The Ride Fit™ Training Guide

“Getting the best from your Ride Fit™ videos”

By

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**Introduction**

Ride Fit™ ([http://www.ride-fit.com/](http://www.ride-fit.com/)) offers an exciting range of indoor cycle training workout videos. In late 2012 we created the World’s first virtual elliptical training video, which can also be used for indoor cycling. In the sections below we look at the benefits of indoor cycling and elliptical training, and why the use of virtual training videos, such as those provided by Ride Fit, is a good idea.

**The Benefits of Indoor Cycling**

For many people who want to get in shape, cardio exercise is something that simply must be tolerated to reach a goal. With indoor cycling workouts, cardio can be something most people look forward to. The variety of workouts that are possible on an indoor cycle bike is limited only by your imagination. One day you may climb your way through the scenic San Gabriel Mountains and the next day you may repeat high-cadence intervals on a flat track. Further, indoor cycling can be enjoyed by almost anyone, regardless of age or fitness level.

The physical benefits of this great cardio exercise include weight loss, increased energy levels, a stronger heart and lungs, decreased risk for heart disease, increased bone density, better sleep and improved cholesterol and triglyceride levels. The mental and emotional benefits of indoor cycling include the reduction of stress, anxiety and depression, plus the improved ability to visualize and focus on a goal. Add to this it’s great fun - what more could you want!

While there’s always debate over just how much and how often one should exercise - few argue the benefits of regularly working out. The American College of Sports Medicine recommends that most regular adults engage in at least 150 minutes of moderate-intensity exercise each week. Obviously, if you’re an athlete training for an event such as a triathlon or a century ride your level of training will be adjusted to suit.

**Benefits of Elliptical Training**

The elliptical trainer is another excellent, low impact cardio workout machine. Elliptical workouts offer the same general benefits as those provided by indoor cycling but works different muscle groups and your cycling muscles (legs) in different ways. This can help to address any muscular imbalances you might be developing by just concentrating on cycling.

If you’re new to cycling, endurance cross training can help you ease into the sport. Instead of initially spending hours in the saddle, use another low-impact sport (elliptical training or swimming), to help build-up your endurance while your tail-end builds up tolerance to your seat. Further, mix in some weight lifting and good stretching will greatly aid your ability to resist injury.

**Why Use A Training Video?**

Training with the accompaniment of a workout video, such as the Ride Fit™ series, has a number of benefits including:

- Working in a goal orientated environment will inspire you to workout harder and burn more calories;
- Encourage you to complete full workout sessions as you’ll want to finish the ride;
• Increases your attention span and entertainment, hence reducing boredom – one of the key factors that will result in you giving up on working out;
• Allow you to monitor your progress by comparing your workout performance week-to-week over the same virtual route;
• Provide a varied workout environment including simulated road rides, “indoor cycling class like” and interval workouts and workouts based on heart rate zones.

Question About Ride Fit’s Videos
If you purchase one or more Ride Fit™ training videos and you have questions relating to how to download, install or use our product please either visit our FAQ page or send us an e-mail at info@ride-fit.com. We pride ourselves in our customer service - if you need us we’re here to help.

Following Sections of This Guide
To help get the most from your Ride Fit™ workout videos, we’ll be discussing some important topics in the following chapters including:
• The setup of your indoor cycle bike or turbo trainer;
• How to get multiple training experiences from the same Ride Fit™ training video;
• The use of a heart rate monitor and heart rate training zones.

The “training” information presented in this guide is targeted primarily at new to intermediate riders. Those of you training for long distance rides, triathlons or road racing should be well beyond the training concepts described within. You should, however, find the ideas on how to get multiple training experiences from the same Ride Fit™ training video helpful.

Disclaimer
Please check with your doctor before starting this or any exercise program. By watching a Ride Fit™ video, and/or using any of the guidelines provided in this document, you are voluntarily choosing to participate in a fitness training workout. Further you agree that any information, instruction or advice obtained from these guidelines or a Ride Fit™ video will be used at your own risk, and that you release and discharge any person or organization involved in the production of these guidelines or Ride Fit™ videos from any and all responsibilities or liabilities from injury arising from participation in this fitness training.
Turbo Trainer And Indoor Cycle Bike Setup

Introduction
In this next chapter of the Ride Fit™ Training Guide we examine how to setup your road bike/turbo trainer combination or indoor cycle bike (also known as a stationary bike or exercise bike), describe the Ride Fit™ dashboard that on every Ride Fit™ workout video and introduce the resistance levels used in each training video.

Setting Up Your Road Bike / Turbo Trainer
We are going to leave the physical set-up of your road bike to the professionals. A bike fitting done by a reputable local bike store or cycling professional will ensure your bike is correctly set-up for your body shape and size. Not only will you feel more comfortable but you’ll be able to get the most power through the pedals and greatly reduce the risk of injury.

Types of Turbo Trainer
Probably the quietest type of turbo trainer is the magnetic based trainer. With a magnetic trainer, an adjustable magnetic unit allows the user to set the resistance to a specific level. Many manufacturers offer a remote option that allows the rider to adjust the magnetic unit from a lever on the handlebars. While the magnetic trainer provides almost silent operation, offered resistance does not progressively increase as the speed of pedaling increases.

If you want a more "outdoor cycling" feel (that is resistance that increases as you pedal faster and some ability to stop pedaling and coast) then you might want to consider a trainer based on fluid resistance, centrifugal force or wind resistance.

Without a doubt, the fluid trainer is the most popular trainer available today. Fluid trainers use a fluid-filled, closed reservoir fan design that smoothly and quietly creates additional resistance as the speed of the wheel increases providing a feeling very similar to that of actual road riding. Cooling fins on the outside of the reservoir dissipate the heat that builds up in the fluid. Fluid units offer very quiet operation and a wide range of resistance levels but cheaper models may suffer seal leaks due to the repeated friction heating and consequential expansion and contraction of the fluid.

The centrifugal trainer utilizes a centrifugal clutch that provides smooth, silent and progressive resistance. Once the rider stops pedaling, the centrifugal elements drop back towards the center of the unit and all resistance on the wheel is released allowing the wheel to coast thus making the pedal stroke feel more natural.

If you want a trainer that offers the best road feel then arguably a wind based unit is the way to go. This type of unit uses a fan to generate resistance that creates progressive resistance. If the fan is large and heavy it also offers the ability to coast for a significant number of seconds. The disadvantages of a fan based system are they are without doubt the noisiest type of cycle trainer and many units provide limited resistance making them unsuitable for serious athletes.

So what trainer is right for you? Well, that depends on a number of factors including your budget, pedaling feel, the amount of noise you and your neighbors can tolerate, the type of cyclist you are and
wear on your bike. If possible try several trainers out at your local bike store before making a decision and checkout the many online reviews available for the manufacturers and models out there. As has been pointed out the fluid trainer is the most popular and this is because it meets the majority of user needs.

Note: Since nearly all turbo trainers create friction on the back wheel via a roller, wear will be caused on the back tire. As such, many people who do a lot of work on their trainers will either fit a training tire to the back wheel or use a different rear wheel setup that has a training tire on it. That being said, recently the Lemond Revolution has appeared on the market. This offers a high resistive load and further does not make use of the rear wheel running on a roller. Rather with this unique design, the rear wheel is removed and a direct-drive integrates directly with the bike drive train thereby eliminating wheel and tire wear.

**Setting Up Your Indoor Cycle Bike**

Before you start your workout it’s important to ensure your exercise bike is appropriately adjusted. If you’re working out as part of a class then your cycling instructor will help out. However, if you’re on your own it’s good to know a few guidelines that will ensure the appropriate setup of an upright or recumbent stationary bike. Again, this is not only important for comfort but also to make sure that you are optimally transferring your energy to the bike and that you are doing it in such a way that you won’t injure yourself.

There are multiple steps that you need to go through to correctly set up your stationary bike. Trust me, the last thing you want to do is injure yourself, or twenty minutes into your workout have to adjust your bike because you’re not comfortable.

The first step in setting up a stationary bike is adjusting the seat to the appropriate height. Adjust the seat while you are wearing your workout shoes or your proper cycling shoes. A rough estimate of the seat height can be obtained by standing next to the bike and setting the seat height so it's level with the top of your hip bone. Then sit on the seat, place your feet in/on the pedals and push down on one side until one of your legs is at the bottom of the stroke. Your leg should still have a slight bend in it (approximately twenty degrees). Adjust your seat up or down to achieve this; your seat is now set up for the most appropriate height. On a recumbent bike, the seat has a back to it like a chair and can only be adjusted forwards or backwards. Your seat position is appropriately adjusted when at the farthest point of your leg extension the knee still has a slight (approximately twenty degree) bend in it. Never cycle with a seat position that allows the knee to be unbent at the farthest point of leg extension.

The next step in setting up your upright stationary bike is handlebar height adjustment. Most indoor cycling enthusiasts set their handlebars equal to their seat height. If that height is not comfortable for you, then it is better to adjust your handlebars above your seat height - zero to five inches covers most body types.

