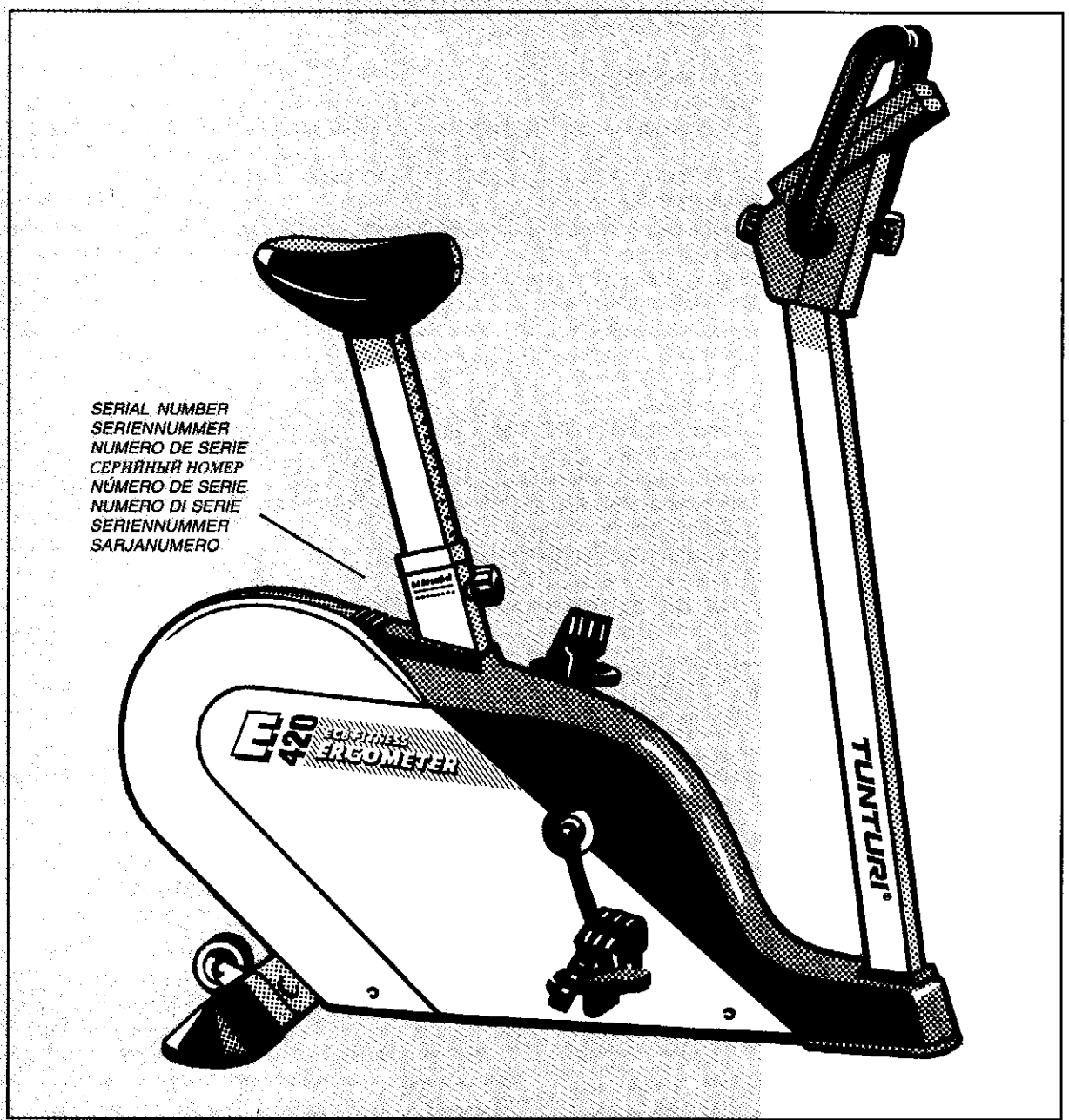
ECB FITNESS ERGOMETER E 420



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TUNTURI®

INFORMATION AND WARNINGS

THE EQUIPMENT HAS BEEN DESIGNED FOR HOME USE. THE TUNTURI WARRANTY APPLIES ONLY FOR FAULTS AND MALFUNCTIONS IN HOME USE.

Please read this owner's manual through carefully before assembling, using and servicing the workout cycle! Follow the instructions described in this manual carefully.

