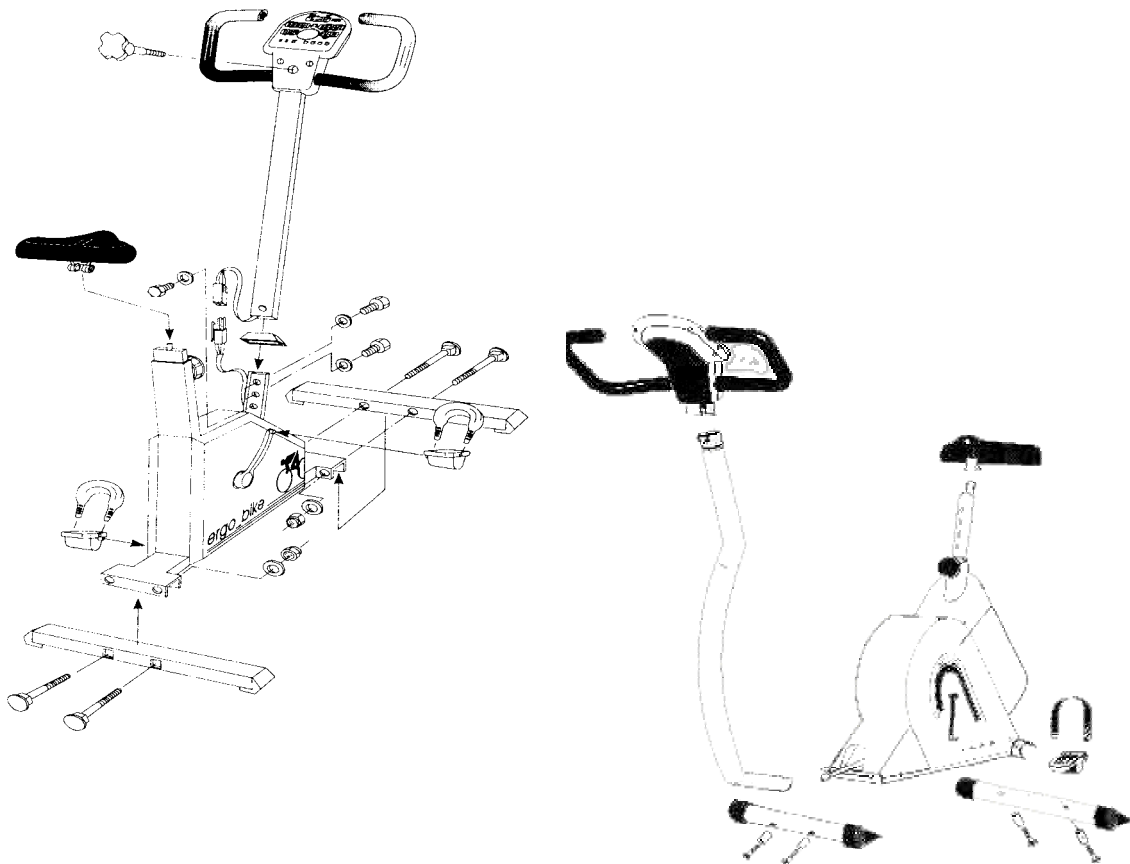


ergo_bike

Service Manual



This document can also be downloaded from the service area of our Internet server:

www.daum-electronic.de

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Service Info: No Pulse Display of the Cardio-Puls Set (wireless pulse transmission)

Please check:

1. Is the Cardio receiver completely plugged into the pulse jack? If there is a sweat-protection foil on the cockpit, it must not obstruct the Cardio receiver.
2. Inside the Cardio receiver, there is an antenna. Therefore, the receiver must be turned into such a position that the inscription "daum electronic" is legible.
3. The chest belt must be moistened and the chest must not be too hairy.
4. The distance between receiver and chest belt must be maximally one arm's length.
5. The lifetime of the batteries in the chest belt is about 2 years. The batteries can only be replaced by an authorized Polar dealer!
6. If it is not possible to localize the error otherwise, please send us (only!) the upper part of the cockpit TOGETHER with your Polar chest belt and the Polar receiver for examination.

