

Ergomedic 874 E



Manual
English/Svensk

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Product Information

Congratulations on your new Ergometer.

Monark Ergometer model 874 E is a safe, easy-to-use bike for fitness testing and worktests. It has a braking system, of which workload can be set by weights in a weight basket. The patented weight basket system does not require calibration. The precision of the weights ensures that the workload is correct.

NOTE!

The use of Ergomedic 874 E can be physically strenuous. Always consult a doctor before beginning an exercise program and stop immediately if feeling faint or dizzy.

Features

- Large, well-balanced flywheel 22kg (48 lbs)
- Adjustable seat height
- Adjustable handlebar with quick release lever
- Stable frame, solid steel tube
- Powder painted
- Wheels for easy transport
- Electronic display with heart rate

Width

530 mm (21") at handlebar

640 mm (25") at support tubes

Length

1120 mm (44")

Height

890-1130 mm (35-44,5") at handlebar

800-1120 mm (31,5-44") at seat

1030 mm (40,5") at front

Weight

57 kg (127 lbs) (without weights)

Included

Chestbelt



Operating Instruction

Workload adjustments

When pedaling the subject stores energy in the flywheel. The flywheel is then braked by means of a brake belt/cord which runs around the flywheel. The workload is changed either by using other pedaling speed or by increasing or decreasing the tension of the brake belt/cord against the flywheel by place weights in the weight basket. Weights are in sizes 1 kg, 0,5 kg and 0,1 kg. This makes it possible to vary the workload from 1 kg up to maximum 12 kg in steps of 0,1 kg. **NOTE:** 1 kg is the lowest work load that can be set as this is the weight of the basket itself. A weight basket that only weighs 0,5 kg is available as an option.



Fig: Workload device
1) Weight basket with weights

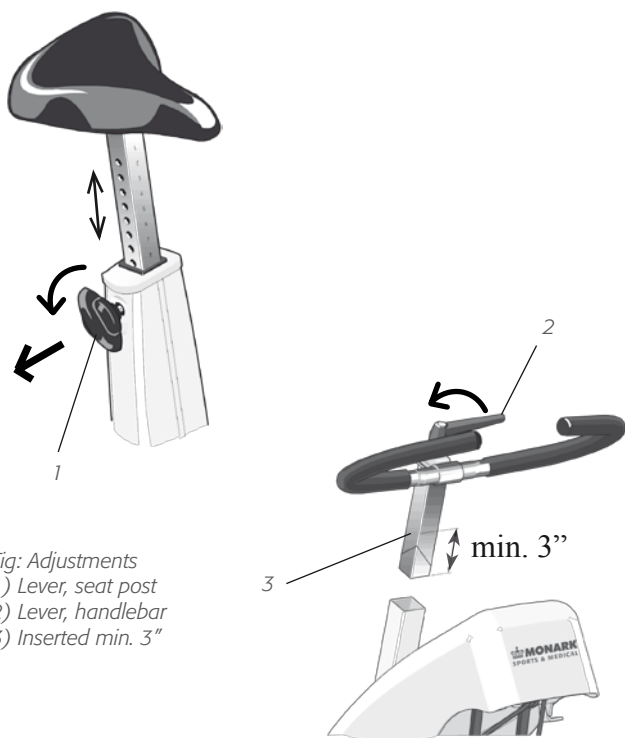


Fig: Adjustments
1) Lever, seat post
2) Lever, handlebar
3) Inserted min. 3"

Cycle adjustments

Seat height should be adjusted to a comfortable position. A suitable height is when your knee is slightly bent and the middle of the foot is straight above the pedal axle with the pedal is in its lowest position. To adjust the seat height loosen the lever on the seat tube. See *fig: Adjustments*.

The handlebar setting shall give a comfortable position when cycling. During longer exercise sessions it is recommended to occasionally change the handlebar position. To adjust the handlebar loosen the quick release lever. See *fig: Adjustments*.

NOTE! The handlebar stem should be inserted into the frame tube at least 3 inches (about 8 cm). this measure is marked out on the stem(3).

Computer specifications

Display		
RPM	0 - 250	rev./min
HR	50 - 240	bpm
TIME	0:00-99:59	min:sec
SPEED	0 - 99	km/h or mph
DISTANCE	0.0 - 99.9	km or mile
FORCE	0.0 - 7.0	kp
CALORIES	0 - 999	kcal
WATT	0 - 7 x rpm	watt