NOTE ABOUT YOUR HEALTH

- ***Before you start any training, consult a physician to check your state of health.***
- *If you experience nausea, dizziness or other abnormal symptoms while exercising, stop your workout at once consult a physician.*
- *To avoid muscular pain and strain, begin each workout by warming up and end it by cooling down (slow pedalling at low resistance). Don't forget to stretch at the end of the workout.*

NOTE ABOUT THE EXERCISING ENVIRONMENT

- *Place the cycle on a firm, level surface.*
- *Make sure that the exercising environment has adequate ventilation. To avoid catching cold, do not exercise in a draughty place.*

NOTE ABOUT USING THE EQUIPMENT

- *Parents or others responsible for children should note that children's natural playfulness and curiosity may lead to situations and behaviour for which the cycle is not designed. If children are allowed to use the cycle, they should be supervised and taught to use the cycle properly, keeping in mind the child's physical and mental development and their personality. The exercise cycle is not a toy.*
- *Before you start using the cycle, make sure that it functions correctly in every way. Do not use a faulty device.*
- *In heavy or long-term use, the machine may shed dust or oil. It is therefore advised to place the machine on a protective base.*
- *Only one person may use the cycle at a time.*
- *Hold the handlebar for support when getting on or off the cycle.*
- *Wear appropriate clothing and shoes when exercising.*
- *Do not use the cycle when the protective covers are not in place.*
- *Do not attempt any servicing or adjustment other than those described in this manual. The given service instructions must be followed carefully.*
- *The equipment is not recommended for persons weighing over 110 kg.*

THE FIGURES REFERRED TO IN THE TEXT ARE IN THE BACK FOLD.

ASSEMBLY

Unpack the cycle and check that all the following parts are in the package:

1. *Frame*
2. *Rear support*
3. *Handlebar support tube + meter*
4. *Pedals (2)*
5. *Ear sensor for pulse measurement*
6. *Fastening screws (2 x hex screw) and washers (2) for the rear support, white decorative caps (2) for the rear support screws*
7. *Fastening screw and washer for the handlebar support tube*
8. *Assembly tools (2 x multi-purpose wrench)*

The package includes a silicate bag absorbing moisture.

Assemble the cycle as follows (left, right, front and back are as seen from the exercising position):

MOUNTING THE REAR SUPPORT

Slip a flat object, such as a piece of wood, under the cycle frame to lift the rear end off the floor. Place the support under the rear part of the frame and fasten it with two hex screws and washers (Fig. 1). Remove the piece of wood.

MOUNTING THE HANDLEBAR SUPPORT TUBE

Lean the cycle on one side so that it rests against a chair, for example. Hold the handlebar support tube in place at the hole at the front of the grey top cover of the ergometer. Before securing the handlebar, remove the protective foam from the support tube and thread the resistance adjustment wire and the meter wire coming out of the handlebar support tube through the notch of the frame. The ends of the wires should come out through the opening roughly in the middle of the frame. Push the handlebar into place (Fig. 2). ***N.B. Be careful not to get the wire caught.*** *Secure the handlebar support tube with the hex screw at the the bottom of the tube. Connect the meter wire coming out of the handlebar and the wire attached to the frame.*

CONNECTING THE RESISTANCE ADJUSTMENT WIRE

Place the control mechanism of the resistance adjustment wire in the lug under the frame so that the lug is between the two adjustment nuts. Thread the loop at the end of the wire over the screw in the lever of the magnetic caliper. ***N.B. Not under the nut*** *(Fig. 3). Remove the piece of wood next to the lever. Adjust resistance to maximum by turning the resistance adjustment knob at the top of the handlebar support tube clockwise to its extreme position. This will move the magnetic caliper closer to the flywheel rim. Set the resistance adjustment wire to the correct tightness by tightening the two adjustment nuts until the lever of the magnetic caliper just touches the limiter screw on the frame (Fig. 4). Lift the cycle back into the upright position.*

MOUNTING THE PEDALS

Fasten the right pedal to the right pedal crank turning clockwise and the left pedal to the left pedal crank turning anticlockwise. The pedals are distinguished by the markings R and L on their shafts (R = right, L = left). Fasten the pedal straps so that the Tunturi logo faces outward. Choose the strap tightness, set the appropriate strap hole on the retainer from below and pull forcibly upward. The pedal straps are adjustable. Especially when the cycle is new, the fastening of the strap may seem relatively tight.

MOUNTING THE METER

Put four 1.5 V AA batteries into the battery holder at the back of the meter, noting the + and - marks on the bottom of the holder. Push the meter carefully into its place at the top of the handlebar support tube.

USE

SETTING THE SEAT HEIGHT AND INCLINATION

The seat height should be set so that the middle part of the foot reaches the pedal with the leg almost straight and the pedal at its lowest point.

To raise or lower the seat:

1. *First turn the locking knob once anticlockwise.*
2. *Then pull the locking knob out so that the seat tube can be moved freely up and down.*
3. *When the height is right, let go of the knob. The seat locks into place.*
4. *Tighten the locking knob clockwise.*

Always make sure that the locking knob is fastened properly before starting to exercise. *The scale on the seat tube helps you to find the seat height you have found suits you best.*

The seat can be inclined forward or backward by turning the green adjustment ring below the saddle. The seat inclines forward when the ring is turned to the right (anticlockwise) and back when the ring is turned to the left (clockwise). ***Do not adjust the seat inclination when sitting on the seat as your weight will prevent the ring from turning.***

ADJUSTING THE HANDLEBARS

Loosen the grey adjustment knob at the front of the handlebar support tube and adjust the handlebar distance so that you can pedal with the arms almost straight in a comfortable position. Retighten the adjustment knob.