Service Info: No Pulse Display when Using an Ear Clip

Please check:

1. Is the ear clip pin completely plugged into the pulse jack of the cockpit?
2. Did you rub your earlobe until it was red, before you put on the ear clip?
3. Did you take your clip to your dealer or try it on another ergo_bike? If it does not function there either, whereas another ear clip does, send your ear clip to us for exchange. If the ear clip functions perfectly on another ergo_bike, the error lies in the cockpit. Please send the upper shell of the cockpit to us for examination. A possible reason of the fault is sweat that has penetrated into the pulse jack of the cockpit. In this case, we have to disassemble and clean the printed circuit board and replace the pulse jack. Electrical faults in the cockpit are extremely rare!

Service Info: Pulse Measuring

The pulse rate displayed might differ from that measured by other pulse-measuring devices. Pulse-rate measurement via the ear is one of the least accurate methods. There have been training persons pulse rate could not be measured, either due to medicaments (beta blockers) or because of poor blood circulation in the earlobe.

If you attach great value to a very accurate display of the pulse rate, we recommend to buy a Daum/Polar Cardio-Puls set, with which the pulse rate is picked up via a chest belt, wirelessly transmitted to the ergo_bike, and displayed there.

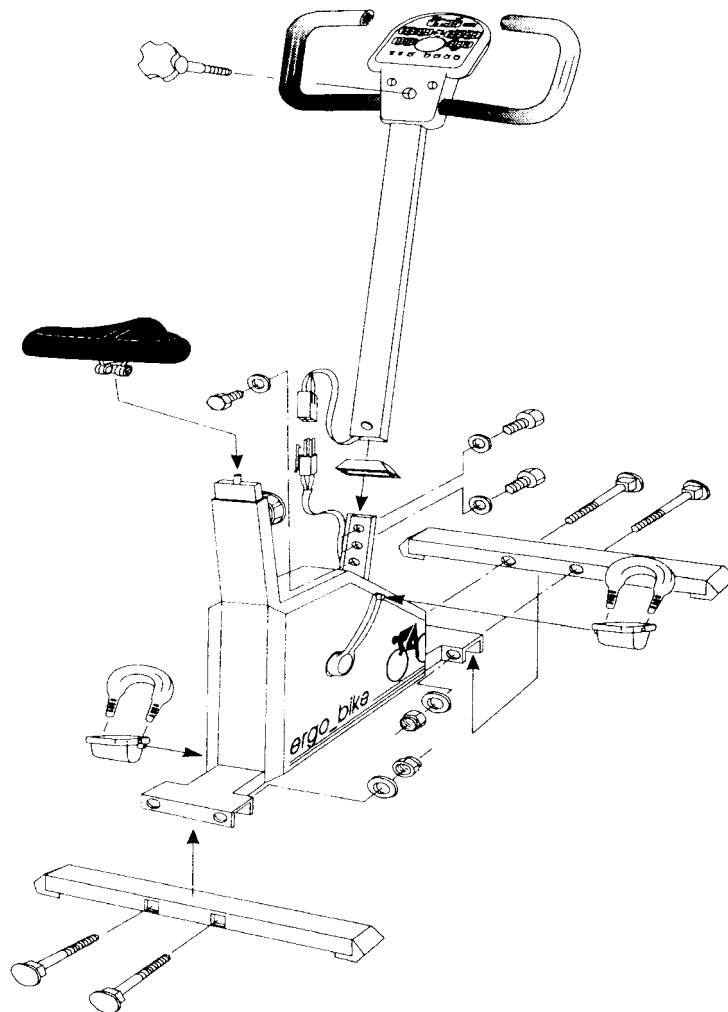
Should you already possess an uncoded Polar chest belt or a Polar-compatible chest belt, it will be sufficient to buy the low-priced Cardio receiver (in the model vita pc de luxe, it is included as standard).

You can order these parts either directly from us by FAX or from your dealer.

The ergowin95 Software

- The ergowin95 software functions only with devices as from series number 36801.
- Older devices (series numbers 0 to 36800) can be adapted by exchanging the cockpit. Please send us in this case your cockpit with the request for upgrade and indicating device type and series number. Please note that this upgrading costs about DM 250.
- The software does not run under Windows NT or similar programs, but exclusively under Win95/98. As a second precondition, the computer must be 100 % IBM-compatible.
- In case of errors in the area of the interfaces, these should best be verified with a serial mouse.
- The connection cable is 3 meters long. If this length is not sufficient, it can be extended by up to another 3 meters by means of a commercial extension cable. Larger extensions might lead to malfunctions!
- Make sure that all connections are properly established. Otherwise, send us the cable for examination.
- The most recent version of the software is available for downloading on the home page www.daum-electronic.de. A more recent update will not be available before autumn 2000.
- Hobby programmers can download the interface description from the network. We would like to point out, however, that we do not offer any technical support for this.

