TURBO TRAINING – EQUIPMENT & SET-UP

The usefulness of the turbo trainer in indoor cycling is undisputed. Besides offering a means to exercise during bad road conditions, turbo training is a very efficient method of training – no effort is wasted (no hills to coast down, or corners to freewheel around), and you can concentrate on the session (no road hazards to distract you).

Because of this efficiency, a similar level of productiveness can be achieved from a much shorter training session on the turbo trainer than on the road.

Turbo Trainer

We are spoilt for the choice of turbo trainers, with different design principles, different resistance control features, and the availability of sophisticated display and even interactive information.

Air resistance fan based turbo trainers are the least expensive units. The fan, particularly when rotating at high speed, makes quite a din. Fluid fan units, on the other hand, are very quiet - the fan rotates in a fluid that provides the resistance but the fluid gets very hot. Fluid units have been known to leak, however the designers of most of the better brands claim that this problem has been eliminated.

Magnetic units are also very quiet (not as quiet as the fluid based units) and, unlike air and fluid units, the resistance of a magnetic unit does not increase as you pedal faster, you need to manually increase the resistance of the magnetic unit or to change to a more difficult gear. This makes the magnetic unit suited to simulate hill climbs.

At the top end of the range are turbo trainers that can be connected to your computer. The computer controls the resistance of the unit (usually magnetic based) to reproduce interesting challenges, for instance, you can climb the Col de Tourmelet (with competition if you wish), or cycle around the Cape Peninsula. You also have the facility to capture and analyse performance statistics. Such units are the Tacx I-Magic, CycleOps eTrainer, and Kingcycle.

Some turbo trainers combine more than one type of resistance unit, for instance, the Cateye Cyclosimulator has both air and magnetic resistance units.

Useful links:
http://www.minoura.jp/index-et.html
http://www.cycleops.com/
http://www.cateye.com/uk/products/viewProduct.php?modelId=37&catId=8&subCatId=0
http://www.elite-it.com/jsp/c-Prodotti.jsp?FAM=1&LANG=ENG
http://www.xtraspace.nl/~ilink/download/Trainer_overview_2004-2005%20-%20uk.pdf
http://www.kingcycle.co.uk/index.html

Training Bike

An inexpensive bike permanently set up on the turbo trainer is a preferred option. This enables you to return to a familiar set-up each time, and eliminates concerns you may have of your perspiration damaging your beautiful road bike (you perspire profusely on an indoor trainer). No matter what bike you use, it is a good idea to wrap a towel around the top tube and secure it in place with string.

A dedicated training bike will not need brakes – it is however a good idea to fit brake levers as these provide a familiar resting place for your hands. The bike should be

equipped with a double chainset, typically 52/42 teeth chain wheels, and 21/13 rear cassette to provide gears for warming-up, training, and warming-down.

Measurement Devices

A cycle computer, preferably with a cadence meter, such as the Cateye Astrale, will help provide feedback on cadence, speed, and time. I find that a separate timing device (with a second's finger) such as a battery powered kitchen clock, mounted on a nearby wall, is useful as it allows me to permanently view cadence and speed on the Cateye Astrale whilst keeping my eye on the wall clock to time specific sets in sessions.

Cooling Fan

A big cooling fan is essential.
The heat that you generate on a turbo trainer makes you sweat profusely – your heart rate will be elevated as your body tries to cool itself down. (Medical research shows that an equal exertion at 20 and 37 degrees C shows a pulse rate increase of 10 to 15 beats.)

Heart Rate Monitor (or means of determining level of effort)

To get the most out of your training, you will need some means of determining level of effort to enable you to control this during training workouts.

A heart rate monitor is a most useful tool but remember that your body is not a mechanical machine but rather a biologic system that can vary from day to day, and a number of factors can influence heart rate and its precision of correlation to level of effort.

Some turbo trainers have power output measurement devices (e.g., PowerTap, SRM) and the wattmeter readings are very useful for monitoring your performance.

Another method of determining level of effort is RPE, see my paper “Turbo Training Workouts”

Music or Television

With indoor training you do not have the continuously changing environment that you have on the road, and therefore the session can feel quite long. I find that music can help but a video showing some bike racing (Tour de France) not only takes away the tedium, but can be very motivating.