

Ergomedic 828 E



Manual
English/Svensk

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Product Information

Congratulations on your new Ergometer.

The Monark 828 E is the world's most commonly used exercise ergometer. The adjustable brake system and the force can be set and read Kiloponds (kp) and Newton (N). The actual brake power is showed in Watts on the electronic meter.

The cycle is equipped with an electronic meter showing pedal revolutions per minute (RPM), heart rate in bpm (HR), exercise time in minutes and seconds (TIME), speed in km per hour or miles per hour (SPEED), covered distance in km or mile (DISTANCE), burned Calories (CAL) and the power on the cycle(WATT). The watt level depends on pedaling speed, it can be fine tuned by increasing or decreasing the speed or pedal rpm.

All 828 E Ergometers are calibrated at the factory. This means that you can begin to use the ergometer directly after assembly. However, if the user wishes to verify the scale please read the instruction for "Calibration" in this manual.

NOTE!

The use of Ergomedic 828 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)
- Pendulum scale, easy to calibrate
- 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

Weight

52 kg (114,5 lbs)

Included

Chestbelt, PC software



Operating Instruction

Workload device

The 828 E uses a brake belt system to control the resistance. The brake power can be changed by increasing or decreasing the tension of the brake belt against the tension knob(1). See *fig: Workload device*.

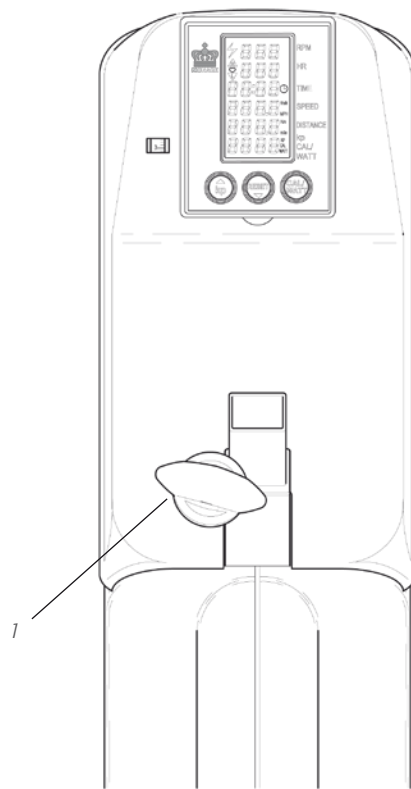


Fig: Workload device (1)

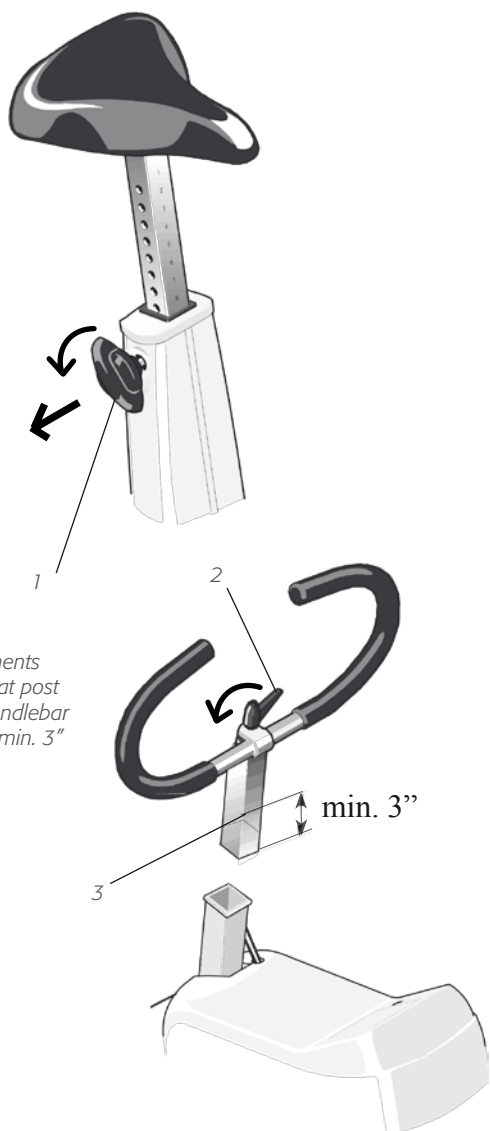


Fig: Adjustments
 1) Lever, seat post
 2) Lever, handlebar
 3) Inserted min. 3"

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*.

