See page 28 for the full 20 minute warm up.

The **Cool Down**

An adequate cool down prevents blood from pooling as well as gradually reduces heart rate and aids in recovery. When cooling down on the Wattbike, choose a resistance level that allows you to pedal at 70-90 RPM with ease.

Exercise **Programming**

Now that you have the knowledge of proper bike fit, understanding the polar display, training within your zones, and cadence and resistance settings, you are ready to apply your knowledge.

Whether you are striving for weight loss, general fitness, or improving your power output, the Wattbike is the training tool to get you results.

"Within weeks of installing the bikes into our centre in Aigle they became a fundamental element of our program across all cycling disciplines. They have added to the quality of our daily training."

Fred Magné - Director of UCI World Cycling Centre

Wattbike **Hub**

Run the Wattbike**Hub** app while training to record your data and view it live on your phone, from any Wattbike. Connect to the bike through **Bluetooth Smart** or **ANT+** for real time data. Swipe across the screen to view your pedal technique screen, including live polar view. Seamlessly upload to the to keep track of your progression.

For more information go to **wattbike.com**

Download for your mobile device.

Available on the iPhone App Store

ANDROID APP ON Google play

Upload **Results**

The Wattbike**Hub** lets you test, train and analyse your performance all from one simple digital platform. It's like having your own personal coach in your pocket.

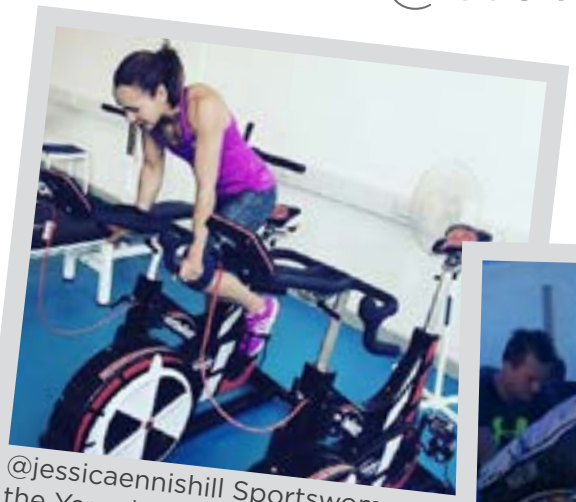
Here you can:

- Analyze and compare your training sessions.
- Track your progress.
- Share your sessions via social media or email. You can also synchronize your Wattbike**Hub** account with Strava.

Strava:
An online community who post their workouts with each other. Place to track your rides and runs, socialize with others, and get the motivation you need.

Log on and track your workouts on your Wattbike Hub account.

Share **Your Ride**
#WATTBIKEWORKOUT
@WattbikeUSA



@jessicaennishill Sportswoman of the Year doing a #wattbikeworkou

100km Wattbike race @Cycle Studio. What's your longest ride?

Kiwis preparing for the Rugby World Cup @Cardiff University

Hop in the saddle!
Try any of the example workouts in this guide or create your own.

#TAG YOUR FACILITY

FOLLOW US

TEST YOUR POWER

GOAL: HIGHEST WATTS

Workouts

Select **Workouts/ Tests**

Choose **Tests** then **6 second power test**

Adjust levels for appropriate resistance

Go all out for 6 seconds!

Share your **#wattbike #power** results with us!

Watch others power through!

WATTBIKE WARM-UP

WB

GOAL: **PREPARE FOR RIDE AHEAD & PRACTICE CONTROLLING CADENCE**

20 MIN.

TIME	CADENCE
0:00 - 5:00	90
5:00 - 7:00	95
7:00 - 9:00	100
9:00 - 11:00	105
11:00 - 12:30	110
12:30 - 13:00	Rev Out (120-130 RPM)
13:00 - 15:00	90
15:00 - 15:06	Rev Out (150+)
15:06 - 16:06	90
16:06 - 16:12	Rev Out (150+)
16:12 - 17:12	90
17:12 - 17:18	Rev Out (150+)
17:18 - 20:00	90

Suggested Air Resistance Levels
Pro <4
Trainer <10

REV OUT:
Acceleration to maximum cadence

REPEATING INTERVALS

WB

GOAL: **FAT LOSS**

35 MIN.

TIME	ZONE
WARM-UP	
0:00 - 10:00	*Detailed warm-up on page 20.*
WORKOUT	
10:00 - 10:20 (20sec)	6 (Rev Out)
10:20 - 11:00 (40 sec)	Recovery (60-70 RPM)
11:00 - 30:00	Repeat above 1 minute interval
COOL DOWN	
30:00 - 35:00	Recovery

Zone Training Levels - Pg. 39

NOTE: For each sprint aim to maintain an average power output.