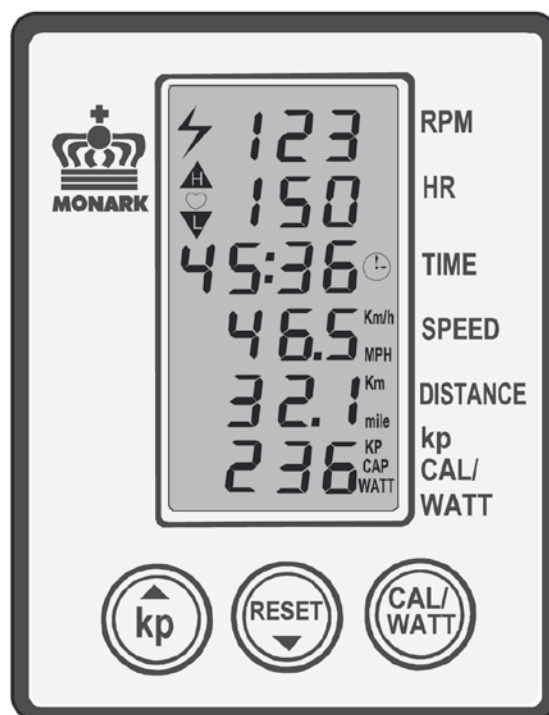
Batteries: 1.5 V x 2 R6 (AA)
 Storing temp.: -10°C - +60°C
 Operating temp.: 0°C - 50°C

Computer Instruction

The ergometer is equipped with a Fitness computer showing pedal revolutions per minute (RPM), heart rate in bpm (HR), exercise time in minutes and seconds (TIME), cycling speed in km per hour or miles per hour (SPEED), covered distance in km or mile (DISTANCE). Furthermore the workload (kp = weight basket + weights in kg) can be set which gives a reading of burned calories (CAL) as well as power (WATT) on the computer display. The energy is usually expressed in kJ (kilo Joule) or cal (kilocalorie, kcal). One kcal is aprox.4,2 kJ. The power is depending on the pedaling speed which makes it possible to adjust the workload/power by increasing or decreasing the pedalling speed.

Press any button or move the pedal to turn on the meter. At the display for heart rate (HR) a ♥ is lit which means that the meter is trying to find a pulse signal from an external source (chest-belt with electrodes, our part.no 9339-98). If the meter can not find such a signal this HR function is automatically turned of after 30 seconds. When the function is turned off the ♥ symbol is not lit any more. The heart rate function can be turned on again by pressing a button.

Timer starts automatically when pedals are moved. Meter values for Time, Distance and Calories can be set to zero by pressing the RESET button for more than 2 seconds.



To get correct readings for calories and watts the kp value on the electronic meter has to be set to the same value as the workload that is the weight of the basket including the weights in it. Example: The workload is 3 kg (weight basket 1 kg + 2 x 1kg weight). Press the kp button to the left on the meter. The lower display window is now flashing and showing figures in kp. Increase or decrease in steps of 0.1 kp by pressing the kp button (▲) or the RESET button (▼) until the reading is corresponding with the actual or desired kp values (workload) from the weight basket. After that press the CAL/WATT button to either show the CAL or WATT figures. The watt reading on the display depends on the pedalling speed. The watts can be adjusted accordingly by increasing or decreasing the pedalling speed.

Km/Miles

Km and km/h is the default setting from the factory. If you want the settings to be in miles, take the meter out of the panel. Turn off the meter by taking out one battery. On the back side is a switch with two settings - 1 and ON. See *fig: Batteries* in section "Batteries". 1 is equal to km and km/h and is the default setting. ON is equal to mile and mph. Choose position and install the battery again. Put the meter back again into the panel.

Do not expose the fitness computer to direct sunlight or extremely high temperature. Do not use any dissolvents when cleaning. Use only dry cloth.

Service

Warranty

EU countries private use

If you are a natural person you will have a minimum level of protection against defects in accordance with EC Directive 1999/44/EC. In short, the directive provides for that your Monark Dealer will be liable for any defects, which existed at the time of delivery. In case of defects, you will be entitled to have the defect remedied within a reasonable time, free of charge, by repair or replacement.

EU countries professional use

Monark products and parts are guaranteed against defects in materials and workmanship for a period of one year from the initial date of purchase of the unit. In the event of a defect in material or workmanship during that period above, Monark Exercise will repair or replace (at its option) the product. Monark Exercise will do so at its expense for the cost of materials but not for labor or shipping.

Other countries

Monark products and parts are guaranteed against defects in materials and workmanship for a period of one year from the initial date of purchase of the unit. In the event of a defect in material or workmanship during that period above, Monark Exercise will repair or replace (at its option) the product. Monark Exercise will do so at its expense for the cost of materials but not for labor or shipping.

Service check & maintenance

To keep your Ergometer in good shape you should make a regular service.