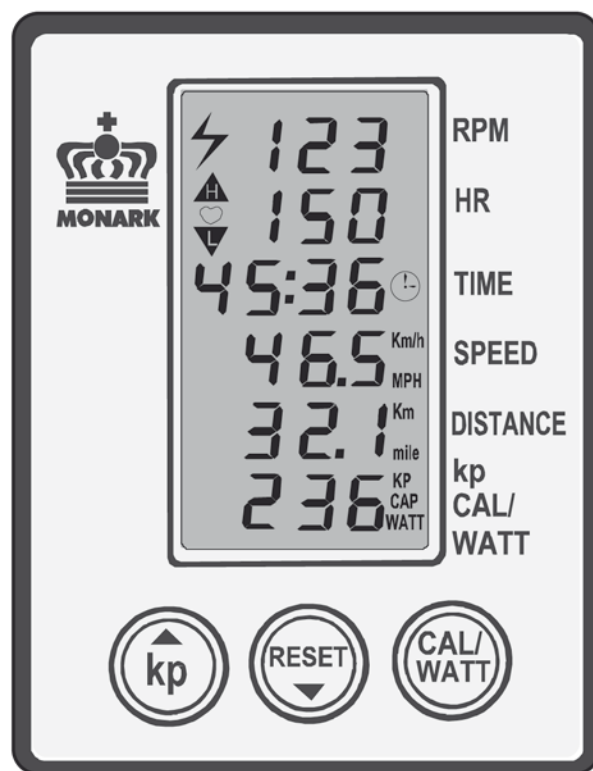
The handlebar setting shall give a comfortable position when cycling. During longer exercise sessions it is recommended to occasionally change the handlebar position. To adjust the handlebar loosen the quick release lever. See *fig: Adjustments*.

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

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 9339-91). If the meter can not find the heart rate signal the HR function is automatically turned off 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 preessing a button.

The timerer starts automatically when the 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 pendulum or the kp window, shown to the left of the electronic meter.

Example: The pendulum and the kp-window is showing 2 kp. Press the kp button to the left on the meter. The lower display window is now 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 corresponds with the actual or desired kp values on the pendulum scale or in the kp window. After that press the CAL/WATT button to either show the CAL or WATT figures. The watt reading in the display is depending on the pedaling speed. The watt reading can then be fine tuned through increase or decrease of the pedaling speed. Calories are calculated all the time.

Do not expose the electronic meter to direct sunlight or extremely high temperature. Do not use any dissolvent when cleaning. Use only dry cloth.

Service

Warranty

As on any quality product there may be an exceptional fault due to material or manufacture. If such a fault should arise on your Ergometer, contact your place of purchase to inquire about repair.

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.

Parts found to need replacement due to normal wear and tear, such as brake belts, are not covered. This guarantee covers parts only, not labor costs associated with the repair. This guarantee does not apply to cases of abuse or vandalism, nor does it extend to any injury or loss to person or property caused directly or indirectly by any Monark products.

In the event of a defect in material or workmanship during the warranty period, 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.

- Keep your Ergometer clean and properly lubricated.
- 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.
- When cleaning and lubricating be sure to check that all screws and nuts are properly tightened.
- 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.

- 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.
- Check that the chain is snug and there is no play in the pedal crank
- Be sure that the pedals are moving smoothly, and that pedal axle is clear of dirt and fibers
- Check that the pedal crank is secure to the crank axle
- Check that pedals, chain and freewheel sprocket are lubricated
- Check that the handlebars and seat adjustment screws are lubricated
- Be sure that the brake belt does not show significant signs of wear

Transport

At transport the tension device should be somewhat tightened to prevent the brake belt from falling off of the flywheel.