The third step in adjusting your stationary bike is the horizontal (forward or backward) position of the seat so that your knees are correctly aligned in relation to your feet. To begin this process of horizontally adjusting your seat, sit on the bike seat in the riding position with your hands placed on the handlebars and your feet correctly on the pedals (either in the strap or clipped into the pedal if wearing cycling shoes). Next position the pedals so that they are even or level with one another. The best way to check to make sure you have adjusted the horizontal position of your seat properly has to do with the position
of your knee caps. If the kneecap of your forward leg is positioned directly over the center of the pedal then you have a properly adjusted horizontal seat position. If this is not the case, then adjust the horizontal position of the seat until you achieve this.

If applicable, the last step of adjusting your upright or recumbent bike is appropriately adjusting your pedal straps. Nearly all have adjustable straps attached to them. All you need to do is place your foot on the pedal and adjust the strap so that it firmly holds your foot in place (not too firm - you don’t want to feel as though you are losing blood circulation to your foot). On some high quality upright stationary bikes, the reverse side of the pedal allows special cycling shoes to clip in and stay secure to the pedal. The part of the cycling shoe that clips into the pedal is called the cleat. Many shoes allow the position of the cleat to be adjusted on the bottom of the shoe. Follow the manufacturer’s instructions as to the appropriate way to do this.

You may find it easier to have a friend or fellow rider help you out with these adjustments, particularly gauging the bend of your knee and the vertical position of your knee over the pedals. When you’ve made all the appropriate adjustments make a note of the various settings for future use (most stationary bikes have graduated marking on the seat post, seat slide and handlebar post for exactly this reason).

You’re now all ready for a safe, comfortable and fulfilling workout.

**Physical Setup of Your Elliptical Trainer Or ElliptiGO**

We refer you to the manufacturer’s instructions relating to the correct physical setup and adjustments of either the elliptical trainer or ElliptiGO you are planning to use.
Ride Fit™ Workouts

In this chapter, we’re going to look at the training philosophy we have developed Ride Fit™ indoor cycle training videos around, the use of resistance levels with either your road bike/turbo trainer combination or stationary bike, and the Ride Fit™ dashboard, used to provide training instruction to the user.

Training Philosophy

Over the years many athletes have come to appreciate that indoor cycle training can very effectively supplement outdoor training. Not only are there the obvious benefits of being able to train at a time and place of your convenience or the fact that you can train when the weather outside is nasty but indoor training has been shown to be a fast, effective and efficient tool to build endurance and trim fat. With the indoor trainer you can condense your workouts, cutting out slow, base miles, and get right to the nitty-gritty giving you the best bang for your buck. If you’re like the majority of cyclists your training time is limited. Therefore as stated by Anne Samplonius (20-year cycling professional and silver medalist at the 1994 World Championships Individual Time Trial) in a Ride Fit™ blog article, “the indoor trainer is the best tool you can have in your arsenal of bicycle paraphernalia.”

It is with these thoughts in mind that Ride Fit™ has developed a series of training videos that offer a variety of optimized indoor training experiences. All Ride Fit™ training videos use a combination of target resistance (more about this in a moment) and target cadence. Target cadence values typically range from 55 – 105 RPM and are associated with moving from intense to light resistance levels respectively. We do not advocate pedaling at higher RPMs unless your pedaling technique is very good and the only way you’ll typically find this out is if you’re working with a professional coach.

Simulated Road Rides

The majority of the Ride Fit™ series are simulated road ride type workouts. In these workouts we aim to keep you exercising at or around your Functional Threshold Power. Functional threshold power (FTP) is a key metric for cycling performance and is defined as the maximum average power a cyclist can maintain over a one-hour effort. Knowledge of FTP will help a competitive road cyclist to plan an attack, go off the front of the pack and hang on for victory in the closing miles of a road race. Likewise, competitive road cyclists with limited FTP may have to conserve energy and hang onto the pack until close to end of the race and attempt victory through strong sprinting, which requires different race preparation. For the average cyclist knowing FTP is critical in understanding their limitations and capabilities and thus make the best out of a club ride.

In order to maintain output power at or around your FTP for the majority of the ride, Ride Fit™ uses a matched pairs of target cadence and resistance that have been shown to require the rider to produce similar output power. Thus, as resistance goes up then target cadence falls and visa versa. Now, of course, if we adopted this philosophy through the entire workout you would likely get bored so that appropriate moments, such as when other riders “attack” the group, or you’re on a long downhill section and need some rest, you’ll be directed to operate away from your FTP.

To make your workouts as interesting and varied as possible Ride Fit™ videos offer a variety of simulated ride elevation profiles ranging from undertaking “rollers” (up and down hills). Several workouts with this type of profile include Local Rollers and Three Times Up, Three Ways Down. Then there are
workouts that offer longer uphill and downhill segments such as Alpine Challenge and Un Paseo En Bicicleta Perfecta, and other workout such as ElliptiGO World Championships where you focus primarily on one discipline, in this case hill climbing.

**Interval Training**

Our interval training titles basically break into two categories.

The first is slow intervals, where the duration of the interval and the duration of the recovery period extend over a number of minutes. A great example of this would be the Beginners or recovery title, Fiesta Island Fun.

The second category is high-intensity interval training (HIIT), where you’ll typically be working above your FTP during the active part of the exercise and then recover at light load for a short duration. Example workouts that fall into this category would be Ride Fit™ titles Master Blaster, Smokin’ Joe and Warrior.

**Ride Fit™ Resistance Levels**

As mentioned above, Ride Fit™ videos display an overlaid digital dashboard that typically includes a target resistance setting that will inform you what resistance setting is recommended. To keep things relatively simple all Ride Fit™ videos incorporate no more than six resistance levels:

- Light (representing a steep downhill grade);
- Light-to-Moderate (representing a moderate downhill grade);
- Moderate (representing a flat road);
- Moderate-to Heavy (representing a moderate uphill grade);
- Heavy (representing a steep uphill grade);
- Intense (representing a severe uphill grade).

To effectively use your Ride Fit™ videos the first thing you should do is establish what resistance setting on your indoor cycle bike or road bike/turbo trainer combination corresponds to a flat road or “Moderate” resistance. At this resistance setting you should be able to cycle with moderate effort (which we will define for the time being as exercising while being able to talk comfortably) with a cadence of about 70 - 80rpm for an extended duration of an hour or more. This is effectively your FTP power mentioned above at 70-80 RPM. Establishing this “Moderate” resistance level allows you to then set other resistance settings (such as Light-to-Moderate) with stepped increments as described in the following sections.

**Road Bike Used With a Turbo Trainer**

For a road bike combined with a turbo trainer, the trainer in most cases provides a fixed resistance to the back wheel of the bike and the rider simulates different resistance levels by changing gear.

The simplest way to vary your resistance settings throughout your workout is to leave your front chain ring selection unchanged, and then select your rear cog in a manner shown in the table below.
Real rides, anywhere, anytime.

<table>
<thead>
<tr>
<th>Ride Fit™ Resistance Level</th>
<th>Rear Cog Selection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light</td>
<td>2\textsuperscript{nd} Largest (e.g. 23T)</td>
</tr>
<tr>
<td>Light-to-Moderate</td>
<td>3\textsuperscript{rd} Largest (e.g. 21T)</td>
</tr>
<tr>
<td>Moderate (flat road)</td>
<td>4\textsuperscript{th} Largest (e.g. 19T)</td>
</tr>
<tr>
<td>Moderate-to-Heavy</td>
<td>5\textsuperscript{th} Largest (e.g. 17T)</td>
</tr>
<tr>
<td>Heavy</td>
<td>6\textsuperscript{th} Largest (e.g. 16T)</td>
</tr>
<tr>
<td>Intense</td>
<td>7\textsuperscript{th} Largest (e.g. 15T)</td>
</tr>
</tbody>
</table>

This table corresponds to using a 10-speed rear cassette with a 12/25T cassette sprocket. Your nominal “Moderate” resistance setting can be adjusted in one or more of the following ways:

- Change the resistance setting the trainer offers to the rear wheel of your bike;
- Change the selection of the “Moderate” rear cog. In the case above, this “Moderate” cog selection could vary from 3\textsuperscript{rd} Largest (21T) to 7\textsuperscript{th} Largest (15T) and still allow you to select the six levels of resistance – see the table below.
- Change the selection of your front chain ring. For instance, with a double front chain ring, select the big ring rather than the small ring or vice versa.