Service Instructions



**Devices up to
series number 36800**

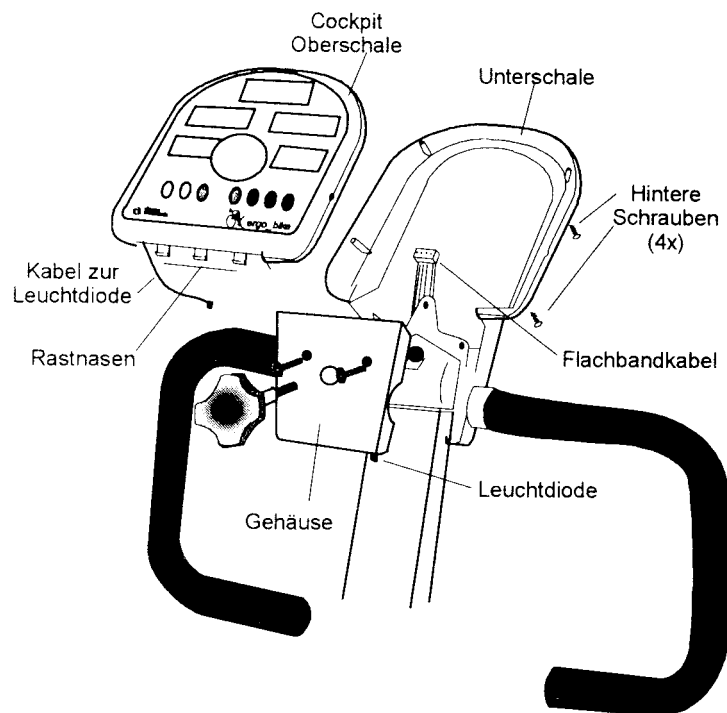
Service Info : Technical Sub-Assemblies

A Upper part of the cockpit

The cockpit contains the control and display electronics and is connected with the lower part of the device (body) by means of a 4-pole flat cable (control cable), laid inside the handlebar column.

By means of the control cable,

- the cockpit is supplied with an operating voltage of 5 V,
- the cockpit is supplied with the electric earth (negative pole)
- the cockpit is supplied with a rectangular pulse (rpm pulse) whose frequency is determined by the number of revolutions of the pedal,
- the body is supplied with a wattage-dependent, 60 Hz, pulse duration-modulated rectangular pulse (braking signal).



B Body

The body contains

- the power section with the power electronics for the control of the eddy-current brake magnet and the light barrier for generation of the rpm pulse,
- the mains transformer,
- the brake magnet,
- the disk flywheel with free-wheel and bearings,
- the belt tightener with tension spring,
- the pulley with pedal shaft and bearings.

Service Info: Cockpit and Pedaling Resistance

Warning: Before opening the device, make sure to pull out the mains plug!

If at the cockpit itself, not a single display functions when the mains plug is plugged in, please put your ear on the ergometer casing. When the transformer is in order, you ought to hear a faint humming noise. If this is not the case, see page 11: „Exchange of the Transformer“.

If the displays light up in the cockpit, but in spite of a high wattage being set at the cockpit, there is no pedaling resistance, the fault may lie in the cockpit itself, in the control cable or in the body. First of all, test the connection cables, after having checked whether upon turning of the pedals, the number of revolutions is displayed under „RPM“.

If the wattage setting functions, but the RPM display is defective, verify the light barrier in the body behind the power section (see „Light barrier“ on page 10, chapter „Exchange of the Power Section“).

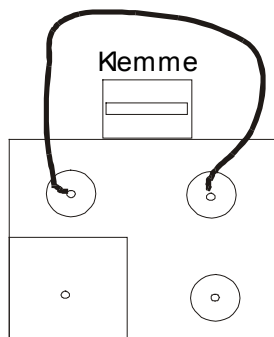
Check of the Control Cable

The control cable consists of two parts, which are connected with a plug-in connection at the base of the handlebar column.