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

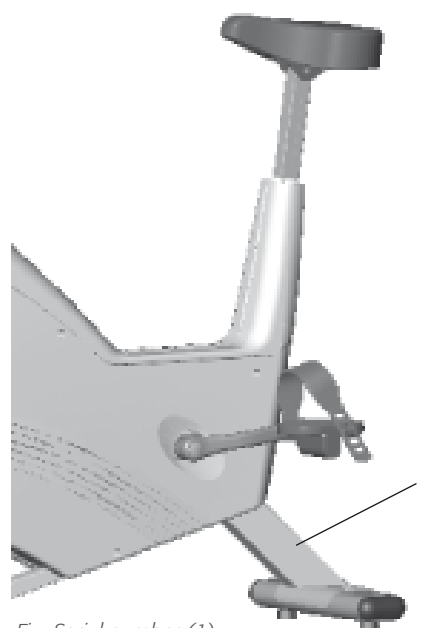


Fig: Serial number (1)

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).

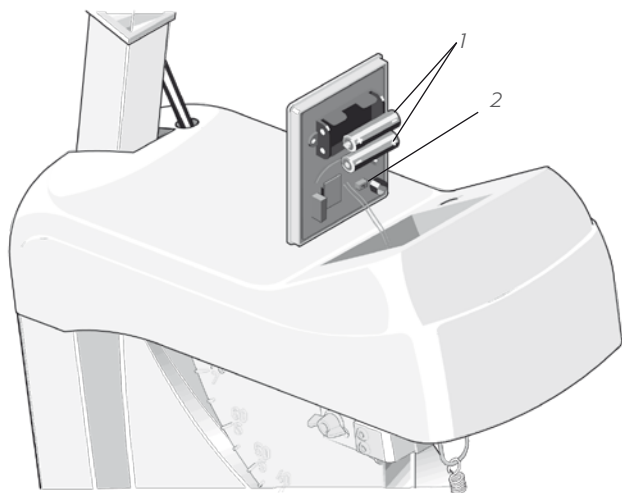


Fig: Batteries
1) Batteries
2) km/mile

Replacement of brake belt

Remove the tension lever(1). Dismantle the front cover over the pendulum weight by detaching the 4 screws underneath. Remove the left or the right frame cover by undoing the mounting screws (5pcs). Put the crank in a backward position. Move the cover somewhat out in the front end and then pull it backwards to remove it. Loosen the brake belt from the pendulum at the screw and lock washer(2). See *fig: Brake belt*.

Take it apart at the spring and clip(3) and remove it from the bike. Attach the new brake belt and assemble the bike in reverse order. Adjust the brake belt so that the resistance increases as soon as the tension device is turned a little.

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

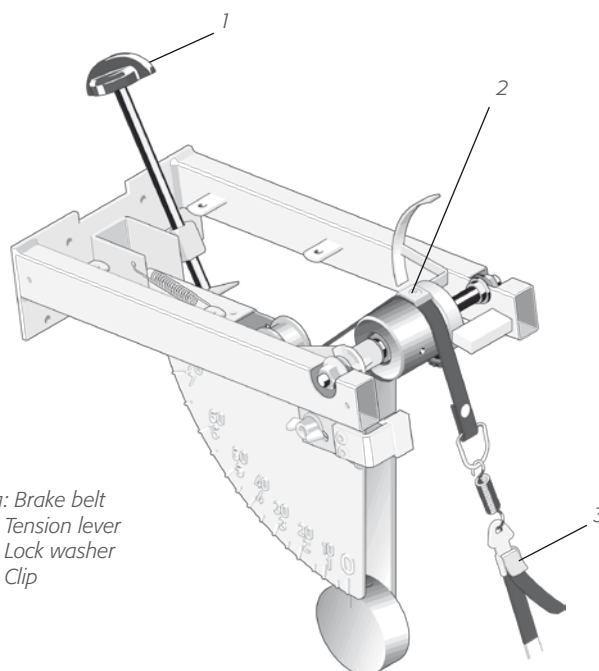


Fig: Brake belt
1) Tension lever
2) Lock washer
3) Clip

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.