COACH

Workout Courtesy of Coach Magazine
/CoachMagUK @CoachMag

RAMP-UP & RECOVER

GOAL: **GENERAL CONDITIONING**

WB

13 MIN.

TIME	ZONE	CADENCE
WARM-UP		
0:00 - 1:30	3	80
1:30 - 3:00	3	90
3:00 - 4:00	4	100
4:00 - 5:00	2	65
WORKOUT		
5:00 - 5:50 (50 sec.)	3	100
5:50 - 6:00 (10 sec.)	1	Recovery (60-70)
6:00 - 6:40 (40 sec.)	3	110
6:40 - 7:00 (20 sec.)	1	Recovery (60-70)
7:00 - 7:30 (30 sec.)	4	120
7:30 - 8:00 (30 sec.)	1	Recovery (60-70)
8:00 - 8:20 (20 sec.)	4	130
8:20 - 9:00 (40 sec.)	1	Recovery (60-70)
9:00 - 9:10 (10 sec.)	6	140+
9:10 - 10:00 (50 sec.)	1	Recovery (60-70)
COOL DOWN		
10-13	1	Easy

Zone Training Levels - Pg. 39

CADENCE CLIMB

GOAL: **GENERAL CONDITIONING**

WB

15 MIN.

TIME	ZONE	CADENCE
WORKOUT		
0:00 - 3:00	2	70-80
3:00 - 3:15 (15 sec.)	6	Rev Out
3:15 - 4:00 (45 sec.)	2	Recovery (60-70)
4:00 - 4:20 (20 sec.)	6	Rev Out
4:20 - 5:00 (40 sec.)	3	Recovery (60-70)
5:00 - 5:30 (30 sec.)	4	95
5:30 - 6:00 (30 sec.)	2	Recovery (60-70)
6:00 - 6:40 (40 sec.)	4	90
6:40 - 7:00 (20 sec.)	2	Recovery (60-70)
7:00 - 7:45 (45 sec.)	3	85
7:45 - 8:00 (15 sec.)	2	Recovery (60-70)
8:00 - 8:40 (40 sec.)	4	90
8:40 - 9:00 (20 sec.)	2	Recovery (60-70)
9:00 - 9:30 (30 sec.)	4	95
9:30 - 10:00 (30 sec.)	2	Recovery (60-70)
10:00 - 10:20 (20 sec.)	6	Rev Out
10:20 - 11:00 (40 sec.)	2	Recovery (60-70)
11:00 - 11:15 (15 sec.)	6	Rev Out
11:15 - 12:00 (45 sec.)	2	Recovery (60-70)
COOL DOWN		
12:00 - 15:00	1	Easy

Zone Training Levels - Pg. 39

GENERAL CONDITIONING

GOAL: **MUSCLE RECRUITMENT**

WB

25 MIN.

TIME	ZONE	CADENCE
WARM-UP		
0:00 - 2:00	3	85
2:00 - 4:00	3	90
4:00 - 6:00	3	95
6:00 - 7:00	4	100
7:00 - 8:00	3	85
8:00 - 8:06	5	Sprint (120-130)
8:06 - 9:00	1	Recovery (60-70)
9:00 - 9:06	5	Sprint (120-130)
9:06 - 10:00	1	Recovery (60-70)
WORKOUT		
10:00 - 13:00	3	75-80 (higher gear)
13:00 - 16:00	1	75-80
16:00 - 20:00	3	75-80 (higher gear)
COOL DOWN		
20:00 - 25:00	2	Easy

Zone Training Levels - Pg. 39

GENERAL CONDITIONING

GOAL: **CARDIO INTERVAL**

WB

40 MIN.

TIME	ZONE	CADENCE
WARM-UP		
0:00 - 2:00	3	85
2:00 - 4:00	3	90
4:00 - 6:00	3	95
6:00 - 7:00	4	100
7:00 - 8:00	3	90
8:00 - 8:10	4	Sprint (low resistance)
8:10 - 9:00	2	80
9:00 - 9:10	4	Sprint (low resistance)
9:10 - 10:00	2	80
WORKOUT		
10:00 - 18:00	2	90
18:00 - 20:00	1	Recovery (60)
20:00 - 28:00	2	90
28:00 - 30:00	1	Recovery (60)
30:00 - 32:00	3	90
COOL DOWN		
32:00 - 40:00	1	Easy