Check of the control cable part which is laid inside the body:

After having disassembled the handlebar column (see Operating Instructions) and having pulled the plug-in connection apart, a short piece of cable with a socket will be hanging out of the body.

Connect, e.g. with a paper clip bent open, the following two leads with each other:



Warning: Make sure that a firm electrical contact exists!

Then plug in the mains plug and pedal. The device must now brake with full load, i.e. it must hardly be possible to pedal. Furthermore, you will hear the humming of the brake magnet.



If this is the case, this portion of the control cable will be in order and the upper part remains to be checked.

If this is not the case (and you hear no humming of the brake magnet either) and in the previous test, no RPM was displayed on the cockpit, the control cable portion leading into the body might be defective and has to be replaced or repaired. Remove the left side covering (see page 9: „Exchange of the Power Section“) and check whether the cable inside the body has abraded or buckled spots. (Sometimes, this cable might have got into contact e.g. with the disk flywheel and have worn through in that spot).

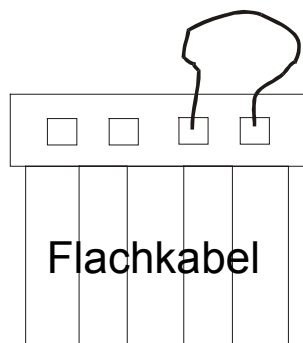
If the cable is completely in order (and the mains transformer supplies an alternating voltage of 23 V), the power section in the body is defective and has to be replaced (see „Exchange of the Power Section“).

Check of the control cable part which is laid inside the handlebar column:

If the control cable part which is laid inside the body is in order (body fully brakes when the two leads are bridged), check the control cable inside the handlebar column (most frequent reason of fault):

Warning: Pull mains plug out!!!!

Screw off the upper part of the cockpit of the assembled device (see Manual, chapter: Maintenance). The end of the control cable is now hanging out of the handlebar column.



By means of a paper clip, connect the two right-hand conductors of the plug (see drawing).



Do not forget at this moment to re-establish the contact with the power section, by re-connecting the cable of the bottom end of the handlebar column with the previously checked cable of the body!

Plug in the mains plug, switch the device on and pedal. If the portion of the control cable laid inside the body is in order, the device will now brake with full load.

If this is the case, the defect lies in the cockpit. Please send us the upper shell of the cockpit for repair (for disassembly, see Manual).

If now the device does not brake any more, the fault lies in the control cable in the handlebar column. This cable has to be repaired or replaced. The most frequent reason of defect is a crushed spot at the top or bottom end due to an improper assembly of handlebar column.

Exchange of the Power Section

Warning: Before opening the device, make sure to pull out the mains plug!

To exchange the power section, remove the left pedal arm (in the direction of motion) and the left side covering (see the following photos as well as the Operating Instructions).

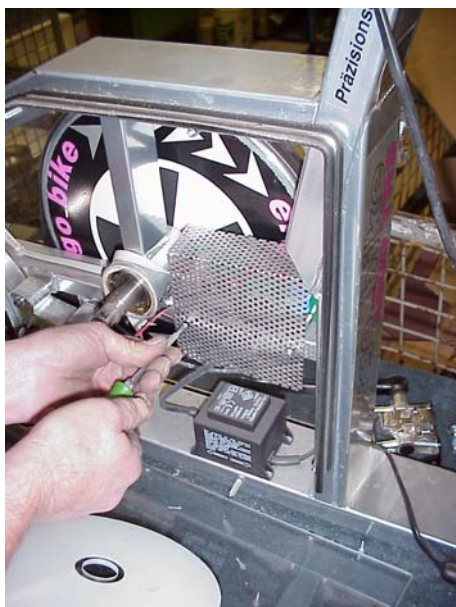
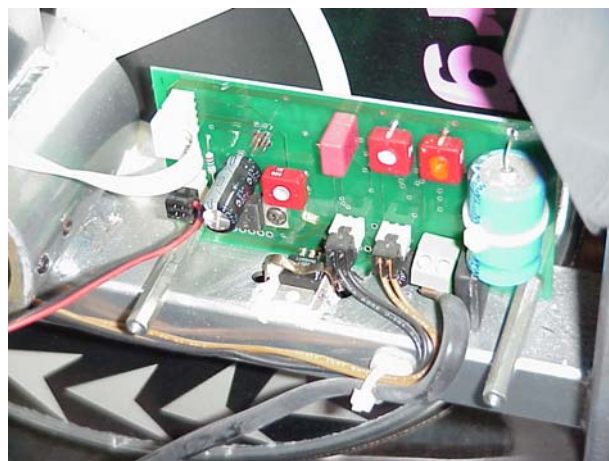
The pedal arm can be disassembled by means of a screw size M 12 if the clamping screw is a hexagon socket screw (like in the opposite photo). For hexagon head screws, you need a crank extractor.