Remove left cover. Set the tension device to minimum load/tension. Take off the brake belt to the side. Grind with a fine sand paper. See *fig: Brake belt contact surface*. Grinding is easier to perform if a second individual cautiously and carefully 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 belt".

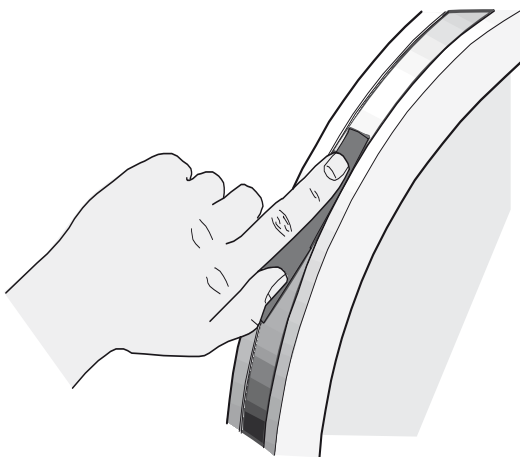


Fig: Brake belt contact surface

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*.

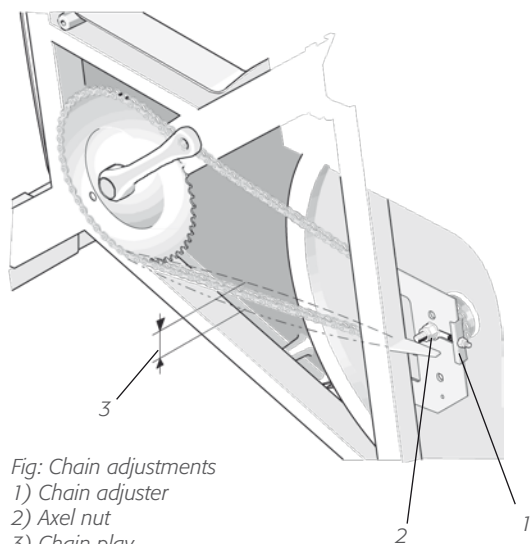


Fig: Chain adjustments
 1) Chain adjuster
 2) Axle nut
 3) Chain play

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.

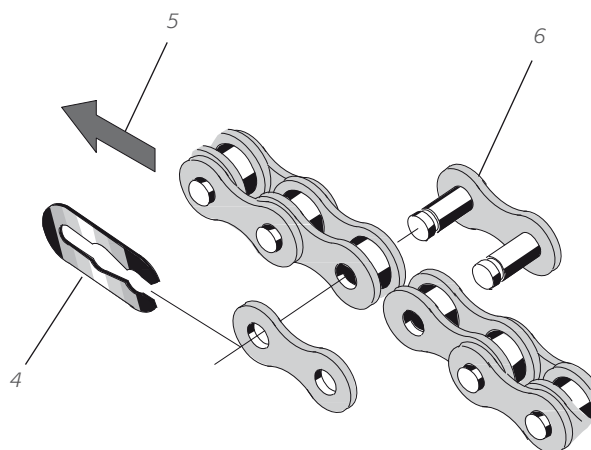


Fig: Chain replacement
 4) Lock spring
 5) Movement direction
 6) Chain lock

Scale - zero adjustment

Loosen tension device so that the brake belt feels loose. Check that the pendulum will hang in vertical position.

Scale board:

Check that the index on the pendulum(2) weight is aligned with the index at the 0-position on the scale board. If adjustment is necessary, first loosen the lock nut(1) and then change the position of the board. Tighten the lock nut after the adjustment. See *fig: Scale adjustments*.

Kp-scale:

At the same time, check that the kilopond scale(5) to the left of the meter, shows 0 in line with the index. To adjust the kp-scale loosen the lock screw for scale indicator(9). Tighten the screw firmly after the adjustment. See *fig: Calibration, Adjustment kp-scale window*.