<table>
<thead>
<tr>
<th>Ride Fit™ Resistance Level</th>
<th>Rear Cog Selection</th>
<th>Rear Cog Selection</th>
<th>Rear Cog Selection</th>
<th>Rear Cog Selection</th>
<th>Rear Cog Selection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light</td>
<td>Largest</td>
<td>2\textsuperscript{nd}</td>
<td>3\textsuperscript{rd}</td>
<td>4\textsuperscript{th}</td>
<td>5\textsuperscript{th}</td>
</tr>
<tr>
<td>Light-to-Moderate</td>
<td>2\textsuperscript{nd}</td>
<td>3\textsuperscript{rd}</td>
<td>4\textsuperscript{th}</td>
<td>5\textsuperscript{th}</td>
<td>6\textsuperscript{th}</td>
</tr>
<tr>
<td>Moderate (flat road)</td>
<td>3\textsuperscript{rd}</td>
<td>4\textsuperscript{th}</td>
<td>5\textsuperscript{th}</td>
<td>6\textsuperscript{th}</td>
<td>7\textsuperscript{th}</td>
</tr>
<tr>
<td>Moderate-to-Heavy</td>
<td>4\textsuperscript{th}</td>
<td>5\textsuperscript{th}</td>
<td>6\textsuperscript{th}</td>
<td>7\textsuperscript{th}</td>
<td>8\textsuperscript{th}</td>
</tr>
<tr>
<td>Heavy</td>
<td>5\textsuperscript{th}</td>
<td>6\textsuperscript{th}</td>
<td>7\textsuperscript{th}</td>
<td>8\textsuperscript{th}</td>
<td>9\textsuperscript{th}</td>
</tr>
<tr>
<td>Intense</td>
<td>6\textsuperscript{th}</td>
<td>7\textsuperscript{th}</td>
<td>8\textsuperscript{th}</td>
<td>9\textsuperscript{th}</td>
<td>Smallest</td>
</tr>
</tbody>
</table>

**Indoor Cycle Bikes**

Indoor cycle bikes typically come with two types of resistance setting mechanism; either some sort of resistance knob/dial or a cycle computer often controlled by buttons or a lever. In my own case I workout regularly on a Keiser M3 stationary bike. This bike features a magnetic resistance system, and the M3 cycle computer allows the user to select a wide range of resistance settings via a mechanical lever whose physical position is conveniently translated to a numerical value displayed on the M3 computer screen.

My default workout resistance settings on the Keiser M3 are as shown in the below:
<table>
<thead>
<tr>
<th>Ride Fit™ Resistance Level</th>
<th>Default M3 Resistance Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light</td>
<td>9</td>
</tr>
<tr>
<td>Light-to-Moderate</td>
<td>11</td>
</tr>
<tr>
<td><strong>Moderate (flat road)</strong></td>
<td><strong>13</strong></td>
</tr>
<tr>
<td>Moderate-to-Heavy</td>
<td>15</td>
</tr>
<tr>
<td>Heavy</td>
<td>17</td>
</tr>
<tr>
<td>Intense</td>
<td>19</td>
</tr>
</tbody>
</table>

Note: When I first started indoor cycling my “Moderate” resistance level was 11, and all other resistance values were also two positions lower. As you improve your physical conditioning expect to change your default resistance values accordingly.

On an indoor cycle bike with a dial/knob controlled resistance setting, such as the CycleOps 100 Pro, then initially set your “Moderate” level by feel (noting perhaps the number of full and partial turns this occurs from the minimum resistance setting). Resistance increase/decrease can then be controlled by turning the dial/knob either clockwise/counterclockwise a set amount. A quarter or half turn is typically adopted by many users; the chosen amount is obviously dependent on the makeup of your specific training bike.

However the resistance level is set on your indoor bike, it will invariably take a few workouts to determine the most appropriate “Moderate” resistance setting and the best resistance increments. It is important to pay attention to your cadence or RPM when establishing the “Moderate” level. There are economical aftermarket cadence meters that can be installed on your indoor cycle bike if the model you have does not contain a built-in computer with this feature.

**Setting Up Your Elliptical Trainer / ElliptiGO Setup**

Basically the same concepts apply to setting up an elliptical trainer or ElliptiGO used with a stationary trainer as apply to the setup of a bike. That is, you’ll need to identify six appropriate resistance settings that correspond to:

- Light (representing a steep downhill grade);
- Light-to-Moderate (representing a moderate downhill grade);
- Moderate (representing a flat road);
- Moderate-to-Heavy (representing a moderate uphill grade);
- Heavy (representing a steep uphill grade);
- Intense (representing a severe uphill grade).

To effectively use your Ride Fit™ elliptical training videos the first thing you should do is establish what resistance setting on your elliptical machine corresponds to a flat road or “Moderate” resistance. At this resistance setting you should be able to stride with moderate effort (exercising while being able to talk comfortably), for an extended duration of an hour or more, with:

- A stride rate of about 140 - 160 strides per minute on a traditional elliptical trainer;
- A stride rate of about 75 - 85 strides per minute on an ElliptiGO/turbo trainer combination.
The one difference with some elliptical trainers is that it's also possible to vary the incline of the stepping motion. We recommend for setting the “Moderate” resistance level you use a “Moderate” incline, defined as typically 33% of the maximum possible incline. Ride Fit™ elliptical training videos reference three incline levels:

- Flat - typically 0% of maximum incline or zero degrees;
- Moderate – typically 33% of maximum incline or something around six degrees;
- Steep – typically 66% of maximum incline or something around twelve degrees.

Establishing this “Moderate” resistance level allows you to then set other resistance settings (such as Light-to-Moderate) with stepped increments away from the “Moderate” setting in either direction.

The majority of elliptical machines you find either at home or in the fitness center come with digitally set resistance mechanisms – typically controlled via a display with resistance level buttons. In my own case, the elliptical machine I workout on has 30 resistance levels. My default workout resistance levels are as shown below:

<table>
<thead>
<tr>
<th>Ride Fit™ Resistance Level</th>
<th>Elliptical Resistance Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light</td>
<td>7</td>
</tr>
<tr>
<td>Light-to-Moderate</td>
<td>9</td>
</tr>
<tr>
<td>Moderate (flat road)</td>
<td>11</td>
</tr>
<tr>
<td>Moderate-to-Heavy</td>
<td>13</td>
</tr>
<tr>
<td>Heavy</td>
<td>15</td>
</tr>
<tr>
<td>Intense</td>
<td>17</td>
</tr>
</tbody>
</table>

If using the ElliptiGO with a stationary trainer then you use your gears to select your resistance level, much in the same way as you would for a road bike/turbo-trainer combination.

**The Ride Fit™ Dashboard**
Each Ride Fit™ indoor cycling workout video comes with an overlaid digital dashboard providing you with all the information you'll need to successfully complete your workout program.

The example screen shot below shows you a typical layout of the digital dashboard. The screen shot comes from the Ride Fit™ title, Un Paseo En Bicicleta Perfecta.
As you can see the simple on-screen digital dashboard shows you your critical ride information consisting of your target resistance setting, target cadence and perceived effort level. In addition there is a terrain profile with progress indicator that shows you where you are and what’s coming next so you can pace your ride appropriately. Finally, a segment timer tells you how much time you have left at the current resistance/cadence setting, and the second timer provides a countdown to the end of the ride.
Ride Fit™ Workout Titles

No matter whether you are new to the sport, a keen indoor cyclist, a triathlete or into cross training, we've got Ride Fit™ titles suitable for your fitness level. To make your selection easier, we've identify our virtual training videos as Beginners/Recovery, Intermediate or Advanced based on the workout duration, the degree of hill climbing and the type of workout. You can see our entire range of products at http://www.ride-fit.com/shopping.html.

Beginners/Recovery Indoor Cycling Titles

**Fiesta Island Fun**

A great Beginners ride targeted at improving aerobic capacity and burning fat. Ideally done in conjunction with using a heart rate monitor, begin to learn how your body reacts to changing load. If you don't have a heart rate monitor no worries; just follow the cadence guidelines. Run time approx. 45 minutes. Learn more.

"Hola Madrid"

Somewhere between a Beginners and Intermediate ride, enjoy a wonderful tour around the bustling streets of Madrid, Spain. With the beautiful weather everyone is out; strolling in the park, people watching from coffee shops, walking the dog or doing some afternoon shopping. You'll want to go to Madrid after this ride. Run time approx. 52 minutes. Learn more.

**Miramar Lake Loops**

This is a great Beginners or Recovery Ride. Start your day with three easy loops around Miramar Lake joining runners, rollerbladers and other cyclist exercising before heading into the office. This ride is over...
mainly flat terrain and is ideal for aerobic base conditioning or recovery. Run time approx. 58 minutes. Learn more.

Intermediate Indoor Cycling Titles

Local Rollers
Sometimes you just don't have the time to venture far from home. Join Eric, a local tri-athlete, for an undulating training ride around his local neighborhood. This is rated as an Intermediate Ride and features a number of rolling hills plus two Category 5 climbs. Run time approx. 59 minutes. Learn more.

Pick It Up!
This Intermediate workout focuses on high cadence, low resistance drills and is ideal for developing a high cadence riding technique that has been shown to lower fatigue and therefore improve overall performance, whether on the road or in the gym. Set to great interval training music from BodyRocker Fitness this workout is approximately 30 minutes in duration.
Spin Around Madrid
This tough Intermediate workout features ride footage shot in the Casa de Campo and Colmenar Viejo regions of Madrid, Spain. Organized in the format of a traditional indoor cycling class, this ride features two challenging hill climbs. If the run time (approx. 51 minutes) had been longer this would have been an Advanced ride so prepare to sweat. Learn more.