ADJUSTING PEDALLING RESISTANCE

To increase or decrease resistance, turn the adjustment knob at the top of the handlebar support tube clockwise to increase resistance and anticlockwise to decrease resistance. The scale above the knob (1-10) helps you find and reset a suitable resistance.

EXERCISING

Working out using an exercise cycle is excellent aerobic exercise, the principle being that the exercise should be suitably light, but of long duration. Aerobic exercise is based on improving the body's maximum oxygen uptake, which in turn improves endurance and fitness. The ability of the body to burn fat as a fuel is directly dependent on its oxygen-uptake capacity.

Aerobic exercise should above all be pleasant. You should perspire, but you should not get out of breath during the workout. You must, for example, be able to speak and not just pant while pedalling. ***You should exercise at least three times a week, 30 minutes at a time, to reach a basic fitness level.*** *Maintaining this level requires a few exercise sessions each week. Once the basic condition has been reached, it is easily improved, simply by increasing the number of exercise sessions.*

Exercise is always rewarding for weight loss, because it is the only way of increasing the energy spent by the body. This is why it is always worthwhile to combine regular exercise with a healthy diet. A dieter should exercise daily - at first 30 minutes or less at a time, gradually increasing the daily workout time to one hour. You should start slowly at a low pedalling speed and low resistance, because for an overweight person strenuous exercise may subject the heart and circulatory system to excessive strain. As fitness improves, resistance and pedalling speed can be increased gradually. Exercise efficiency can be measured by monitoring the pulse. The Tunturi E 420's pulse meter helps you monitor your pulse easily during exercise, and thus to ensure that the exercise is sufficiently effective but not over-strenuous (see MEASURING PULSE).

METER

The versatile meter of the ECB Performance Ergometer E 420 measures pulse, estimated energy consumption, effort, time, speed and distance. The meter switches on automatically when you first press a key, and switches off when you have not pedalled or pressed any key for about 4 min.

N.B. Protect the meter from direct sunlight, as it may damage the liquid crystal display. Do not expose the meter to water or severe impacts, as these may also damage the meter.

METER DISPLAYS AND FUNCTIONS

BASIC DISPLAY
When the meter switches on it shows the "basic display" i.e. the following basic functions are displayed simultaneously:

*The top left-hand reading shows **pulse** (25-250 pulses/min), provided that the ear sensor is attached to the earlobe or the telemetric pulse transmitter is attached around the chest (see MEASURING PULSE). The heart symbol beside the reading flashes in time with the user's heartbeat.*

*The top right-hand reading shows estimated **energy consumption** cumulatively either in kilojoules or in kilocalories (0-999). The reading is reset when the RESET key is pressed or the meter switched off.*

*The left-hand reading in the middle line shows **effort** in watts (0-995) in steps of five watts.*

*The right-hand reading in the middle line counts **time** first from 00:00-59:59 at intervals of one second and then from 1.00-99.59 at intervals of one minute. Time is counted from the beginning of the workout or from the last press of the RESET key.*

***N.B.** The time display shows no reading if the speed is zero. This is useful if you have to interrupt a workout of a certain preset length. If you have set a certain workout time on the meter (see TIME SETTING), the time display counts down from the set time.*

*The left-hand reading in the bottom line shows **speed** either in km/h or mph, or pedal revolutions per minute (RPM). The reading is from 0-199.*

*The right-hand reading in the bottom line shows **distance** cumulatively (from beginning of workout or from last reset) either as kilometres or miles (first 0.0-99 at intervals of 0.1 and then 10-99 at intervals of one).*

TOTAL VALUES DISPLAY
By pressing the TOTAL key, the meter changes over from the basic display to the total values display (the text TOTAL appears on the display). Total time of use is displayed in days (0-999, text DAYS) and in hours and minutes (00:00-23:59). Total distance is displayed in kilometres or miles (0-19999).

METER KEYS

SET PULSE LIMITS
By pressing the SET PULSE LIMITS key you switch from the basic display to the pulse limit setting displays (see SETTING PULSE LIMITS), and vice versa.

SET EFFORT LIMITS
By pressing the SET EFFORT LIMITS key you switch from the basic display to the effort limit setting displays (see SETTING EFFORT LIMITS), and vice versa.

km/h, MPH, RPM
Changes the unit of speed measurement in the following order: km/h -> MPH -> RPM.

kJ, kcal
Changes kilojoules to kilocalories and vice versa.

SET TIMER
By pressing the SET TIMER key you can switch from the basic display to the time setting display (see TIME SETTING) and vice versa.

km, miles
Changes the unit of distance measurement from kilometres to miles and vice versa.

TOTAL
By pressing the TOTAL key you switch from the basic display to the total values display.