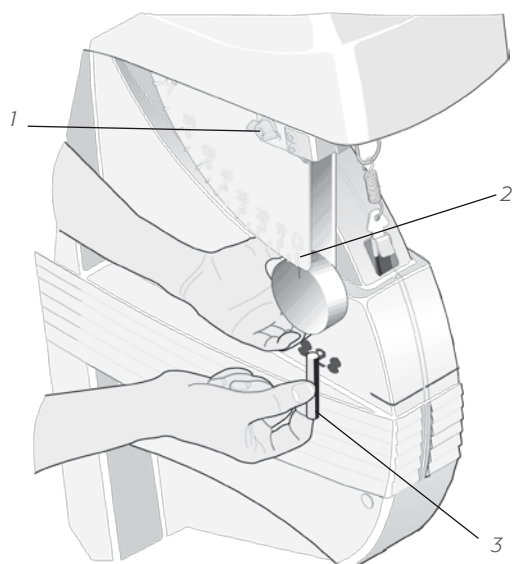


Fig: Scale adjustment
1) Locking nut
2) 0-index
3) Adjustment weight, pendulum

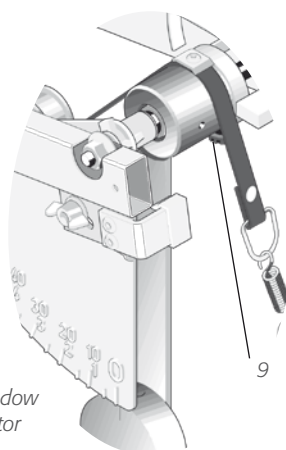


Fig: Adjustment kp-scale window
9) Lock screw f. scale indicator

Calibration

Although all Ergometers are calibrated at the factory the user may wish to verify this by performing a mechanical scale calibration. If so please do the following.

Remove the brake belt from the spring. Lean the bike forward so that the calibration weight, 4kg(4) (our part no: 9000-211) is hanging independently from the frame cover. Be sure that the scale board is set to zero before the weight is put on, see section "Scale - zero adjustment". Put the weight on on the spring(6). When correctly set, it should be possible to read this weight from the corresponding place on the scale board(7). See *fig: Calibration*.

Should there be a deviation, adjust the pendulum to the correct weight on the scale by means of the adjusting weight inside the pendulum(3). See *fig: Scale adjustment*. To change the position of the adjusting weight, loosen the lock screw(8) on the back of the pendulum weight. Should the index of the pendulum weight be too low, move the adjusting weight upwards in the weight and if the index should be too high the adjusting weight is moved somewhat downwards and locked in the new position. Repeat until the correct reading is achieved.

Check the calibration of the pendulum weight once a year or when needed.

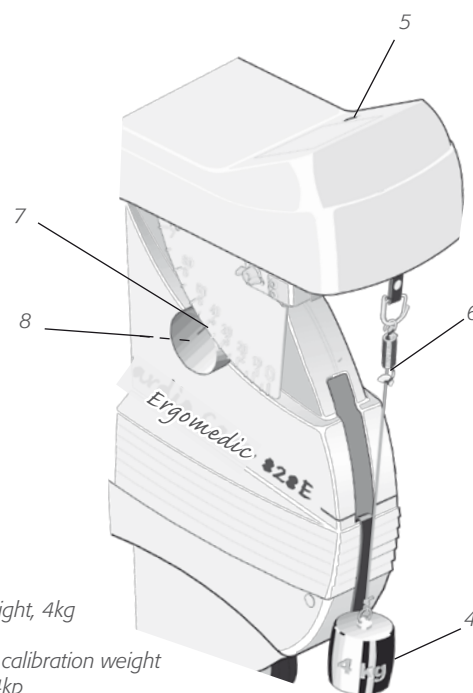


Fig: Calibration
4) Calibration weight, 4kg
5) kp-scale
6) Attachment of calibration weight
7) Pendulum at 4kp
8) Screw to adjustment weight

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*.