Three Times Up, Three Ways Down
Organized in a traditional indoor cycling class format (i.e. short exercises punctuated with recovery breaks) this is a classic workout program set against film shot along the breathtaking route of the penultimate stage of the 2011 AMGEN Tour of California. Run time approx. 58 minutes. Learn more.

Advanced Indoor Cycling Titles

Alpine Challenge
Join the Descenders Cycling Club for the opening 17 miles of the Pine Valley Route of the 2011 Alpine Challenge. Shot in the mountains south of Alpine, CA this is an Advanced Ride that includes a Category 2 and Category 3 climb. Run time approx. 69 minutes. Learn more.
**Master Blaster**
Are you time constrained? If so, then try this high intensity interval training (HIIT) workout. Featuring great ride footage shot in California and Nevada you will ride through the Nevada Desert, alongside the Southern Californian ocean and into the mountains, all in less than 40 minutes. [Learn more.](#)

![Master Blaster](image)

**Smokin' Joe**
Go six rounds with this high intensity interval training (HIIT) workout and you'll think you'd gone head-to-head with the legendary Joe Frazier. Forty minutes will never fly past so quickly on your turbo trainer or stationary bike. Experience spirited attacks, manic hill climbing and fast pace line action. [Learn more.](#)

![Smokin' Joe](image)

**Un Paseo En Bicicleta Perfecta**
Join riders Jose and Juan as they climb the Puerto de Navacerrada near the mountain town of Pradera de Navalhorno, Spain. This epic European climb and subsequent descent, often used in the Vuelta a Espana, winds through beautiful countryside where the road is covered in inspirational messages cheering on the likes of Contador, Wiggins and Sastre. A real sweat fest! [Learn more.](#)

![Un Paseo En Bicicleta Perfecta](image)
Dual-Purpose Indoor Cycling/Elliptical Workouts

**ElliptiGO World Championships**
This unique training video is targeted at those working out on indoor cycling, as well as elliptical machines. You're put right in the middle of the action as a who's who of elite athletes compete to win The 2012 World Championships of Elliptical Biking. This Advanced workout has a run time of approximately 70 minutes. [Learn more.](#)

![ElliptiGO World Championships](image)

**Warrior**
Another high intensity interval training (HIIT) title, this Intermediate workout is suitable for indoor cycling as well as elliptical training. Watch ElliptiGO riders in California and Nevada power down the Las Vegas Strip, over the Hoover Dam or through sea breezes. Run time approx. 34 minutes. [Learn more.](#)

![Warrior](image)

**Great Value Combo Packs**
Ride Fit™ also offers a number of great value combo - save of up to 20% over buying the same training titles one at a time. Great value just got better!

Monitoring Your Ride Fit™ Workouts

I thought at this point it would be useful to mention a couple of tools we use to monitor and display results from workouts. All the information in the “Workout Variations” chapter below was derived using these tools.

Using Ride Fit™ With TrainerRoad

We know many of you are familiar with TrainerRoad (http://www.trainerroad.com/) but for those who are not let me start by briefly introducing their product. TrainerRoad is a Windows/MAC based software package that is used in combination with an indoor trainer, at least one ANT+ device and an ANT+ USB stick. This allows the TrainerRoad software to collect real time workout information such as heart rate, cadence and speed, and in turn calculate a VirtualPower measurement. If you’re lucky enough to actually have a bike equipped with a power meter then this data can be used instead of TrainerRoad’s calculated VirtualPower.

When you run the TrainerRoad application you get a well laid out dashboard showing your real time workout data, plus the power profile you’re working out to and power/heart rate graphing. After your workout, your data is automatically saved to the cloud. When logged in, accessing your Career page allows you to view, graph and get key performance indicators for any of the workouts you’ve done. Plus, you’re provided with your own Personal Records or bests.

In addition to Ride Fit™ titles, TrainerRoad offers a huge library of 300+ workout profiles, including race simulations and other video based titles from the likes of Sufferfest, epicRides, Spinervals and 3LC.tv. The application is linked to the major social media sites so you can share workout information with your friends. All this is available for a low monthly subscription and a 30 day risk-free trial.

For each Ride Fit™ title we've created a matching TrainerRoad power profile. To find a Ride Fit™ title, select the Workouts within TrainerRoad tab and then select Video. Scroll down the listed workouts (all our videos start with the words Ride Fit™) to find your favorite title.

After you've found your Ride Fit™ title, open the workout and using the Browse button load the video right into the center of the display screen so the TrainerRoad dashboard is now supplemented with great live-action ride footage. The power profile is time synced to the Ride Fit™ workout video so just change gear as instructed and alter your cadence (and hence your output power) to match the power profile. How cool is that?

Below is a TrainerRoad screen shot for a workout being undertaken to the Ride Fit™ title Master Blaster. You can see the Ride Fit™ video playing in center screen with the complete ride power profile on the left-hand side and a zoomed in power profile on the right-hand side. Both power profiles are overlaid with real time VirtualPower/actual power and your heart rate. Towards the center of the screen you'll see from left to right, your real and target power (at this moment 243/241W), interval and ride timers, and your heart rate and cadence values (at this moment 140bpm/90rpm). A very nice feature is that when you hit your target power the power line goes bright green. Go too hard or too soft and the power line turns redder in color the further you stray from your target power.
As I mentioned earlier, when you complete your workout the collected data is stored to the cloud. An example of a stored workout for the Ride Fit™ title Local Rollers is shown below. You can clearly see the target power profile, along with recorded power and heart rate. A wide variety of statistics are also available including calories burned, time in power zones and time in heart rate zones.

When using TrainerRoad, Ride Fit™ uses the Garmin ANT+ USB stick, the Garmin GSC 10 speed/cadence sensor and the Garmin Premium Heart Rate Monitor in combination with a Kinetic By Kurt Road Machine. All these products are available at Amazon. For your convenience they can also be ordered through the Ride Fit™ Recommended Accessories page.

In summary, TrainerRoad has done a fantastic job of developing this very comprehensive software package and we’re thrilled that all of the Ride Fit™ indoor cycle training videos are now integrated. Going forward, all new Ride Fit™ titles will be TrainerRoad compatible.
iMobileIntervals

If you want to monitor your workout using an iOS based app then we can recommend iMobileIntervals. All Ride Fit™ titles have an iMobileIntervals profile and you’ll see us featured on their main navigation bar, http://imobileintervals.com/, along with the folks from Sufferfest.

iMobileIntervals allows you to create a user profile and store your workout data to the cloud. It can then be retrieved for analysis/display on a variety of tools.

GoldenCheetah

At Ride Fit™ we use the free cycling analysis program GoldenCheetah. The GoldenCheetah software package is available at http://www.goldencheetah.org and provides a rich set of analysis tools, including a critical power graph, histogram analysis, a best interval finder, and a pedal force versus pedal velocity chart, to name just a few. Further, it can import and export data to and from a variety of sources.

As an example of the information you can derive from the GoldenCheetah package let us consider working out to the Ride Fit™ title Spin Around Madrid. The chosen gearing for this ride was as shown in the table below.

<table>
<thead>
<tr>
<th>Ride Fit™ Resistance Level</th>
<th>Front Cog Selection</th>
<th>Rear Cog Selection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light</td>
<td>Large (54T)</td>
<td>2\textsuperscript{nd} (24T)</td>
</tr>
<tr>
<td>Light-to-Moderate</td>
<td>Large (54T)</td>
<td>3\textsuperscript{rd} (21T)</td>
</tr>
<tr>
<td>Moderate</td>
<td>Large (54T)</td>
<td>4\textsuperscript{th} (19T)</td>
</tr>
<tr>
<td>Moderate-to-Heavy</td>
<td>Large (54T)</td>
<td>5\textsuperscript{th} (17T)</td>
</tr>
<tr>
<td>Heavy</td>
<td>Large (54T)</td>
<td>6\textsuperscript{th} (15T)</td>
</tr>
<tr>
<td>Intense</td>
<td>Large (54T)</td>
<td>8\textsuperscript{th} (13T)</td>
</tr>
</tbody>
</table>

These gear settings were selected to provide a ride centered on aerobic training. You can obviously change your chosen gearing for any given ride dependent on your workout objectives.

After completing the workout, the captured ride data collected via TrainerRoad is imported into the GoldenCheetah package. From this I created a graph showing the generated power, my heart rate and cadence. To this I added the ride elevation profile (seen on the bottom of the workout video). The x-axis is in minutes. The resulting workout profile is on the next page.