RESET
Resets the time, distance and energy consumption readings on the basic display. Resets set values on the pulse and effort limit and time setting displays.

ARROW KEYS
Used for setting values in pulse and effort limit setting and time setting displays.

SETTING VALUES

TIME SETTING

If you want to set a time for your workout on the meter, press the SET TIMER key to switch to the time setting display. Set the desired time in minutes (01:00-99:00) by using the arrow keys. If no time has been set the display shows four dashes (--:--) instead of numbers and the colon between the numbers does not flash. If necessary you can reset the time by pressing the RESET key. When you press the SET TIMER key again you switch back to the basic display. When the set workout time has elapsed, the meter gives five beeps.

SETTING EFFORT LIMITS

Exercising within a certain effort range affects the system in different ways, just as exercising within a certain pulse range does. If you exercise at too low an effort level for your condition, you will not necessarily achieve the desired results even if you exercise regularly. With the E 420 meter you can set both an upper and a lower effort limit, which helps you to keep within the desired effort range during your workout and also helps you to keep your pulse at the desired level.

By pressing the SET EFFORT LIMITS key you switch from basic display to the lower effort limit setting display (text LO appears on the display). If no value has been set two dashes (--) appear instead of numbers on the display. Set the minimum value with the arrow keys from 0 to 995 watts. If necessary you can reset the value by pressing the RESET key.

By pressing the SET EFFORT LIMITS key again you switch to the upper effort limit setting display (text HI appears on the display). If no value has been set two dashes (--) appear again on the display. Set the desired upper level in the same way as the lower level. If necessary you can reset the value you have set by pressing the RESET key. By pressing the

SET EFFORT LIMITS key a third time you switch back to basic display. If you go above or below the set upper or lower limits, the meter beeps until you return within the set effort limits.

SETTING PULSE LIMITS

Exercise within different pulse ranges affects the body in different ways. For example, exercise of long duration within a pulse range that is about 50-60 % of the maximum pulse burns fat, or helps you lose weight, whereas exercise in a range that is about 70-80 % of the maximum develops the heart and respiratory system, and overall endurance, i.e. it improves your condition. For example, to lose weight, a 50-year-old man should exercise at a resistance and pedalling speed that raise his pulse to about 85-105 beats/min.

If you don't know your own maximum pulse rate you can use the following formulae as a guideline:
WOMEN: 226 - AGE, MEN: 220 - AGE.
However, it is advisable to make sure by consulting your doctor.

With the E 420 meter you can set both an upper and a lower pulse limit, which helps you to keep within the desired pulse range during your workout. By pressing the SET PULSE LIMITS key you switch from the basic display to the lower pulse limit setting display (text LO appears on the display). If no value has been set two dashes (--) appear instead of numbers on the display. Set the lower value with the arrow keys from 30 to 240 pulses/min. If necessary you can reset the value by pressing the RESET key.

By pressing the SET PULSE LIMITS key again you switch to the upper pulse limit setting display (text HI appears on the display). Set the desired upper level in the same way as the lower level. If no value has been set two dashes (--) appear again on the display. If necessary you can reset the value you have set by pressing the RESET key.

By pressing the SET PULSE LIMITS key a third time you switch back to basic display. If you go above or below the set upper or lower limits, the meter beeps until you return within the set pulse limits (by lowering your pedalling speed or reducing resistance when the upper limit is exceeded and by raising speed or resistance if you fall below the lower limit).

***N.B.** If the pulse reading is 0 there will be no warning beeps even though you have set a lower limit.*

MEASURING PULSE

Pulse measurement starts when measurement is activated at the first press of a key and remains active not only all the time that the ear sensor is attached to the ear but also for 30 seconds from the time the meter is switched on, or correspondingly for 15 seconds after every press of a key. When the ear sensor is detached from the ear, pulse measurement continues to be active for 20 seconds. If you want to continue later, pulse measurement must be reactivated by pressing a key.

Measure the pulse as follows:

1. Fit the ear sensor wire plug into the connecting point on the bottom of the meter.

2. Attach the ear sensor to the earlobe (Figure A) where pulse is to be measured.

3. Attach the sensor wire e.g. to the collar with the clip provided (Figure B). This will prevent moving of the sensor and insure a more accurate reading of the pulse. Make sure also that the wire between the earlobe and the clip is not too long or short so that the sensor will stay firmly in place.

4. Press the PULSE key on the meter and the display will start to show your pulse. The heart symbol beside the pulse value flashes in time with the user's heartbeat.

***N.B.** The shape of the ear sensor designed by Tunturi makes it possible also to measure pulse on inside surface of the ear (Figure C) if, for example, circulation is poor in the earlobe, the earlobe is too small or cartilaginous as a result of piercing.*

NOTE WHEN MEASURING YOUR PULSE...