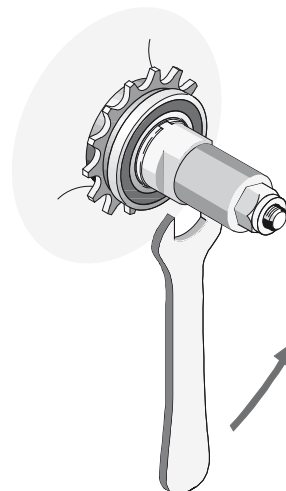


Fig: Special remover
(part no: 9100-14)

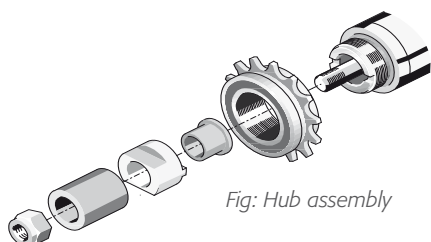
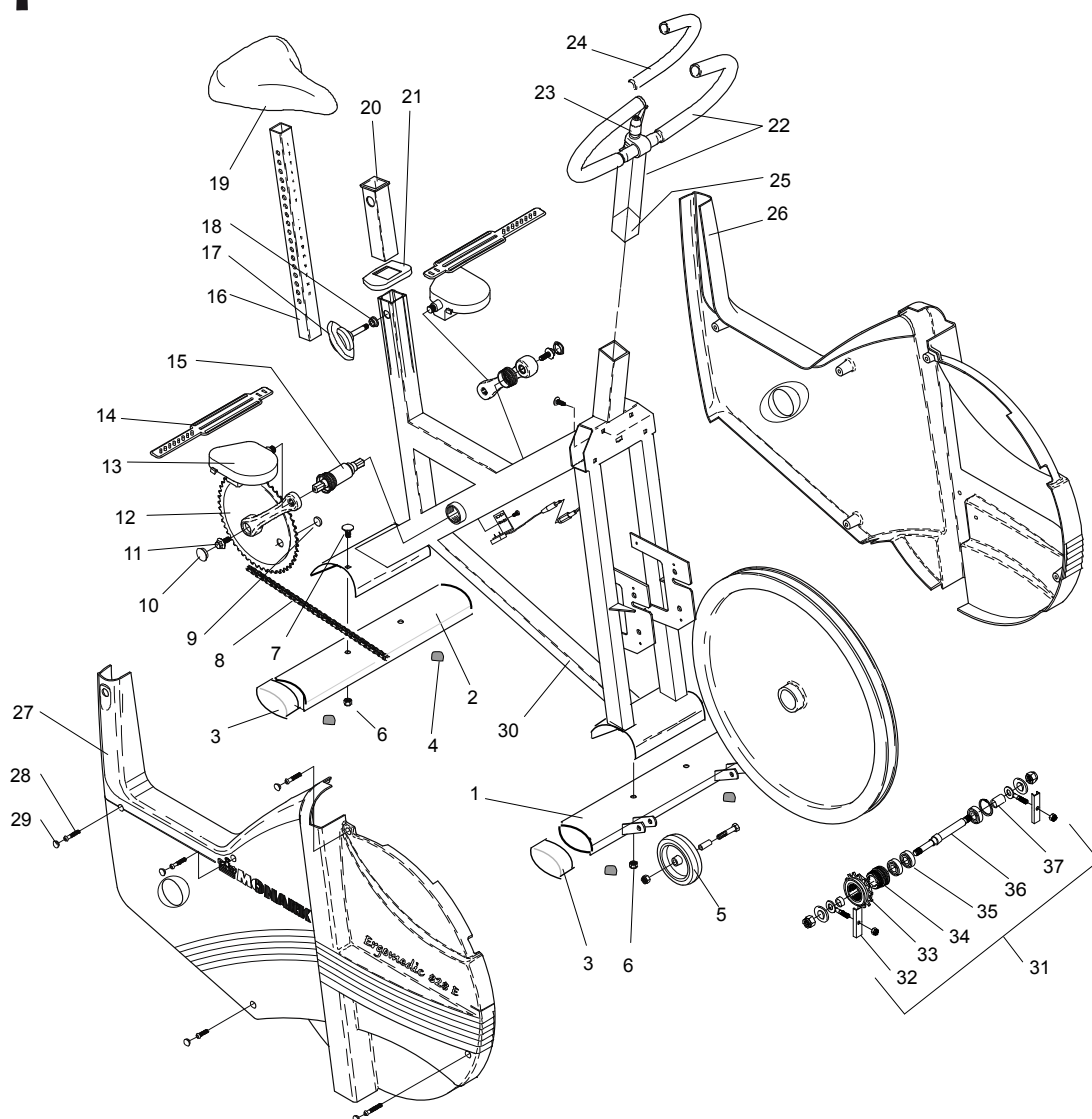