Service action	Time?	Service interval
Keep your Ergometer clean and properly lubricated	5 min	once per week
Periodically wipe the surface with a rust preventative, especially when it has been cleaned and the surface is dry. This is done to protect the chrome and zinc parts as well as the painted parts.	5 min	4 times per year
Check now and then that both pedals are firmly tightened. If not the threading in the pedal arms will be damaged. Also check that pedal arms are firmly tightened on the crank axle, tighten if necessary. When the Ergometer is new it is important to tighten the pedals after 5 hours of pedaling.	5 min	4 times per year
Check that the pedal crank is secure to the crank axle.	5 min	4 times per year
Be sure that the pedals are moving smoothly, and that pedal axle is clear of dirt and fibers.	5 min	4 times per year
When cleaning and lubricating be sure to check that all screws and nuts are properly tightened.	10 min	2 times per year
Check that the chain is snug and there is no play in the pedal crank.	15 min	2 times per year
Check that pedals, chain and freewheel sprocket are lubricated.	5 min	2 times per year
Be sure that the brake belt does not show significant signs of wear.	15 min	2 times per year
Check that the handlebars and seat adjustment screws are lubricated.	5 min	2 times per year
Be sure that all moving parts as crank and flywheel are working normal and that no abnormal play or sound exists. I.e. play in bearings causes fast wearing and with that follows a highly reduced lifetime.		Pay attention, if any mislead or malfunction. The faults must be attend to at once before any further use of the bike.
Check that the flywheel is placed in the center and with plane rotation.		

Transport

At transport the brake cord should be somewhat tightened to prevent it from falling off the fly-wheel.

Please note: The production number of your Ergometer is placed according to *fig: Serial number*.

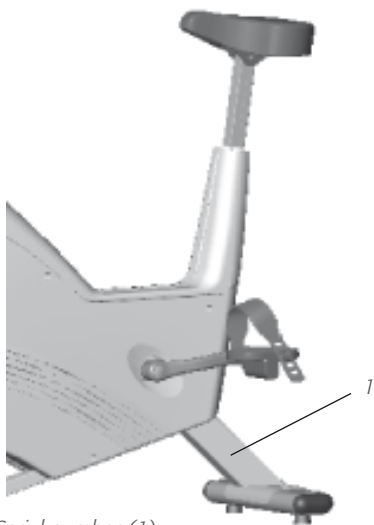


Fig: Serial number (1)

Batteries

The batteries are in a separate package at delivery. The batteries may need to be replaced upon assembly. To replace the batteries at any time, take the meter out of the housing by bending up in the lower end with a coin or similar. The batteries, 2 x 1.5V size AA(R6), which are placed in the holder on the backside of the meter, can then easily be changed. See *fig: Batteries*.

After the batteries has been replaced all segments in the display are visible and a buzzer will sound for two seconds. After 2 seconds the meter turns to main display again and normal function. Put the meter into the housing again.

Note: On the backside of the meter is a switch to change meter function from km to mile or mile to km(2).

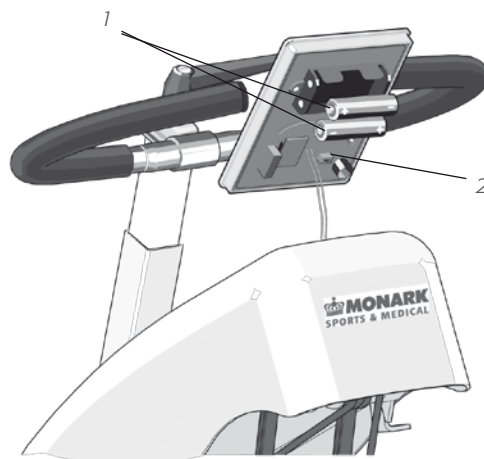


Fig: Batteries
1) Batteries
2) km/mile

Replacement of brake cord/belt

Remove the instrument cover by loosening the screws on each side of the cover. Loosen the cord/belt bracket, see *fig: Brake device*, and take away the brake belt from the tension center. Loosen or cut away the knot or tie up the knot at the other end of the belt. After that take away the belt from the bike. When assembling a new brake cord/belt, first enter one end into the belt hole in the tension center, see *fig: Brake device*, and make a knot and let the knot fall into the bigger part of the hole. Then assemble the new belt exactly as the old one.

When replacing the brake belt it is recommended to clean the brake surface. See section "Brake belt contact surface".

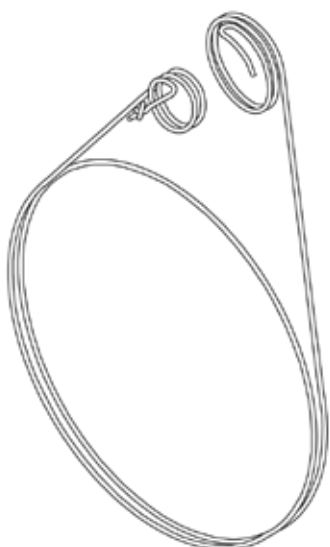


Fig: Brake cord

Adjusting the brake cord/belt tension

At first check that the brake belt is lying correctly on the flywheel brake surface. See *fig: Brake cord and Brake device*.

Put 4 kg in the weight basket(4). Rotate the flywheel by hand. The basket shall now lift up so the distance to the flywheel is at least 40 mm and maximum 60 mm. If this is not the case the brake belt has to be loosened or tightened a little at the tension center. If the basket is too low, shorten the belt somewhat. If the basket is too high, lengthen the cord somewhat.

Loosen the cord bracket(2) somewhat so that the cord length can be adjusted. Turn the tension center(3) approximately 45 degrees and after that tighten the bracket again. Release the basket and check if the measurements above are OK when the flywheel is rotated by hand. Repeat the above if necessary.