*If the sensor does not immediately start measuring your pulse, or if the earlobe is cold, **rub the earlobe with the fingers to speed up circulation.** Physiological differences between different people may also cause disturbances in pulse measurement. In these cases, **try measuring on the inside surface of the ear or on the tip of your finger.***

*If measuring disturbances appear while pedalling, **test the functioning of the sensor while stationary.** Strong, unintentional swaying while pedalling may also disturb measurement. If pulse values rise above 150 beats/min., earlobe measurement may be affected by the speeding up of circulation.*

*Sometimes a strong light source, e.g. a fluorescent tube, in the immediate vicinity of the user may cause disturbances in pulse measurement. In this case, **test the functioning of the sensor by turning the ear sensor the other way round on the earlobe.** Pulse reading can also be affected, if the battery power of the meter is too low.*

***Remember to clean the ear sensor.** Clean the ear sensor after use, for example, with mild soapy water. Do not use solvents.*

More reliable pulse measurement is achieved with a telemetric device, in which the electrodes of the transmitter fastened to the chest transmit the pulses from the heart to the meter by means of an electromagnetic field.

***The E 420 has a built in pulse receiver which is compatible with a POLAR telemetric pulse transmitter, sold as an optional extra.** If you want to measure your pulse this way during your workout, moisten the grooved electrodes on the transmitter belt with saliva or water. Fasten the transmitter just below the chest with the elastic belt, firmly enough so that the electrodes remain in contact with the skin while pedalling, but not so tight that normal breathing is prevented.*

***N.B. If the electrode surfaces are not moist, the pulse reading will not appear on the display.** If the electrodes are dry, they must be moistened again. Switch the meter on by pressing any key on the meter. The transmitter automatically transmits the pulse reading to the meter up to a distance of about 1 m.*

N.B. To save the batteries of the meter and to prevent any extra pulses coming from the ear sensor, unplug the ear sensor when you use the telemetric pulse meter.

PRINTER INTERFACE

The workout results can be printed out. The E 420 has a standard Centronics serial interface. The connector is a 25-pole D connector (female). The printer can be any matrix printer with a Centronics interface, e.g. EPSON LX 810, Panasonic KX-P 1180, Citizen 200GX etc.

Connect the printer cable to the connection point on the base of the meter. When the printer is switched on the workout results are automatically printed out (pulse, energy consumption, effort, time, speed and distance) line by line at 10 second intervals.

N.B. Always remember to disconnect the printer cable after use!

MAINTENANCE

The E420 requires very little maintenance. Check, however, from time to time that all fastening screws and nuts are tight. Clean the cycle with a damp cloth. Do not use solvents.

If the cycle is transported long distances without packing it, the position of the brake caliper may change, for example, due to vibration. To check the position of the brake caliper in relation to the flywheel, proceed as follows:

Lean the cycle on its side so that it rests against e.g. a chair and you can see under the cycle easily. Adjust the resistance to maximum by turning the resistance adjustment knob to its extreme clockwise position. Check that the limiter screw (hex screw) of the brake caliper lever has not moved. If the brake caliper lever does not touch the limiter screw with the resistance at maximum, turn the adjustment nuts of the resistance adjustment wire until the lever touches the limiter screw. Lift the cycle back to the upright position.

If the resistance still seems too small, proceed as follows: Loosen the fastening screw of the grey top cover and the seven screws of the white side covers and remove the side covers. Adjust the resistance to maximum by turning the resistance adjustment knob to its extreme clockwise position. Lean the cycle on its side so that it rests against e.g a chair and you can easily reach the control mechanism of the resistance adjustment wire under the frame.

N.B. Take your watch off before the following step, as it may be damaged by the magnetic field of the brake mechanism.

Push the approximately 1 mm thick plastic calibration strip between the magnetic caliper and the flywheel. If the brake caliper magnets are clearly further than 1 mm away from the flywheel rim, first open the locking nuts of the limiter screw and move the limiter screw slightly by turning the screw while holding the nuts at the same time (Fig. 5). Retighten the locking nuts of the limiter screw. Turn the adjustment nuts of the resistance adjustment wire, so that the magnet caliper is just in contact with the plastic strip with the resistance at maximum.

N.B. Make sure you do not make the adjustment nuts too tight.

Remove the calibration strip, lift the cycle into the upright position and replace the side and top covers.

CHANGING BATTERIES

If the meter display fades considerably or completely, change the batteries. Pull the meter out and remove the old batteries from the holder at the back of the meter. Push the new batteries into the holder (4 x 1.5 V AA) and push the meter back into its place at the top of the handlebar support tube.

In spite of continuous quality control, individual defects and malfunctions may occur due to individual components. It is in most cases unnecessary to take the whole cycle for repair, as it is usually sufficient to replace the defective part.

If you notice that a part is missing, contact the dealer and give the model (E 420), serial number and spare part number.

TRANSPORT AND STORAGE

Move the cycle according to the following instruction: stand behind the cycle, grip the seat with one hand and the handlebar with the other. Lift the cycle so that it rests on the transportation wheels and move it by wheeling. Lower the cycle onto the floor while holding on to the handlebar and remaining all the time behind the cycle.