Fig: Hub assembly

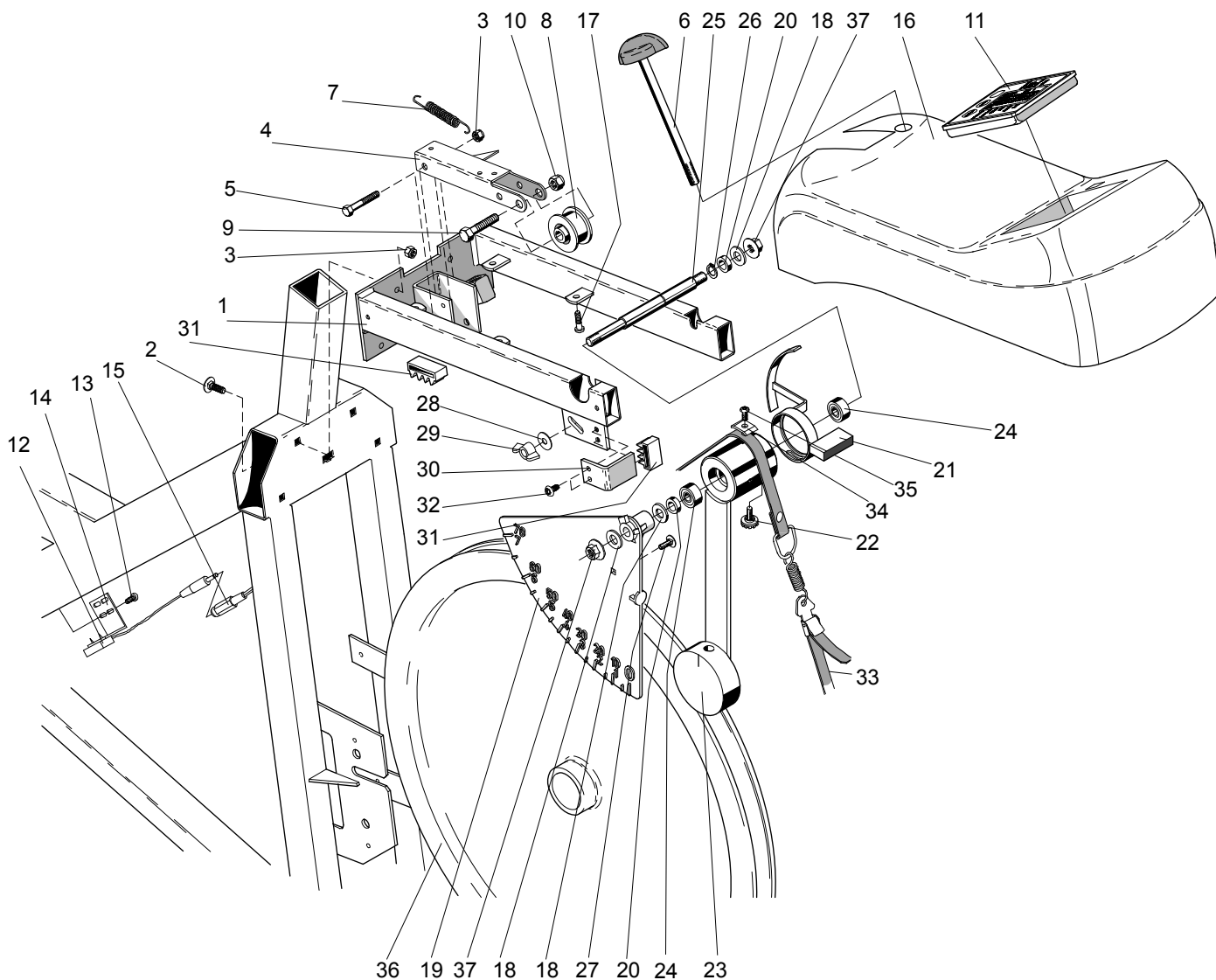


Fig: Lubrication

Spare parts



Pos.	Qty.	Art.No.	Description	Pos.	Qty.	Art.No.	Description
1	1	9301-15	Support tube, front	20	1	9300-115	Bushing f. saddle post
2	1	9301-16	Support tube, rear	21	1	9300-123	Top cover
3	4	9328-51	Plastic cap, blue	22	1	9300-280	Handlebar complete
4	4	9328-26	Rubber foot	23	1	9100-180	-Lever M8
5	1	9328-37	Transport wheel compl. (pair)	24	1	9126-72	-Handgrip (pair)
6	4	5845	Locking nut M8	25	1	9300-291	Expander wedge
7	2	9300-12	Screw MVBF M8x16 mm	26	1	9300-61	Frame cover, left
8	1	9300-55	Chain 1/2 x 1/8", 116 l	27	1	9300-60	Frame cover, right
9	1	9326-164	Magnet	28	4	5673-9	Mounting screw LKT-TT 5x12mm
10	2	8523-2	Dust cover	29	10	9306-12	Plastic plug
11	2	8523-115	Screw M6S 8.8 M8 x 20 FZB	30	1	9301-5	Frame
12	1	9300-430	Steel crank set, complete	31	1	9300-24	Wheel suspension complete set
13	1	9300-220	Pedal, (pair)	32	1	9000-12	-Chain adjuster (pair)
14	1	9300-207	Pedal strap, (pair)	33	1	9106-13	-Sprocket
15	1	8966-175	BB cartridge bearing, complete	34	1	9106-14	-Connection
16	1	9300-138	Saddle post	35	3	91001-6	-Bearing 6001 - 2z
17	1	9300-122	Locking screw	36	1	9300-118	-Axle
18	1	9300-134	Pressure washer	37	1	9322-117	-Bush, 23 mm