Note: The basket gives the correct workload whenever it hangs between the upper stop position and the lower stop just above the flywheel. Note that the tension center can't get in contact with its upper or lower stop. In that case you will not receive correct brake level. The measurements above (40-60) gives a good margin.

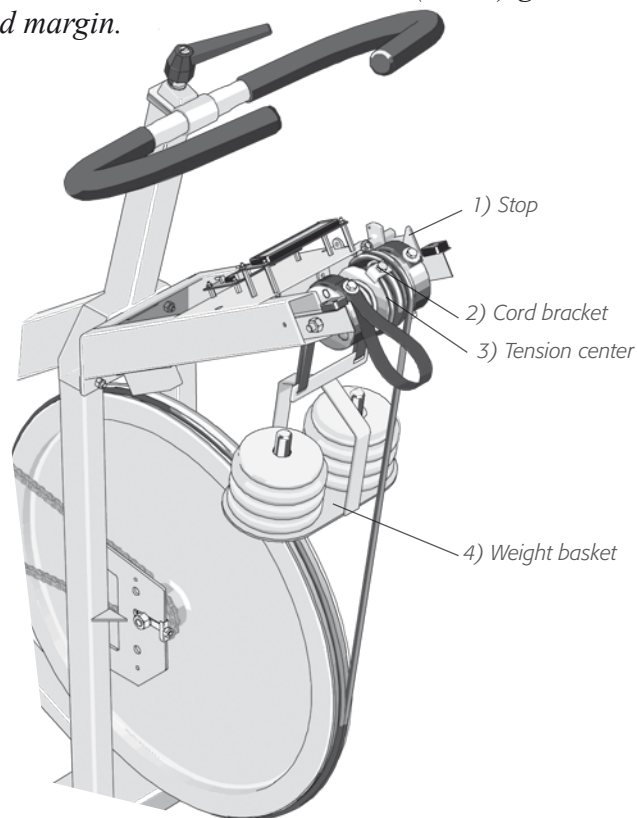


Fig: Brake device

Brake belt contact surface

The brake belt should be regularly checked to ensure that it has not suffered excessive wear. If it looks worn it should be replaced. Deposits of dirt on the brake belt and on the contact surface may cause the unit to operate unevenly and will also wear down the brake belt. The brake belt contact of the flywheel surface should then be ground off with fine sand paper and any dust removed with a clean dry cloth.

Dismantle cover and remove the brake belt/cord according to section "Replacement of brakecord/belt". Grind with a fine sand paper. See *fig: Brake belt contact surface*. Grinding is easier to perform if a second individual cautiously and slowly pedals the cycle.

Irregularities on the brake belt contact surface are removed by means of a fine sand paper or an abrasive cloth. Otherwise unnecessary wear on the brake belt may occur and the unit can become noisy.

Always keep the brake belt contact surface clean and dry. No lubricant should be used. We recommend to replacing the brake belt when cleaning the contact surface. In regard to assembly and adjustment of the brake belt, see "Replacement of brake cord/belt".

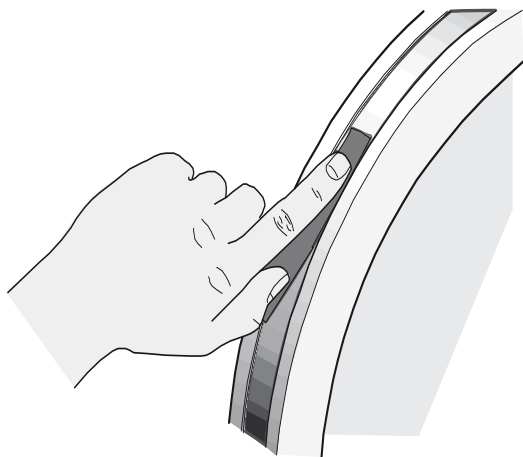


Fig: Brake belt contact surface

Crank bearing

The crank bearing is long term greased and needs normally no supplementary lubrication. If problem arises, please contact your Monark dealer.

Flywheel bearing

The bearings in the flywheel are lifetime greased and require normally no maintenance. If problem arises, please contact your Monark dealer.

Chain 1/2" x 1/8"

It is strongly recommended to keep the chain clean. Dirt build-up on the chain will cause excess wear. A chain lubricant and solvent for normal road bikes may be used.

Check the lubrication and tension of the chain in regular intervals. In the middle of its free length the chain should have a minimum play of 10 mm (1/4in). See *fig: Chain adjustments*. When the play in the chain is about 20 mm (3/4 inch) the chain must be tightened otherwise it will cause abnormal wear of the chain and chainwheels. Because of this it is always recommended to keep the chain play as little as possible. When the chain has become so long that it can no longer be tightened with the chain adjusters it is worn out and shall be replaced with a new one.

To replace the chain remove left and right frame cover. To adjust the chain the hub nuts should be loosened. Loosening or tightening the nuts on the chain adjusters will then move the hub and axle forward or backward. Adjust according to above recommendation. Then tighten the nuts on the hub axle again. See *fig: Chain adjustments*.