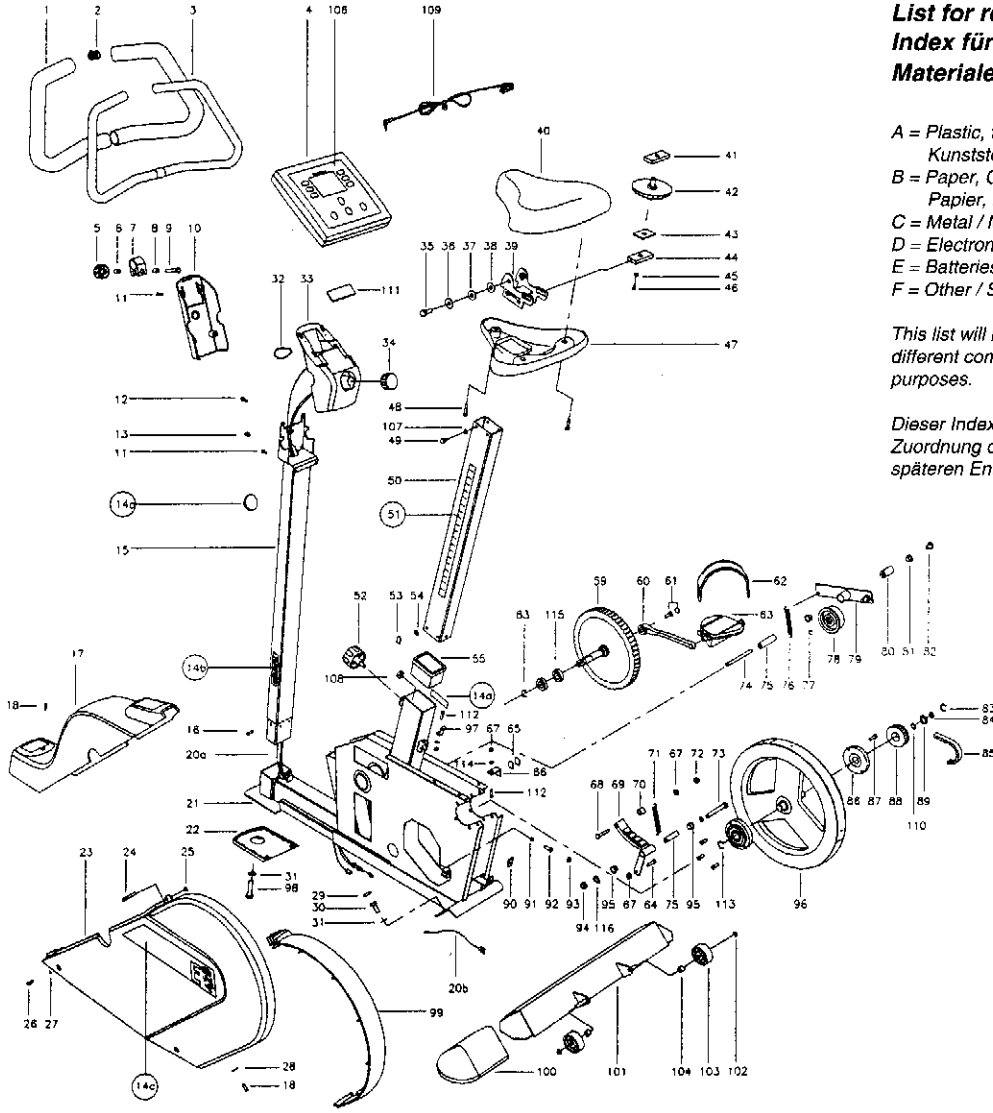
To prevent malfunctioning of the cycle, store in a dry place with as little temperature variation as possible, protected against dust.

DIMENSIONS

Length	*108 cm*
Height	*111 cm*
Width	*62 cm*
Weight	*41 kg*

All Tunturi models are designed to meet the electromagnetic compatibility directive, EMC and are affixed with the CE conformity marking.

Due to our continuous programme of product development we reserve the right to change specifications without notice.



List for recycling / Index für Materialentsorgung:

A = Plastic, thermoplast
Kunststoff, Thermoplast
B = Paper, Carton
Papier, Pappe
C = Metal / Metall
D = Electronics / Elektronik
E = Batteries, Batterien
F = Other / Sonstiges

This list will help you to sort out the different components for recycling purposes.

Dieser Index soll Ihnen die Zuordnung der Rohstoffe bei einer späteren Entsorgung erleichtern.