You can clearly see from this workout profile the short 30 second recovery breaks between Segments 1 and 2, 2 and 3 and 3 and 4. My heart rate climbs steadily over Segments 1 and 2 and peaks in Segment 3 as I respond to an "attack" made by a rider met on the ride. While the downhill section at the end of Segment 3 followed by the 30 second recovery period helps to lower my heart rate significantly, it rapidly rises again in Segment 4 as I wrestle with the long sustained solo climb. During this final climb my heart rate hovers just above 150bpm for nearly twelve minutes. The final surge of power at the end comes from making a strong finish during which I deplete any energy I had left.
The GoldenCheetah package, this analysis tool can provide many different visualizations relating to the workout data you captured for a specific ride. One example of such a visualization is shown below:

The graph shows Cadence verses Power on the Y and X axis respectively, and Heart Rate on the Z Axis. You can clearly see for a good part of this ride I experienced a heart rate between 150 - 160bpm.

Using the analysis functionality available within the GoldenCheetah package, I was also able to derive the following Key Performance Indicators (KPIs) about this virtual ride:

- Distance covered 13.3 miles;
- 496 calories burned;
- Average power generated 163W;
- Average heart rate 139 beats per minute (bpm);
- Best 10 minute peak power = 188W;
- Best 20 minute peak power = 185W;
- Best 60 minute peak power = 177W.
Resistance Mapping

To help you select the most appropriate workout videos for your ability, we specify Ride Fit™ training videos as Beginners, Intermediate or Advanced based loosely on the amount of climbing in the workout and the workout duration. In reality, however, you can make these workout sessions as easy or difficult as you like by varying the resistance set point for the “Moderate” resistance setting, the amount of increase/decrease in resistance associated with stepping between resistance levels and how much of the ride you complete. We often describe varying the “Moderate” set point and the amount of increase/decrease in resistance associated with stepping between resistance levels as changing your “Resistance Mapping.”

Indoor Cycle Bike

As I mentioned earlier I often workout on a Keiser M3 indoor cycle bike. The table below shows my default riding resistance settings, plus three other combinations I use regularly to create variety for any particular workout.

<table>
<thead>
<tr>
<th>Ride Fit™ Resistance Level</th>
<th>Default Ride Resistance Settings</th>
<th>Reduced Spread in Resistance Settings</th>
<th>Higher Average Resistance Settings</th>
<th>Lower Average Resistance Settings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light</td>
<td>9</td>
<td>11</td>
<td>10</td>
<td>8</td>
</tr>
<tr>
<td>Light-to-moderate</td>
<td>11</td>
<td>12</td>
<td>12</td>
<td>10</td>
</tr>
<tr>
<td>Moderate (flat road)</td>
<td>13</td>
<td>13</td>
<td>14</td>
<td>12</td>
</tr>
<tr>
<td>Moderate-to-heavy</td>
<td>15</td>
<td>14</td>
<td>16</td>
<td>14</td>
</tr>
<tr>
<td>Heavy</td>
<td>17</td>
<td>15</td>
<td>18</td>
<td>16</td>
</tr>
<tr>
<td>Intense</td>
<td>19</td>
<td>16</td>
<td>20</td>
<td>18</td>
</tr>
</tbody>
</table>

When the cycle bike resistance is set by a dial/knob then changes in the “Moderate” set point and the amount of dial/knob rotation per resistance step will achieve a similar result.

Road Bike used with a Turbo Trainer

For a road bike setup on a turbo trainer the nominal “Moderate” resistance setting can be varied by either adjusting the turning resistance of the trainer or by selecting a different “Moderate” gear setting (combination of front chain ring and rear cog selection).

Increasing the incremental resistance change between resistance levels (such as changing from Moderate to Moderate-to-Heavy) can be achieved by stepping the rear gears twice rather than once. The table below gives several examples of rear cog selections providing a higher average resistance level workout and greater resistance steps compared to what might be the default setting.

Even greater resistance increments can be achieved by selecting appropriate front chain ring and rear cog combinations. If you’re interested in exploring this, the bike gearing calculator provided on the website of the United Bike Institute (http://www.bikeschool.com/tools/gear-calculator) will certainly help you out.
Road Bike/Turbo Trainer Workout Variation

One of the Ride Fit™ test bikes is fitted with both a speed/cadence and power sensor. Plus, when I workout I wear a heart rate monitor (HRM).

As an example of the type of data you can collect and derive consider a recent indoor ride I undertook while working out to the Ride Fit™ title Un Paseo En Bicicleta Perfecta. For this workout I used a BMC Road Racer SL01 (11/28T rear cog) setup on a Kinetic Road Machine Fluid turbo trainer. My chosen gearing for this ride was as shown in the table below:

<table>
<thead>
<tr>
<th>Ride Fit™ Resistance Level</th>
<th>Front Gear (Teeth)</th>
<th>Rear Cog (Teeth)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light</td>
<td>54</td>
<td>2\textsuperscript{nd} (24)</td>
</tr>
<tr>
<td>Light-to-Moderate</td>
<td>54</td>
<td>3\textsuperscript{rd} (21)</td>
</tr>
<tr>
<td>Moderate (flat road)</td>
<td>54</td>
<td>4\textsuperscript{th} (19)</td>
</tr>
<tr>
<td>Moderate-to-Heavy</td>
<td>54</td>
<td>5\textsuperscript{th} (17)</td>
</tr>
<tr>
<td>Heavy</td>
<td>54</td>
<td>6\textsuperscript{th} (15)</td>
</tr>
<tr>
<td>Intense</td>
<td>54</td>
<td>8\textsuperscript{th} (13)</td>
</tr>
</tbody>
</table>

These gear settings were selected to provide a ride centered on aerobic training. After completing the Un Paseo En Bicicleta Perfecta ride, I uploaded the captured ride data to the GoldenCheetah package. Since the graphical displays from this package are very detailed, I then exported a subset of the data and did a little processing and manipulation to derive the chart below that shows the ride elevation profile (seen on the bottom of the workout video), my heart rate and generated power plotted, against time (minutes) on the horizontal axis.
As you can see the first thirty minutes of this workout where you’re climbing the two hills are challenging. Heart rate rises rapidly and the rider needs to manage their expended energy during this section in order to successfully get through the long tempo segment that follows. The two power spikes you can see during the hill climb are associated with responding to an "attack" made by several riders outside of the main group of filmed riders. After completing the two hill climbs, the rest of the ride is over rolling terrain that rises gently towards the finishing point. This allows your heart rate to become relatively stable during this extended tempo section.

Below are just a few examples of some of the statistics about this virtual ride:

- Distance covered 26 miles;
- Work undertaken 964 KJ, or more commonly put 964 calories burned;
- Average power generated 160W;
- Average heart rate 146 beats per minute (bpm);
- Best 10 minute peak power = 220W;
- Best 20 minute peak power = 191W;
- Best 60 minute peak power = 174W.

Now let us consider a workout done to the same video but using the rear gear selection shown in the third column of the table below:
During this second workout I adhered to the prescribed target cadence levels in the video. The resulting workout profile is shown in figure below.

![Workout Profile](image)

If I now take the KPI results presented for the first workout and contrast these to the results collected for this ride, you can see how different the workout experience is by making this simple change to resistance/gear mapping - see the table below.

<table>
<thead>
<tr>
<th>Ride Fit™ Resistance Level</th>
<th>Usual Rear Cog Selection (Teeth)</th>
<th>Revised Rear Cog Selection (Teeth)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light</td>
<td>2\textsuperscript{nd} (24)</td>
<td>1\textsuperscript{st} (28)</td>
</tr>
<tr>
<td>Light-to-Moderate</td>
<td>3\textsuperscript{rd} (21)</td>
<td>2\textsuperscript{nd} (24)</td>
</tr>
<tr>
<td>Moderate (flat road)</td>
<td>4\textsuperscript{th} (19)</td>
<td>3\textsuperscript{rd} (21)</td>
</tr>
<tr>
<td>Moderate-to-Heavy</td>
<td>5\textsuperscript{th} (17)</td>
<td>4\textsuperscript{th} (19)</td>
</tr>
<tr>
<td>Heavy</td>
<td>6\textsuperscript{th} (15)</td>
<td>5\textsuperscript{th} (17)</td>
</tr>
<tr>
<td>Intense</td>
<td>8\textsuperscript{th} (13)</td>
<td>6\textsuperscript{th} (15)</td>
</tr>
</tbody>
</table>
### Key Performance Indicator

<table>
<thead>
<tr>
<th></th>
<th>Usual Rear Cog Selection</th>
<th>Revised Rear Cog Selection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distance Covered (Miles)</td>
<td>26</td>
<td>24</td>
</tr>
<tr>
<td>Work Undertaken (Calories)</td>
<td>964</td>
<td>826</td>
</tr>
<tr>
<td>Average Power Generated (W)</td>
<td>160</td>
<td>141</td>
</tr>
<tr>
<td>Average Heart Rate (Beats per Minute)</td>
<td>146</td>
<td>124</td>
</tr>
<tr>
<td>Best 10 Minute Peak Power (W)</td>
<td>220</td>
<td>179</td>
</tr>
<tr>
<td>Best 20 Minute Peak Power (W)</td>
<td>191</td>
<td>163</td>
</tr>
<tr>
<td>Best 60 Minute Peak Power (W)</td>
<td>174</td>
<td>147</td>
</tr>
</tbody>
</table>

Comparing the results in the table you can see my average heart rate drops nearly 22 beats per minute from 146bpm to 124bpm and by average generated power drops from 160W to 141W. All that being said, I still managed to burn a very respectable 826 calories.