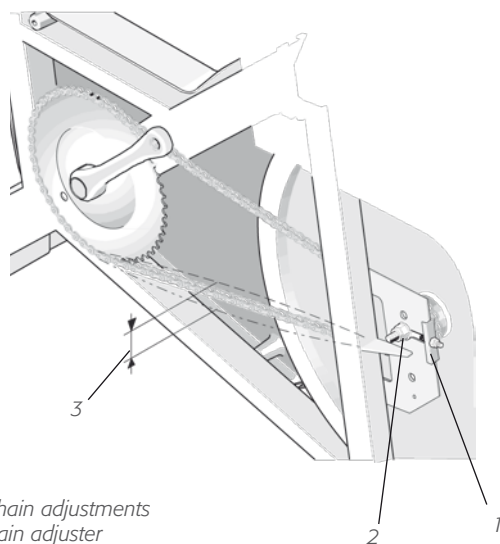


Fig: Chain adjustments
1) Chain adjuster
2) Axle nut
3) Chain play

Loosen the chain adjuster as much as possible. Dismantle the chain lock and remove the chain. Put on a new chain and assemble the chain lock. The spring of the chain lock should be assembled with the closed end in the movement direction of the chain. Use a pair of tongs for dismantling and assembling the spring. See *fig: Chain replacement*.

Adjust chain adjusters to allow chain play according to above. Tighten axle nuts firmly. Put on frame covers again.

NOTE: At assembly the flywheel has to be parallel with the centerline of the frame otherwise the chain and chain wheels makes a lot of noise and wears out rapidly.

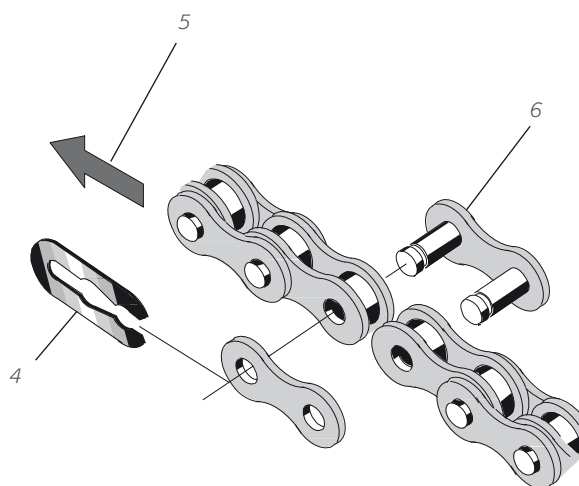


Fig: Chain replacement
4) Lock spring
5) Movement direction
6) Chain lock

Freewheel sprocket

When replacing the freewheel sprocket remove left and right frame cover. Dismantle the chain as described in part "Chain 1/2" x 1/8" ".

Loosen the axle nuts and lift off the flywheel. Remove the axle nut, washer, chain adjuster and spacer on the freewheel side. Place the special remover (part No. 9100-14) in the adapter and place the spacer and axle nut outside. See *fig: Special remover*.

NOTE: Do not tighten the axle nut completely. It must be possible to loosen the adapter-sprocket half a turn.

The sprocket should be lubricated with a few drops of oil once a year. Tolt the cycle somewhat to make it easier for the oil to reach the ball bearing. See *fig: Lubrication*.

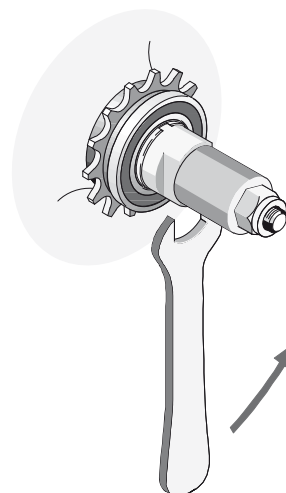


Fig: Special remover
(part no: 9100-14)

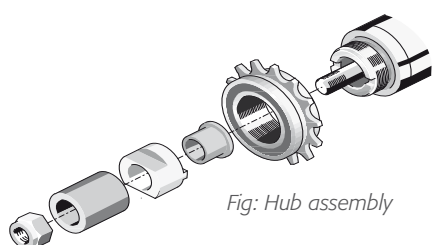


Fig: Hub assembly



Fig: Lubrication

The human body is built for action – not for rest. Once upon a time this was a necessity: the struggle for survival demanded good physical condition. But optimal function can only be achieved by regularly exposing the heart, circulation, muscles, tendons, skeleton and nervous system to some loading, i.e. training.

In the old days the body got its exercise both in work and at leisure. In our modern society, however, machines have taken over an ever increasing share of the tasks which were formerly accomplished with muscular power alone. Our life has at an accelerated tempo been dominated by sitting, riding and lying. Thus, the natural and vital stimulation that tissues and internal organs receive through physical exercise has largely disappeared. Certain tissues such as muscles, bone and blood and also a number of bodily functions can adapt to inactivity – and to stress. Studies have proved that if you use 30 minutes for exercise like brisk walking, running, bicycling, swimming or skiing 2-3 times a week, your condition has been improved by some 15 per cent after a few months. The efficiency of the heart muscle will increase and joints and muscles grow in strength. The capillary density increases in the trained muscle and their enzymatic activities are enhanced. The body adapts to the new demands. The perceived exertion at a given rate of exercise becomes reduced.