Ref.no	Part no	
1	213 1001 (incl. 2)	A
2	533 240 87	A
3	203 1012(incl. 1, 7)	C
4	233 1018	
	(incl. 106, 109)	A/D
5	533 1019	A
6	72 0816 210	C
7	513 204 82	C
8	72 1015 90	C
9	60 08 075 40	C
10	173 1014	A
11	653 7020	C
12	60 48 016 57	C
13	653 5003	C
14	423 1045	
	(incl. 14a - 14d)	F
15	203 1011	C
16	653 1005	C
17	173 1019	A
18	60 05 020 32	C
20	403 1031	
	(incl. 20a, 20b)	D
21	103 1009	C
22	533 1020	A
23	173 1007	A
-	173 1006	A
24	653 264 87	C
25	651 206 80	C
26	60 42 016 59	C
27	653 133 84	A
28	652 852 81	C
29*	533 209 89	A
30*	60 10 025 03	C
31*	62 1022 25	C
32	443 1006	A
33	173 1020(incl. 32)	A
34	533 1018	A
35	60 08 020 03	C
36	62 0824 20	C
37	683 1001	F
38	72 8012 602	C
39	153 1006	C
40	153 1009	A
42	653 1008	C
	(incl.41, 43-46)	A/C
47	153 1004	A
48	653 1014	C
49	60 06 016 03	C
50	153 1007	C
51	423 527 84	F
52	533 0008	A/C
53	533 5002	A
54	62 0817 10	C
55	533 1023	A
59	353 1010	
	(incl. 60, 61)	A/C
60	353 1004 1	C
-	353 1005 1	C
61	653 0002	A/C
62	363 1002	A
63	363 1001	
	(incl. part 62)	A/C
64	60 05 020 21	C
65	503 1004	F
66	503 1010	C
67	61 0501	C
68	60 05 060 02	C
69	373 1006	
	(incl. 64, 67, 68, 70, 72,	
75, 95)		C/F
70	72 0608 205 1	C
71	643 104 89	C/F
72	61 0510	C
73	60 08 075 02	C
74	60 08 090 02	C
75	343 1006	C
76	643 8001	C
77	673 604 90	C
78	533 1021	A/C
79	513 1001	
	(incl. 77, 78, 80, 81)	C
80	343 1005	C