Essentially this workout has changed from one where I was working at the higher end of my aerobic zone and into my anaerobic zone to one where I'm working out almost entirely in my temperate to lower-end aerobic zone. What does this mean in plain English? This workout has gone from a muscle building, "feel the burn" type workout to a fat burning; improve your cardio base, type workout.

So what are some of the benefits of doing this?

- One workout video can give you two or more very different workout experiences. This greatly increases the value of your Ride Fit™ workout program. It's like getting indoor cycle training workouts for free;
- Advanced and Intermediate workouts can be effectively utilized by less conditioned riders simply by making the appropriate gearing selection;
- Beyond fat burning and building a solid cardio base, working out at these lower resistance levels allows you to concentrate on other aspects of your workout such as pedaling form, stability at higher cadences and breathing control.
Heart Rate Monitors and Training

As was stated in the Disclaimer at the beginning of this training guide, before starting any exercise program it goes without saying you should check with your doctor to make sure you’re healthy enough to participate in the program you’re considering. If you get the doctor’s OK, a great tool that is readily available to help you more effectively manage your exercise time is a Heart Rate Monitor (HRM).

Heart Rate Monitors

There are many types of HRM on the market today ranging from dedicated units to third party add-ons for smart phones. The most important function of a HRM is the ability to monitor your heart rate continuously and accurately. We at Ride Fit™ strongly recommend that you use a HRM while undertaking exercise since it provides you considerable insight into the effort you are expending at any given moment. Further, a HRM can also provide you with additional valuable information such as calories burned, time in various heart rate zones (more on this in a moment) and exercise duration.

We zone have several HRMs; one is a Timex Zone Trainer and the other is the ePulse2. The first of these heart rate monitors consists of a wrist mounted watch (display unit) and a chest strap. This unit works well in the gym or outside when riding a road bike. The ePulse2 is a rather unique heart rate monitor, which is worn on the inside of the arm just below the elbow (there is no chest strap). This device works well in the gym but its use outside is limited due to bright sunlight display limitations and by the fact I often like to wear a long sleeve vest when riding. To find a HRM that suits you checkout online reviews and/or visit your local bike shop or outdoor adventure store. It should be noted many GPS watches come with heart rate monitors.

The Timex Zone Trainer HRM comes with an excellent little book called, “Heart Zones Tools for Success” that is available online at [http://www.assist.co.uk/assets/files/support/heartzones/articles/heart-zones.pdf](http://www.assist.co.uk/assets/files/support/heartzones/articles/heart-zones.pdf). The majority of the concepts discussed below are sourced from this book and we recommend you read it. That being said, there is no definitive way to use heart rate training zones, so Ride Fit™ also recommends you do further research to get an appreciation of the different concepts out there. Ultimately, you need to pick a training method that makes sense and feels comfortable to you.

Exercising Using a HRM

To use a HRM, the first thing you need to do is establish your Maximum Heart Rate (MHR). MHR is the highest number of contractions your heart can beat in a minute and occurs when the body is undertaking very hard physical exercise. The most accurate way to obtain your MHR is to go to your doctor and undertake a cardio stress test. If you decide not to do this, then “Heart Zones Tools for Success” recommends the use of the Sub-Max Step and Chair Tests, a description of which can be found in the book. Failing that, it is possible to use a mathematical formula but there are many and over time fitness professionals have changed their opinions as to which are the most accurate. The website, [http://www.brianmac.co.uk/maxhr.htm](http://www.brianmac.co.uk/maxhr.htm), provides an overview of the most popular MHR mathematical formulas.

To calculate my MHR, I’ve chosen to average the following results:

- Using Sub-Max Step and Chair test, which yields my MHR = 179bpm;
Using the mathematical formula developed by Miller et. al. ([http://www.brianmac.co.uk/maxhr.htm](http://www.brianmac.co.uk/maxhr.htm)), which yields my MHR = 175bpm;

Thus, the MHR that I believe is most applicable to me is 177bpm, and this is the number I enter in my Timex Zone Trainer to take advantage of the heart rate zone functionality built into this unit.

You can use the same or a different combination of MHR determining techniques to establish your MHR value. With this value established, you can now determine your Heart Zones, which according to “Heart Zones Tools for Success”, are defined as follows:

- **Zone 1: 50 - 60% MHR.** In this zone the body’s metabolism starts to wake up. Working out in Zone 1 lowers blood pressure and cholesterol. Few calories are burned but Zone 1 is a great starting place for working out.

- **Zone 2: 60 – 70% MHR.** This is the Temperate Zone. It is a comfortable, cruise zone. You can talk when working out in Zone 2. More calories are burned than in Zone 1 and fat is starting to move out of the cell.

- **Zone 3: 70 – 80% MHR.** This is the Aerobic Zone or sweat zone. Exercising in Zone 3 results in improved functional capacity of the blood vessels and better aerobic capability. For fitness lovers, Zone Three is sometimes described as the “happy zone” because good feeling endorphins are released and even more calories are burned.

- **Zone 4: 80 – 90% MHR.** This is the Threshold Zone and a tough place to workout. Working out in this zone a couple of days per week will help improve your overall fitness level and make you faster. Too many workouts in Zone 4 can cause overtraining. Lots of calories are burned and you must eat to replace carbohydrates if working out for extended periods.

- **Zone 5: 90 – 100% MHR.** This is the Red Line Zone. It is a very hard workout zone where you’re pushing yourself to the max. The highest number of calories are burned per minute in this zone. As you get very fit, working out briefly in Zone 5 will help improve your performance but you should not stay there to long or overtraining may result.

To reap the most benefit from indoor cycling or elliptical training, you need to ensure that you are exercising in the right zones for your level of fitness and exercise goals:

- If, for instance, you’re looking to stay in shape and perhaps loose a little weight then most of your exercise can be done in Zones 2 and 3. You might be working out two or three times per week.

- If you’re working out to improve your general cardio fitness you’ll definitely be working out 2 to 3 times per week and most people will workout across Zones 3 and 4 for up to an hour per workout period.

- If you’re training for long distance riding (such as a century ride) then you’re going to be working out 4 to 5 times per week and targeting a given number of “virtual miles” over a multi-week training plan. Most rides will be focused on Zones 3 and 4, pushing into Zone 5 for short bursts. However, you should also be using recovery rides (targeted at Zones 2 and 3) to build up an aerobic base and allow the body to recover from harder workouts.
- Triathletes and road racers will have very regimented training programs detailing the type, duration and intensity of workouts to be undertaken during a multi-week training program. The individual and their coach will be paying close attention to heart rate performance while working out, along with many other key performance indicators.

You can see the type, frequency and intensity of your virtual workouts is going to be very dependent on your level of fitness and your training goals. At this point I’ll leave you to read more about Heart Zones. Alternatively, many other authors have written on heart rate zones and exercise using these zones, so again we recommend you do your own research around this topic and identify what is most appropriate for you.
Other Topics of Note

This section covers several other important areas. The information presented here is by no means complete but is a great starting point, and forms a basis of your further reading.

High Cadence Riding

Before we discuss why you might want to consider riding with a higher cadence, let’s define cadence and how cadence relates to developed power.

Quite simply, cadence is the number of revolutions of the crank per minute, or put another way the rate at which a cyclist is turning the pedals. Further it can be shown that the Power (measured in watts) required to move your bike down the road is defined as \( \text{Power} = \text{Torque} \times \text{Cadence} \), where \( \text{Torque} = \text{Force} \times \text{Distance} \); or how hard you press on the pedals multiplied by the number of times per minute you apply this force.

Now consider two identical cyclists (same weight, bikes, gearing, etc.) riding together on the same road under the same conditions at the same speed. If they’re riding at the same speed, they must be doing the same work and therefore developing the identical power. If one cyclist is grinding away at 65rpm and the other is doing 95rpm, the cyclist who is grinding must be pressing much harder on the pedals with each stroke to make up for the fact he’s doing it less frequently. The cyclist who is doing 95rpm is pushing the pedals with much lighter force but needs to do it much more frequently.

What Does This Mean?

So what does it mean for your leg muscles if you’re the grinder or the high cadence rider in the example above? Well to generate higher forces, your leg muscles must recruit more fast-twitch muscle fibers verses slow-twitch fibers. It has been shown through research that low-twitch fibers:

- Primarily burn fat for fuel - almost limitless for even the leanest athlete;
- Are very resistant to fatigue: they are built to go and go, all day;
- Recover quickly when allowed to rest.

Whereas fast-twitch fibers:

- Burn glycogen for fuel - glycogen is stored within the muscles and is in relatively short supply (about 2000 calories for a well-trained, well-fueled athlete);
- Fatigue quickly and are not built to go all day;
- Take a long time to recover before they can be used again.