Then, release all nine screws on the side covering.



For older models with fan, it is additionally necessary to remove the fan cable from the power section. This black and red cable is plugged into the jack on the left side below the white cockpit cables.



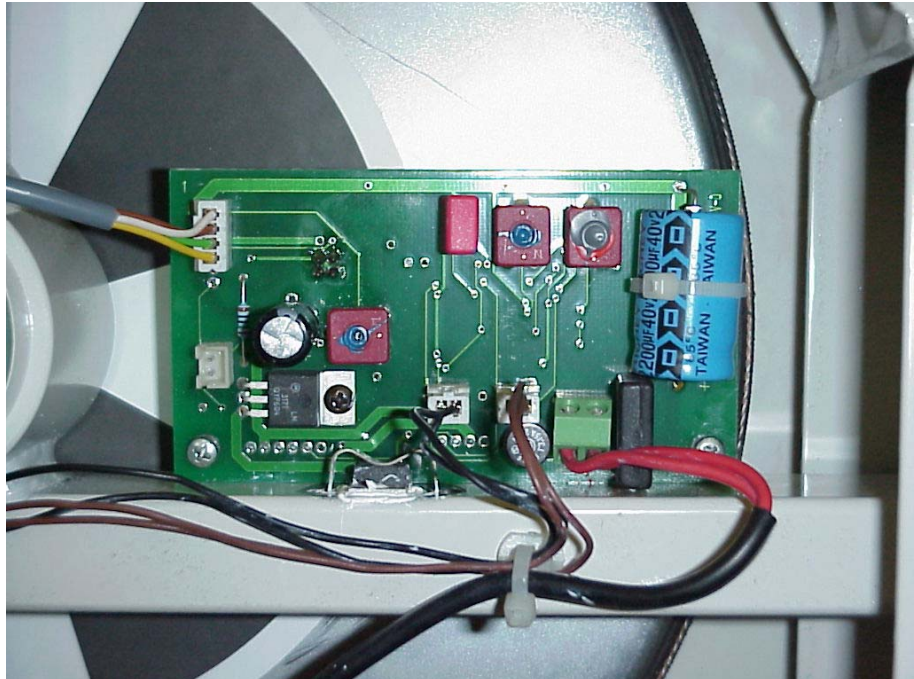
For the TRS 4000, you must in addition remove the perforated-plate covering in front of the power section. Please never change the adjustments the setting controllers on the power section!

Next, pull out all cable plugs and release the screwed cable connections. Then remove the bottom left and right fastening screws. (For the TRS 4000, these are the spacer pins).

At the lower end of the power section, there is a black element, the power controller, which is fixed to the frame by means of a U-spring or a screw. Remove the U-spring or the fastening screw with insulating nipple. Now, you can take out the power section.

When assembling the new power section, proceed in general in reverse order.

Warning: Between the frame and the insulating lamina as well as between the insulating lamina and the power controller, there is a white heat conducting paste.



THIS PASTE HAS A VERY IMPORTANT FUNCTION AND MUST, THEREFORE, BE TRANSFERRED COMPLETELY TO THE NEW POWER SECTION.

Also make sure that the insulating lamina and, if necessary, the insulating nipple are correctly inserted, that there is sufficient heat conducting paste below and above the insulating lamina and that the U-spring or screw presses the power controller firmly against the frame.

Make sure that the cable connectors are connected correctly (the power section BT 1 does not have a black cable, the corresponding jack remains empty)! Observe the colours of the individual conductors and compare them with the photo above. If a fan exists, it must by all means be connected again.