81	521 103 60	C
82	653 2005	C
83	673 2001	C
84	653 2004	C
85	443 1002	A
86	523 8001	A/C
87	60 06 016 37	C
88	263 1005	A/C
89	653 2003	A
90	653 1003	C
91	61 0601	C
92	60 06 030 37	C
93	683 101 85	A
94	61 0810	C
95	533 1022	A
96	303 1014	
	(incl. 86, 113)	C
97	503 1011	C
98*	60 10 045 03	C
99	433 1008	A
100	533 1007	A
101	103 1012	C
102	673 500 88	C
103	533 1029	A/C
104	72 0813 100 1	C
106	233 1022	F
107	63 06 127	C
108	533 156 85	C
109	233 0022	D
110	653 2002	C
111	433 1009	A
112	60 05 010 03	C
113	673 601 90	C
114	62 0511 10	C
115	523 409 85	C
116	652 133 74	C
*	553 1002	
Hardware kit (incl. *)		
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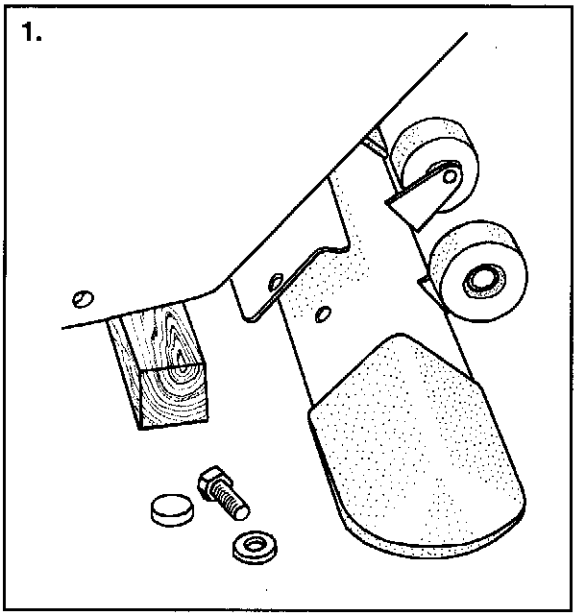
-	556 024 00	C
-	553 100 88	C
-	583 1006	B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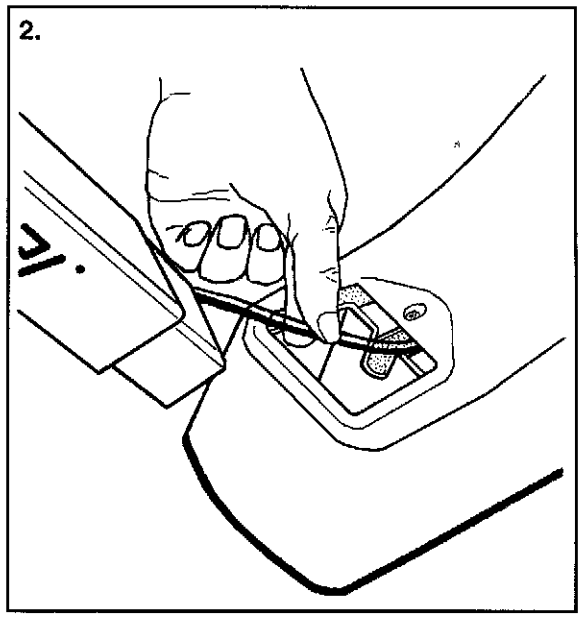
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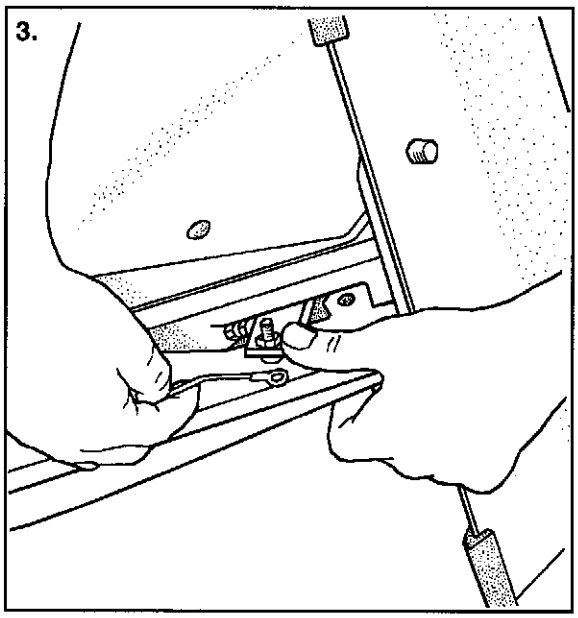
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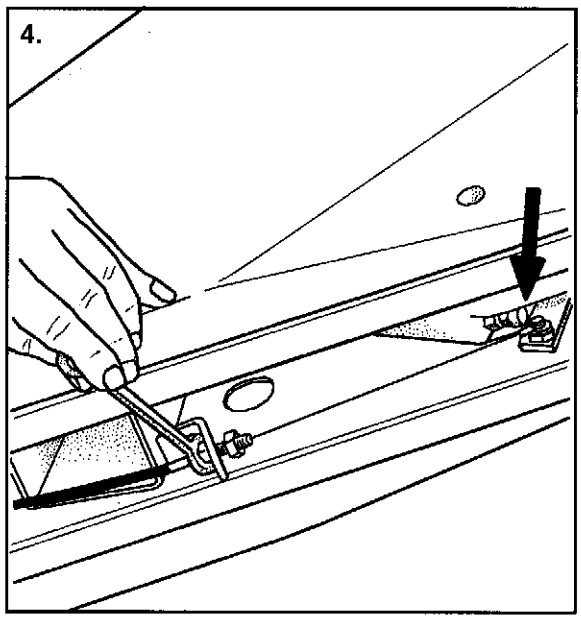
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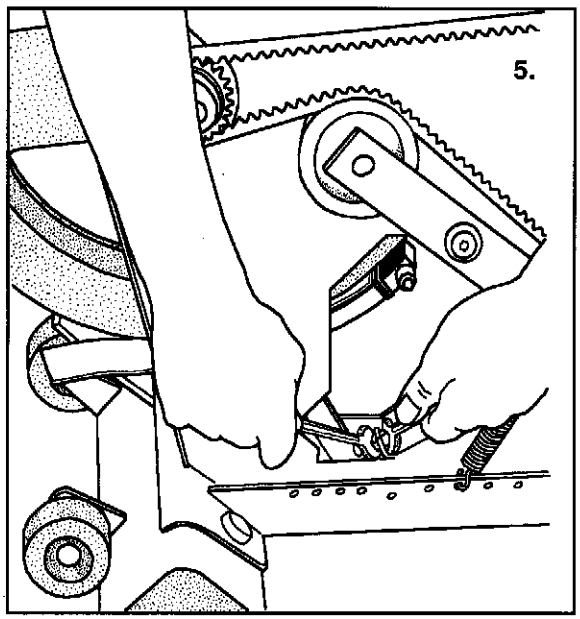
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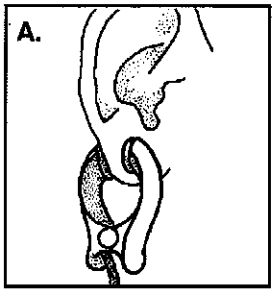
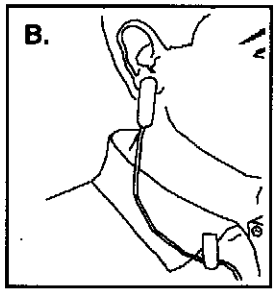

A.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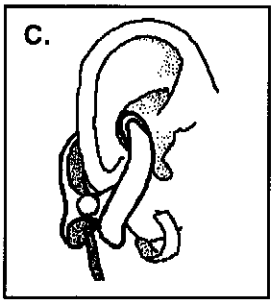
C.