This explains that, while typical recreational and club cyclists pedal around 60–80rpm, pro cyclists typically pedal at around 90-110rpm during flat and long group stages and at or above 70rpm on all but the steepest of climbs. Clearly, there’s a good reason to pedal faster – you’re using muscle fibers that don’t fatigue so easily. What the pros do is testament to the fact, that in general, cycling in a lower gear and pedaling with a higher cadence can yield better overall performance than grinding away with a slower cadence and bigger gear.
Higher Cadence Requires Good Technique

So why aren’t we all pedaling with higher cadence – for sure we all want to feel less fatigued?

The challenge with riding at a high cadence is it requires good riding technique. Further, there are limits above which even the best rider will not be able to maintain the excellent form required and therefore there’s an upper limit to where you can be comfortable. Again, taking our cue from pro’s that’s likely to be around 90rpm on long tempo stages.

Below are some tips on improving your high cadence riding performance:

- Make sure your bike is correctly setup – your local bike store or indoor cycling instructor can help you with this;
- Watch your pedaling action on the bike – your legs should go straight up and down like pistons and not be varying from side-to-side;
- To boost your cadence and ride at higher cadence you need to start with an efficient pedal stroke. Aim to have equal pressure for the entire 360 degrees of your pedal stroke - don’t let your powerful muscles dominate the down stroke;
- Single leg drills, isolating either the right or left leg, can be very effective for learning a full and complete pedal stroke;
- Next, make sure you don’t bounce on the saddle – it’s very important to keep your hips as still as possible, Relaxation is one of the keys to pedaling at a high cadence without bouncing;
- If you start bouncing back-off 5rpm, regain your form and then when ready try again;
- Once you’ve developed an efficient pedal stroke and don’t bounce then begin to focus on boosting pedal speed and thus increasing cadence;
- Watch experienced professional cyclists pedal - you will get a real feel for the fluidity of movement needed and the correct ride position you should be maintaining.
- If you’re really serious about getting the best from your pedaling stroke seek professional help. As well as working on your bike setup, best body position, a professional will be able to video your pedaling action and make suggestions for change.

Optimum Cadence

In addition to using the Ride Fit workout video Pick It Up! to determine what cadence feels most comfortable for you, you can also perform some simple tests to determine your optimal cadence.

The easiest way to determine your optimal cadence is by performing a time trial multiple times, using a different cadence each time. After a suitable warm-up, use your turbo trainer or stationary bike at a set speed or power for ten minutes in a gear/level that allows your cadence to be approximately 75rpm. When finished record your perceived exertion (definition of perceived exertion can be found here, http://www.cyclingscience.org/borgrpe.htm). Ride easy for 15-20 minutes and then perform another time trial, selecting a gear/level yielding a cadence around 90rpm for the same speed/power. Again, at the end of your ten minute session note your perceived effort.
A couple of days later, perform the same test again but this time do the first time trial at a high cadence and the second time trial at the lower cadence. Now you can compare the data. Whichever cadence produced lower perceived effort values is closest to your ideal cadence.

Repeat at different cadence pairs until you find your optimum RPM.

**Summary**

While there’s no cadence “magic number”, there is a wide consensus that higher cadences around 90rpm can help you avoid leg fatigue. Since most of us typically ride with a lower cadence, use the Ride Fit title *Pick It Up!* to help get more comfortable with higher cadence riding and define your optimal RPM number.

Remember the “right” cadence will be different for everyone, and you’ll probably vary your cadence depending on the terrain, so you don’t have to panic maintaining an exact number all the time.

If you can’t seem to pick a favorite RPM, err on the high cadence side, just below the point where you can’t breathe steadily.

**Proper Hydration**

Making sure you are properly hydrated for your indoor cycling workout or elliptical training session is essential; ideally you should hydrate yourself before, during and after your ride. Long workouts (whether at home or at the gym) will take a lot of fluids out of your body, which need replenishing. One simple way to help you tell if your body is properly hydrated is by monitoring urine volume and color. A large amount of light colored, diluted urine probably means you are well hydrated; while dark colored, concentrated urine probably means you are dehydrated.

There is nothing worse than starting your workout dehydrated. Before you begin indoor cycle training it is recommended that you drink about 15 - 20 fl. oz. of water two to three hours before exercising, and a further 8 - 10 fl. oz. 10 - 15 minutes before you start.

During your indoor cycling workout you should get into the habit of taking one sip of water every ten to fifteen minutes. If you are working out in hot conditions or at high elevations you may want to take a sip more frequently. If your workout is going to be over an hour it is recommended that you also drink some sort of sport energy drink as well, or in place of, water. Drink about 8 - 10 fl. oz. of sports drink (with no more than 8% carbohydrates) every 15 - 30 minutes. Sport energy drinks may not hydrate better than water but because of the sweet taste (which is less thirst quenching than plain water) you’ll probably end up drinking a larger amount, which in turn leads to better hydration. The other big advantage of a good sport energy drink has over water is that it helps return the electrolytes that you will be losing during your workout, plus you’ll receive a carbohydrate boost. Believe it or not, if you are doing an intense indoor cycling workout you may lose up to 2 - 3 liters of water an hour. That’s a lot of body fluid!

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1. [http://sportsmedicine.about.com/od/hydrationandfluid/a/ProperHydration.htm](http://sportsmedicine.about.com/od/hydrationandfluid/a/ProperHydration.htm)
2. [http://sportsmedicine.about.com/od/hydrationandfluid/a/ProperHydration.htm](http://sportsmedicine.about.com/od/hydrationandfluid/a/ProperHydration.htm)
3. [http://sportsmedicine.about.com/od/hydrationandfluid/a/ProperHydration.htm](http://sportsmedicine.about.com/od/hydrationandfluid/a/ProperHydration.htm)
When you have finished your indoor cycling workout or elliptical training program it is essential that you’ve replenish the fluids that you’ve lost. The best way to figure out how much fluid you’ve lost during your exercise is to weigh yourself before and after your workout. The weight loss is going to be mostly fluid so you need to try and drink enough to replenish the weight you lost. You can replenish that weight by drinking either water or a sports energy drink. Most experts agree that it is best for your body if you replenish your fluids within one to two hours after your workout.

Always remember that proper hydration is key for a good indoor cycling workout. These guidelines, of course, apply to riding outside as well as working out on an elliptical machine.

Finally, here’s an interesting factoid that you probably don’t know and fortunately 99% of us won’t have to worry about while we’re doing our indoor workout. Did you know that drinking too much water can cause a serious health problem. WebMD experts tell us, “Drinking excessive amounts of water can cause a rare, life-threatening condition called Hyponatremia. It's often coined "water intoxication" and has been getting a lot of attention of late. Hyponatremia refers to low levels of salt in the blood. This occurs when someone drinks so much water that they dilute the sodium in their blood. Low sodium levels can cause a clouding of consciousness, nausea/vomiting, lightheadedness, dizziness, and in severe cases, seizures, unconsciousness or death. The condition is less likely in the weekend athlete, but those participating in endurance sports like marathons are at higher risk and should take precautions.”

**Strength Training**

Strength training will not only benefit your general health but it will also increase your cycling performance. Strength training will increase your muscle mass and more muscle mass will generate more power and get you up that feared hill faster. Another good reason to do some strength training is that cycling is a non-weight bearing sport and strength training has been shown to prevent osteoporosis in later life.

We recommend you do weight training 2 – 3 times a week for 20 – 30 min. Do 8 – 15 repetitions in 2 – 3 sets all year around. Target fewer repetitions and heavier weight if you need to build primarily strength and more repetitions and less weight if you want to build primarily endurance.

The main focus should be on your lower body and core but a few upper body exercises for general fitness can also be added. Our favorite exercises include:

- **Lower body exercises** – Squats, lunges, heel raises, hip adduction/abduction;
- **Core exercises** – Plank, side plank, crunches, back extensions, hip raises;
- **Upper body exercises** – Seated row, lat pull-down, chest press, biceps/triceps.

**Weight Loss and Ride Fit**

The other day I was asked whether the Ride Fit™ series of indoor cycle training videos can help you lose weight. It would have been simple just to answer "yes" but it's not quite that straightforward. Doing one thing in isolation is not going to help you lose and sustain weight loss - you need to adopt a more holistic approach to be successful.

Now I'll state clearly again for the record that while I'm a doctor, I'm a Doctor of Philosophy and not medicine. Thus, the information provided below is based on common sense, a little reading and the

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inspirational experience of a good friend of mine, Mike, who has dropped 65lbs in just over a year. He's now back at his target weight and feeling much healthier for it.

Before noting some of my observations about weight loss, and in particular highlighting the success factors relating to my friend's experience, let me mention one word - MODERATION, and follow it with a second word, BALANCE. Whatever you do, do it in moderation and do it with balance. In simple terms this translates to:

- If a weight loss plan seems too good to be true it probably is. There are no free passes - weight loss requires effort;
- Your body is unlikely too react well to eating a very limited selection of food. Maintaining a balanced diet is important for a variety of good reasons;
- Use a combination of diet change and exercise to loose weight. Don't try and achieve weight loss with just one or the other;
- Don't do anything to extremes. You're more likely to be successful if you can set manageable goals and expectations.