Light barrier:

On the back of the power section, there is a small black cube. This is the incident-light barrier, picking up the pedal revolutions. The space between this light barrier and the pulley must be about 4 mm. Please carefully bend the installed power section by the fastening angles until this space is guaranteed. Furthermore, the black and white surface of the pulley must be clean and free of wrinkles and blisters. Only then will the torque pulse be correct. If all this is assured, but, nevertheless, no rpm value is displayed on the cockpit, the connection cables must also be replaced.

After a function test has been carried out, re-assemble the device.

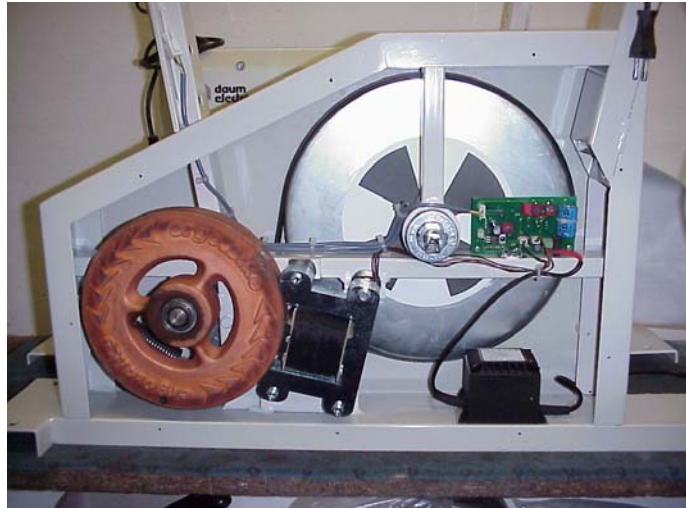
Exchange of the Mains Transformer

If in spite of the mains cable being connected, there are no indications on the display, this may also be due to a defective transformer. Please make sure first of all that a voltage is applied on the mains socket, e.g. by connecting another electric consumer. If there is a voltage, put your ear on the device, you ought to hear a soft humming noise. If there is no voltage, the transformer is defective and has to be replaced.

Warning: Before opening the device, make sure to pull out the mains plug!



To exchange the transformer, remove the left pedal arm and the left side covering and loosen the right side covering (see „Exchange of the Power Section“ as well as the following photos and the Operating Instructions).



The transformer is situated in the right bottom corner of the body.

If you possess a voltmeter, please control first of all whether an alternating voltage of about 23 V is applied on the transformer output, i.e. between the two red conductors at the power section.

Disassemble the defective transformer by loosening all four fastening screws at the bottom. It is recommended to use an offset screwdriver for recessed-head screws.

Then remove the two red cables at the power section and release the transformer mains cable from the right side covering. For this purpose, first push the cable bushing out of the covering before pulling the cable out of the covering.

Assemble the new transformer in general in reverse order.

Service Info: Running Noise

ergo_bike ergometers are provided with branded ball bearings, robust sliding bearings and a silent belt drive. This guarantees optimum truth of running, silent running, and long lifetime.

Nevertheless, a certain noise is inevitable, lying, however, below LpA 52 dB (decibel). Due to the necessary gearing up, the incorporated disk flywheel, for example, rotates with 100 pedal revolutions per minute at a speed of 1500 rpm, which, of course, generates some noise.

The most frequent reasons of unnormal running noise are:

- The fastening screws of the pedal arm are not tightened very firmly.
- The pedal fastening is not tightened very firmly.
- The fastening screws of the base and/or the handlebar column are loose.

Before complaining about excessive running noise, please check by all means the above screws for firmness !!!

To prevent long after-running of the incorporated disk flywheel, the latter is automatically braked shortly after pedaling has stopped. A slightly increased noise level and faint chattering during the few seconds of this operating phase is normal.

In the course of time, depending on the average wattage during training, this noise level may increase. A slight after-pulling of the pedals may also occur during this operating phase.

If the running noise exceeds this normal level, check the bearings of the pulley and the disk flywheel.

Exchange of the Ball Bearing of the Pulley

Warning: Before opening the device, make sure to pull out the mains plug!

To disassemble the pulley, remove both pedal arms, both side coverings and the drive belt (see „Exchange of the Power Section“, the following photos and the Operating Instructions).



Remove the V-ribbed belt by pulling the belt at the lower edge of the pulley to the front, turning at the same time the pulley clockwise.