19	1	4994-5	Saddle		1	9339-98	Chest belt
	1	9300-114	-Saddle bracket		1	9300-365	PC program



Pos.	Qty.	Art.No.	Description	Pos.	Qty.	Art.No.	Description
1	1	9300-30	Frame for equipment	18	3	5866	Washer
2	4	9300-21	Screw MVBFB 6x16 mm		1	9300-36	Meter panel, complete
	4	5863	Washer	19	1	9339-100	-Meter panel
3	5	5843-9	Nut M6	20	2	9000-17	-Spacer
4	1	9300-22	Tension lever	21	1	9300-93	-Meter reader 7kp
5	1	14333-9	Screw M6x45 mm	22	1	9000-103	-Screw
6	1	9300-25	Tension screw M8, complete	23	1	9300-88	-Weight lever
7	1	9100-20	Spring	24	2	19001-6	-Ball bearing 6001-2Z
8	1	9100-26	Tension cylinder complete	25	1	9300-86	-Axle
9	1	14358	Screw M8x40 mm	26	1	9300-87	-Lock ring SgA 12
10	1	5844	Locking nut M8	27	1	9339-21	Screw
11	1	9300-170	Digitalmeter	28	1	5862	Washer
	2	2142	Battery 14 x 50 mm	29	1	9000-102	Wing nut
12	1	9326-162	Crank sensor with cable	30	1	9300-94	Stop
	2	9103-40	Screw for crank sensor	31	2	9300-99	Plastic stop
13	1	9126-75	Screw RXS B8 x 9.5 FZB	32	1	5671-9	Screw M5 x 10 mm
14	1	9326-166	Sensor holder	33	1	9103-62	Brake belt, complete
15	1	9326-263	Cable 620 mm	34	1	9300-92	Washer
	5	9300-66	Holder for cable	35	1	5675-9	Mounting screw
16	1	9300-142	Instrument cover	36	1	9300-3	Brake wheel
17	4	5768	Mounting screw for cover	37	2	5799	Nut