Zone Training Levels - Pg. 39

POWER THROUGH

GOAL: **WEIGHT MANAGEMENT**

WB

50 MIN.

TIME	ZONE	CADENCE
WARM-UP		
0:00 - 1:00	2	70
1:00 - 2:00	3	75
2:00 - 3:00	3	80
3:00 - 4:00	3	85
4:00 - 5:00	4	90
5:00 - 6:00	2	70
6:00 - 6:06	4	Rev Out
6:06 - 7:00	3	85-90
7:00 - 7:06	4	Rev Out
7:06 - 8:00	3	85-90
8:00 - 10:00	2	80
WORKOUT		
10:00 - 25:00	2	90-100
25:00 - 27:00	1	Recovery (60-70)
27:00 - 42:00	3	90-100
COOL DOWN		
42:00 - 50:00	1	Easy

Zone Training Levels - Pg. 39

WEIGHT MANAGEMENT

GOAL: **WEIGHT LOSS/MANAGEMENT**

WB

34 MIN.

TIME	ZONE	CADENCE
WARM-UP		
0:00 - 1:00	2	70
1:00 - 2:00	3	75
2:00 - 3:00	3	80
3:00 - 4:00	3	85
4:00 - 5:00	4	90
5:00 - 6:00	2	70
6:00 - 6:06	4	Rev Out
6:06 - 7:00	3	85-90
7:00 - 7:06	4	Rev Out
7:06 - 8:00	3	85-90
8:00 - 10:00	2	80
WORKOUT		
10:00 - 15:00	2	Stay in the Zone
15:00 - 17:00	1	Recovery (60-70)
17:00 - 22:00	3	Stay in the Zone
22:00 - 24:00	1	Recovery (60-70)
24:00 - 26:00	3 (upper)	Stay in the Zone
COOL DOWN		
26:00 - 34:00	1	Easy

Zone Training Levels - Pg. 39

CYCLING SPECIFIC

GOAL: **PUSHING LACTATE THRESHOLD**

WB

40 MIN.

TIME	ZONE	CADENCE
WARM-UP		
0:00 - 5:00	3	90
5:00 - 7:00	3	95
7:00 - 9:00	4	100
9:00 - 11:00	4	105
11:00 - 12:30	5	110
12:30 - 13:00	10	Max Sprint (120-130)
13:00 - 15:00	2	90
15:00 - 15:06	10	Max Sprint (120-130)
15:06 - 16:06	2	90
16:06 - 16:12	10	Max Sprint (120-130)
16:12 - 17:12	2	90
17:12 - 17:18	10	Max Sprint (120-130)
17:18 - 20:00	3	90
WORKOUT		
20:00 - 21:30	4	100+
21:30 - 23:00	1	Recovery (60-70)
23:00 - 26:00	**Repeat Above Interval**	
26:00 - 27:00	4	100+
27:00 - 28:00	1	Recovery (60-70)
28:00 - 30:00	**Repeat Above Interval**	
30:00 - 30:30	7	100+
30:30 - 31:00	1	Recovery (60-70)
31:00 - 32:00	**Repeat Above Interval**	
COOL DOWN		
32:00 - 40:00	2	Easy

Zone Training Levels - Pg. 39

CYCLING SPECIFIC

GOAL: **MUSCLE ENDURANCE**

WB

45 MIN.

TIME	ZONE	CADENCE
WARM-UP		
0:00 - 5:00	3	90
5:00 - 7:00	3	95
7:00 - 9:00	4	100
9:00 - 11:00	4	105
11:00 - 12:30	5	110
12:30 - 13:00	10	Max Sprint (120-130)
13:00 - 15:00	2	90
15:00 - 15:06	10	Max Sprint (120-130)
15:06 - 16:06	2	90
16:06 - 16:12	10	Max Sprint (120-130)
16:12 - 17:12	2	90
17:12 - 17:18	10	Max Sprint (120-130)
17:18 - 20:00	3	90
WORKOUT		
20:00 - 40:00	3	90
COOL DOWN		
40:00 - 45:00	2	Easy

Zone Training Levels - Pg. 39

NAME

GOAL:

___ MIN.

TIME	ZONE	CADENCE

ZONE **TRAINING**

RECOVERY
Very relaxed. Able to Carry on a Conversation.

ZONE 1 (Basic)
Relaxed. Able to Carry on a Conversation.

ZONE 2 (Basic)
Working. Feel Warmer. Heart Rate & Respiration Up. May Sweat.

ZONE 3 (Intensive)
Hard work. Heart Rate & Respiration Up. Carbon Dioxide Build-up. Sweating Breathing Hard.

ZONE 4 (Intensive)
Stressed. Panting. Sweating Freely.

ZONE 5 (Maximal)
Very Stressed. Gasping. Sweating Heavily.

ZONE 6 (Maximal)
Heavily Stressed. Gasping. Sweating Heavily.

SUPRA-MAXIMAL
Extremely Stressed. Gasping. Sweating Heavily.

Figure 6.0

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