While it's almost impossible not to have heard about some of the hundred's of different weight loss programs out there, at the end of the day sustained weight loss revolves around the fairly simple concept of burning more calories during the day than you take in. If you do this, your body has to burn energy to make up the difference. Burning up energy can reduce your fat reserves, which in turn reduces your weight. Simple concept!

You basically burn calories in three main ways. Firstly, you burn calories just by being alive - even when you're lying down. This is called Basal Metabolic Rate (BMR) and accounts for approximately 60% of the calories burned by an average person. Secondly there is dietary thermogenesis. Described as meal-induced heat production, these are the calories burned in the process of eating, digesting, absorbing and using food. This accounts for about 10% of the calories you burn in a day. Finally, there are calories burned during any type of physical activity. This could range from picking up a pencil (not too many calories burned here) to undertaking your favorite Ride Fit™ workout (perhaps a very respectable 400 to 800 calories depending on your chosen workout routine).

It is possible to estimate your body's average daily caloric intake to maintain your current body weight for your gender, height, age and activity level. An example calorie calculator can be found at the Mayo Clinic website. There are lots of calorie counters out there and the answers you'll get from each will all be a little different but the important thing is these tools give you a good starting point. Depending on your personal circumstances this number typically ranges between 1800 to 2500 calories per day. Once you have an idea of this number then you can estimate your required caloric input to start reducing weight. In rough terms, you must burn approximately 3500 calories more than your body requires over a period of time to loose 1lb of fat. Since, as a rule of thumb you should not eat below 1200 calories per day if female, and 1600 calories per day if male, it's pretty obvious that if you have to burn this many extra calories to shed just one pound of fat you're not going to do this quickly.

Now, some people still might be thinking that weight loss can simply be achieved by eating less. While technically correct, it is far from ideal. Exercise plays an important role in maintaining a healthy body, and it makes it possible to create the required calorie deficit without starving your body and consequently slowing your body's metabolism. As I've already noted, indoor cycling is a great form of
cardiovascular exercise and can burn around 400 - 800 calories for an hour of exercise. There are also some other great cardio workouts available including elliptical training – using a wide variety of methods we ensure you don’t get bored.

Like most people, Mike and I have smart phones - we also both use the iPad for work. You hopefully already know that playing your Ride Fit™ videos on either device is a great way of taking your Ride Fit™ workouts wherever you need them. However, either type of device can also help you in other ways. One way is through apps providing calorie tracking and progress monitoring. Two great apps are Lose It! and myfitnesspal. Both are available for the Apple and Android platforms. Both make tracking your calorific input from food, and your calorie burn from exercise, quick and relatively easy. Are they perfect tools - no! Are they 100% accurate - no! However, they are accurate enough to help you start reaching your weight loss goals. In addition, these apps sometimes offer other helpful features like social media integration so you can share your success with friends, and even get motivational advice.

My personal favorite of these two apps is myfitnesspal. One of the things I like about this app is the nutritional guidelines and analysis relating to the food you eat. Not only can you see if your carbs, fat and protein intake are on track but also your sugar. High levels of sugar are present in so many foods today and your body is not ideally equipped to process it. Further, regarding weight loss, eating food with too much sugar results in your body burning the sugar rather than the fat you want to get rid of and also makes you tired, hungry and wanting to eat more. The ability to track sugar intake has allowed me to identify and reduce the intake of a number of high sugar foods from my diet like bread, ketchup, salad dressing, canned fruit, peanut butter, soups, cereals and non-diet soda.

Well, we’ve talked briefly about weight loss, calorific input, a balanced diet, exercise and some of the weight loss applications that can help you. To round out the more holistic approach I mentioned earlier, a great place to start might be Dr. Oz’s 100 Weight Loss Tips. Some of my favorites are:

- Are your dishes too big? A healthy dinner should fit on a 9-inch plate. You may find that kid-sized plates are more appropriately sized to feed an adult!
- A pedometer can help keep track of your steps. If you’re not getting 10,000 steps a day, you’re not moving enough;
- Pass on the soda. You’ll be amazed by how much weight you drop by simply switching to water (sadly that goes for beer and wine too!);
- If food seems your only source of pleasure, make sure to reconnect with other things you enjoy - for example, music, sports, volunteer work or movies;
- Make sure you check food labels and avoid anything with more than 4 grams of sugar per serving, especially high-fructose corn syrup;
- Pick up a 5- or 10-pound weight at the gym and visualize that weight coming off. Holding the weight in your hands helps bring home just how heavy even 5 pounds of extra fat can be;
- Share your weight loss goals with your friends and family. Make it a positive life change and ask for their encouragement.

Please remember to consult with your doctor before embarking on any weight loss program or practicing any new exercise regime.
The Benefits Of Cross Training

According to Wikipedia, cross training refers to an athlete training in a sport or sports other than the one that the athlete competes in with a goal of improving overall performance. If you're a runner, the number one reason for cross training is injury prevention. However, if you're a cyclist (indoor or outdoor), you already undertake a low impact sport so why consider any form of cross training?

Cyclists, like runners, can also effectively use cross training to rehabilitate injuries, improve fitness, promote recovery, enhance motivation, get a break from formal training and enjoy participating in another sport.

The good news is that you don't have to do multiple kinds of cross training to get these potential benefits. You can enjoy many of the benefits simply by supplementing your cycling with a little strength training, flexibility training, and some form of endurance cross training.

Working out on an elliptical machine offers another low impact, endurance training method that works different muscle groups and your cycling muscles (legs) in different ways. This can help to address any muscular imbalances you might be developing by just concentrating on cycling.

If you're new to cycling, endurance cross training can also help you ease into the sport. Instead of initially spending hours in the saddle, use another low-impact sport (elliptical or swimming), to help build-up your endurance while your tail-end builds up tolerance to your seat! Further, mixing in some weight lifting and good stretching will greatly aid your ability to resist injury.

Cross training can be very effective for rehabilitation. When an overuse injury does develop, cross training allows you to maintain fitness despite being forced to cycle less. Of course, your immediate goal with any injury is to resume normal training as soon as possible. But if you can't resume normal training immediately, your best option is to adopt a modified training program that allows you to maintain fitness without exacerbating your injury or prolonging the recovery process. The best alternatives are water running, elliptical training, and inline skating, because they closely simulate the action and demands of cycling.

While some will argue that cross training will not actually improve your cycling performance, I think many will agree it will help increase the amount of time you spend training without accumulating fatigue or getting injured. Hence, while absolute high-end performance may not increase, fitness and endurance will. Further, cross training can be effectively used as a way of recovering between key workouts, so you perform better in your key workouts, get a more powerful training effect from them, and again achieve a higher level of fitness on race day.

No matter how much passion you have for cycling, if you do it often enough or with excessive repetition of routes and routines, it will become boring. This is particularly true when undertaking indoor cycling. This is why many people go to indoor cycling classes. The camaraderie of the group and the motivation of the instructor are so important in getting the most enjoyment from your workout. Now, if you train in the garage or alone at home, Ride Fit™ videos will help a lot but even then there is the potential to get turned off occasionally. Cross training helps you maintain your enthusiasm for cycling, making it possible to train harder and more consistently. There’s nothing wrong with taking a break to the gym and doing an hour on the elliptical machine. That’s why we developed the Ride Fit™ elliptical training workouts. If doing cross training and less cycling makes the training process more enjoyable, do it! Likewise, if you just don't feel like cycling on any given day but would be perfectly happy on an elliptical, then stride...
away! You're going to be in much better shape than the person that skipped there workout because they were not motivated.

Another reason to spend time cross training, particularly if you take part in a long race season, is that you need to give your body and mind a break from formal training after race season ends. A good off-season transition phase (which usually coincides with winter) should begin with about two weeks of complete rest. This period of time is just enough to allow your body to achieve a deep recovery from the recently completed training cycle and to restore your hunger for exercise. Also, it's not long enough that you will seriously compromise your fitness. After this period allow yourself one to two months of informal training - here's where cross training comes in again. As long as you do some form of workout each day and get a cardiovascular, strength, and flexibility benefit from cross training activities you pursue, there's no wrong way to approach the transition phase.
And Finally....

Customer Feedback
Comments, ideas, feedback? We’d love to hear from you about the Ride Fit™ series of virtual indoor cycle and elliptical training videos, and in particular how you enjoyed this training guide or what other topics you’d like us to cover. Let us know what you like and dislike, and if we see trends we'll modify the product or training guide so it best meets the needs of you - our growing customer base. Contact us at info@ride-fit.com.

The Ride Fit™ Resource Center
Can’t find the answer you’re looking for here, then please visit the Ride Fit™ Resource Center. Not only will you find further great information about Ride Fit™, you’ll also, get information on video playback, how to contact us, our privacy policy, some of the great partners we work with and finally links to a number of pages containing great information about the world of indoor cycling, cycling and fitness.

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