With increased physical activity fatness is concentrated, the appetite functions “safer”, you can eat more without risk for overweight and thereby the risk of lack of important essential food nutrients decreases. For many individuals the effect of habitual physical activity also improves the wellbeing and it is a good feeling to have a potential to cope with straining situations.

What kind of exercise to choose?

You should have fun when exercising. Choose something you find pleasure in doing regularly.

To get a good effect out of the training you should choose a form of exercise that engages large muscle groups. Then the demand of increased blood flow and oxygen transport will be so great that heart will increase its pump capacity. Jogging, calisthenics, aerobic dancing, bicycling, swimming,

skiing and walking are excellent examples of exercises meeting this requirement.

In a few months you can get 10-15 years younger

If you cycle 30 minutes a few times a week you can lower your condition age with 10-15 years! Scientifically this is described as a reduction on the biological age. Externally, you are your usual self. Internally, however, you feel much younger. In other words: You can work harder. You feel more alert and healthy. Your ability to handle stress and problems increases. There are few better ways to improve your physical condition than to cycle. It does not over-tax your joints. It builds up your condition progressively and at your own pace – and you can make your training fit weather conditions.

Do I loose weight when I Cycling?

Yes! You do lose calories. A few miles on your bike every day over one year, you will have lost the equivalent of 20 pounds of body fat. You will achieve best results if you combine exercise with healthier eating. A little less sugar, less butter on your bread or less fat in your frying pan. And a few miles on your bike every day. In a year you will have lost 20 pounds.

Do I get stronger?

Cycling strengthens the muscles of the back, abdomen and legs. Daily chores become easier. Cycling also makes your heart stronger. Your pulse rate gets lower even when you exert yourself a little extra. Regular exercise also has a favourable influence on high blood pressures.

How do I train?

1. Warm up 3-5 minutes with a low pedal resistance. Pedal about 12 mph (20 km/h).
2. Increase the resistance until you feel the training “somewhat hard”. Keep the speed for 2-5 minutes. Get off the Exercise cycle and rest a few minutes. Cycle again and then rest. Train at your own pace and with a comfortable pedal resistance. After a few weeks you can increase the resistance.
3. Before ending, pedal a few minutes with a light resistance, in order to step down your training.

Total time about 30 minutes.

Strength training:

1. Give yourself a thorough warm-up.
2. Pedal with a heavy resistance for 5-10 seconds, then rest 45-60 seconds. Repeat this 5-10 times.

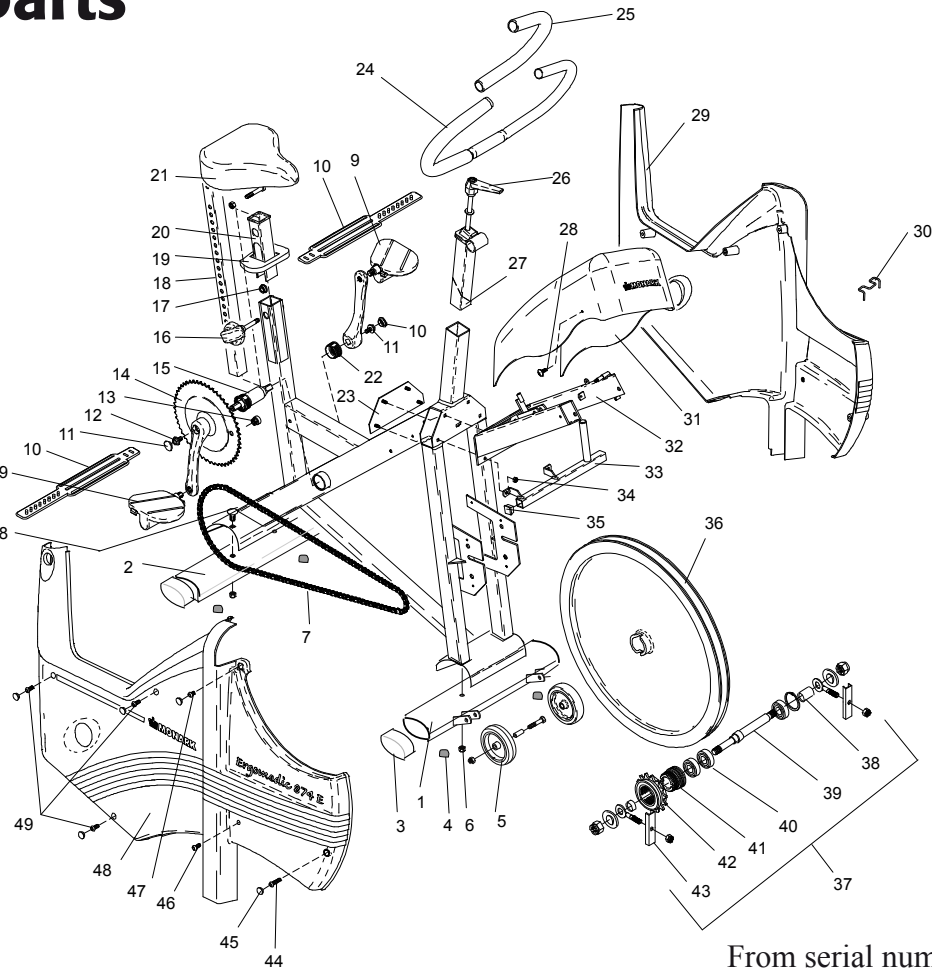
It is a good idea to combine your cycle training with gymnastics for 5 minutes, as this will give you a physiologically well-balanced form of training.

Elderly people and physically weak persons should consult a doctor before starting their training.

Trouble shooting guide

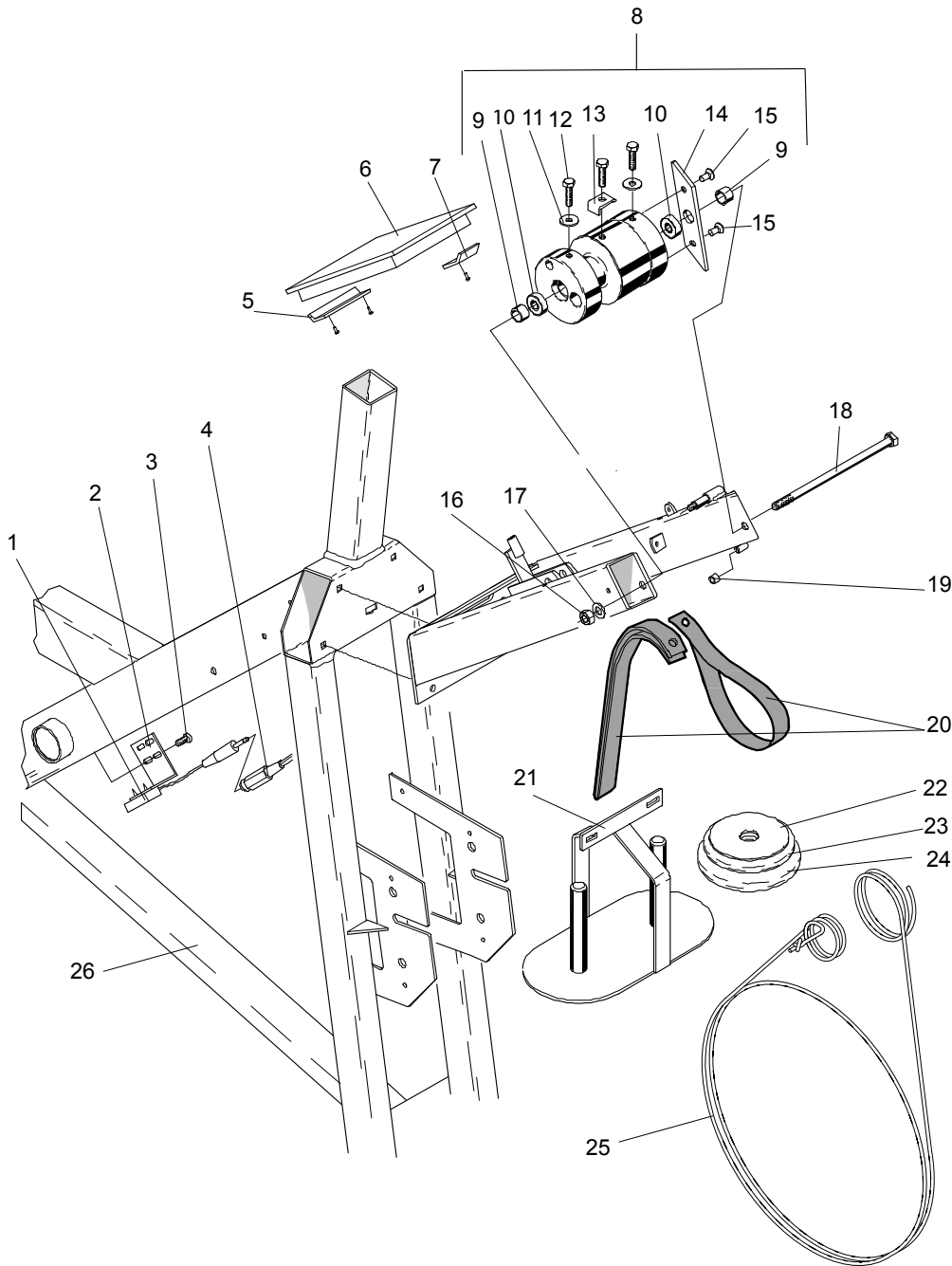
Symptom	Probable Cause/Corrective Action
The Display is not working	Check that the batteries are ok.
No heart rate	<p>Check the chest belt (battery). Wet the thumbs and place them on the electrodes. A low clicking sound will appear near battery lid while you click on the electrodes with one thumb. Use another external HR monitor to check the belt.</p> <p>Check that the chest belt is positioned correct on test person and tight enough. Check that the electrodes are wet, in hard cases it is necessary to use a contact gel or a mixture of water with a few drops of washing-up liquid.</p> <p>The level for HR signal can vary from person to person. Put chest belt on another known person who has a good pulse rendering.</p>
Uneven Heart rate	<p>Use an external unit for example a pulse watch to check if it also indicates irregular pulse. If it is the case there are probably disturbance in the room. Magnetic fields from high voltage cables, elevators, fluorescent tube etc can cause the disturbance. Other electronic equipment could be placed to close.</p> <p>If irregular pulse remains we recommend measuring HR manually. If HR still remains irregular at workload test person's health need to be examined.</p>
There's a click noise with every pedaling (increases with the weight)	<p>The pedals are not tightly drawn. Change pedals.</p> <p>There's a loose in the crank cheek, loose in the base bearing.</p>
Scratching noise is heard when pedaling	Check that the carriage block is taken off and that none of the covers is scratching.
There's a click noise and a squeak noise when pedaling	Untighten the chain a bit.

Spare parts



From serial number: WBK 265820 C

Pos.	Qty.	Art.No.	Description	Pos.	Qty.	Art.No.	Description
1	1	9301-15	Support tube, front	25	1	9126-72	-Handgrip (pair)
2	1	9301-16	Support tube, rear	26	1	9100-180	-Lever M8
3	4	9328-51	Plastic cap, blue	27	1	9300-291	-Expander wedge
4	4	9328-26	Rubber foot	28	2	5675-9	Screw
5	1	9328-37	Transport wheel compl. (pair)	29	1	9394-71	Frame cover, left
6	4	5845	Locking nut M8	30	1	9384-45	Belt control
7	1	9300-55	Chain 1/2 x 1/8", 116 l	31	1	9374-41	Instrument cover
8	2	9300-12	Screw MVBF M8x16 mm	32	1	9374-9	Front frame
9	1	9300-220	Pedal, pair	33	1	9374-29	Weight holder
10	1	9300-207	Pedal strap, (pair)	34	1	5843-9	Nut M6
11	2	8523-2	Dust cover	35	1	9302-28	Plastic plug
12	2	8523-115	Screw M6S 8.8 M8 x 20 FZB	36	1	9300-3	Brake wheel, complete
13	1	9326-164	Magnet	37	1	9300-24	Wheel suspension compl. set
14	1	9300-430	Steel crank set, complete	38	1	9322-117	-Bush, 23 mm
15	1	8966-175	BB cartridge bearing, complete	39	1	9300-118	-Axle
16	1	9300-122	Locking screw	40	3	91001-6	-Bearing 6001 - 2z
17	2	9300-134	Pressure washer	41	1	9106-14	-Connection
18	1	9300-138	Saddle post	42	1	9106-13	-Sprocket
19	1	9300-123	Top cover	43	1	9000-12	-Chain adjuster (pair)
20	1	9300-115	Bushing f. saddle post	44	1	5683	Screw M5x75 mm
21	1	4994-5	Saddle	45	10	9306-12	Plastic plug
	1	9300-114	-Saddle bracket	46	2	5673-9	Screw M5x12 mm
22	1	8966-176	Support casing for BB-bracket	47	1	5681	Screw M5
23	1	9374-60	Bracket f frame	48	1	9374-70	Frame cover, right
24	1	9300-280	Handlebar complete	49	3	5671-19	Screw M5x20 mm



From serial number: WBK 265820 C

Pos.	Qty.	Art.No.	Description	Pos.	Qty.	Art.No.	Description
1	1	9326-162	Sensor	15	2	14379	-Screw M6x16 mm
2	1	9326-166	Sensor holder	16	1	5844	Nut M8
3	2	9326-59	Screw	17	1	5864	Washer M8
4	1	9326-263	Cable	18	1	14374	Screw M8x160 mm
5	1	9374-172	Holder f meter 70x16 mm	19	1	9374-12	PVC cover
6	1	9374-170	Electronic meter	20	1	9324-26	Belt
7	1	9374-171	Holder f meter 16x16 mm	21	1	9374-29	Weight holder, 1 kg
8	1	9374-20	Tension device, complete	22	4	9102-30	Weight, 0,1kg
9	2	9127-37	-Spacer 8.5x12x13	23	1	9102-27	Weight, 0,5kg
10	2	19088-6	-Ball Bearing 608-2Z	24	4	9102-26	Weight, 1kg
11	2	5862	-Washer	25	1	9384-47	Belt set
12	3	14323-9	-Screw M6x16 mm	26	1	9301-5	Frame
13	1	9324-70	-Lock washer		1	9339-98	Chest belt
14	1	9374-21	-Stop		1	9300-365	Software