After having removed the drive belt, you can hear the noise of the ball bearing of the pulley by plugging in a crank and turning the pedal.

ATTENTION: DEPENDING ON THE YEAR OF CONSTRUCTION OF YOUR ERGO_BIKE, THERE ARE THREE DIFFERENT VARIANTS OF THE BALL BEARING OF THE PULLEY:

- a) CUP-AND-CONE BEARING
- b) INDUSTRIAL BEARING, GLUED
- c) INDUSTRIAL BEARING, FIXED WITH SCREWS

PLEASE VERIFY BEFORE CONTINUING WHICH BEARING CONSTRUCTION YOU POSSESS!

a) *Cup-and-cone bearing:*

You recognize the cup-and-cone bearing by the fact that the outer bearing cap is fixed with two nuts M 27 (see the following photos)!

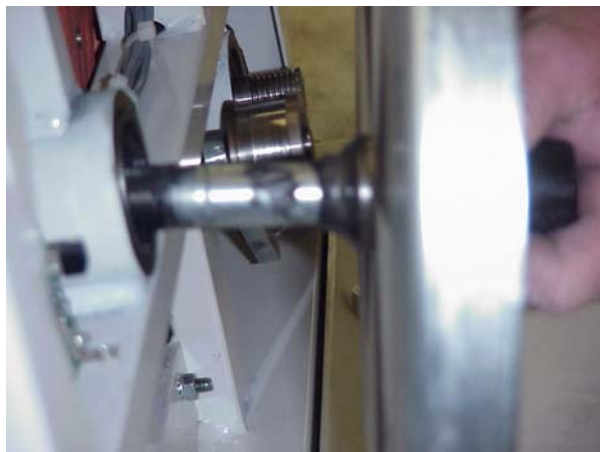


Release this nut by means of such a wrench, size 27 (left-hand thread!), and screw it completely off the axle.

Now you can remove the slotted cone adjusting washer, the bearing cap and the second slotted cone adjusting washer.

Behind, there is a screw taper which must also completely be screwed off the axle.

Then, withdraw the pulley together with the pedal shaft from the pedestal.



Now the ball bearing rings can be taken out of the pedestal.

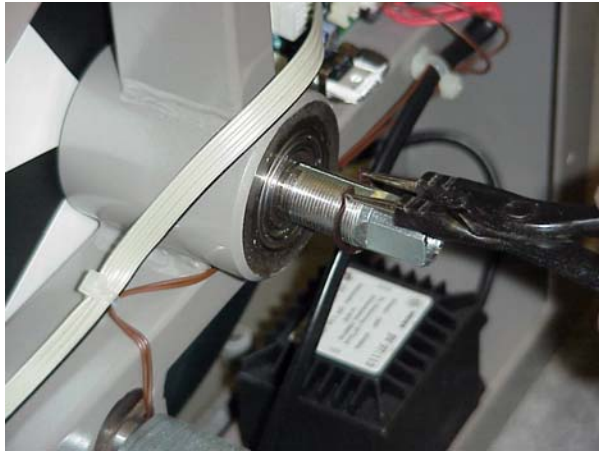


Please remove the old grease completely and control whether the inner bearing shells are worn-out. If so, these pressed-in bearing shells must be knocked out by means of a hammer and a pin and also be replaced. Before and after insertion of the new ball bearings, grease everything thoroughly with ball bearing grease.

Assemble in general in reverse order.

b) *Industrial bearing, glued:*

The industrial bearing has no nuts on the outside of the pedal shaft, it has no hexagon socket screws on the pedestal and you can see the industrial-bearing unit (see the following photos).



First of all push the safety ring apart by means of suitable pliers and take it off.

Then, the pedal-arm clamping screw must be inserted again into the pedal shaft, as otherwise the pedal shaft would be damaged when the pulley is knocked out.

Now you can knock the pulley out of the pedestal using a hammer.



On the axle of the withdrawn pulley, an old industrial bearing is mounted. Pull it off the pedal shaft.

It might also happen that after removal of the pulley both ball bearings are still in the pedestal.

They must in this case be knocked out separately by means of a hammer and a pin. Remove any remnants of glue in the pedestal.



Then, thoroughly clean/degrease the pedal shaft and the complete pedestal with acetone. If you insert a new, completely equipped pulley, an industrial bearing will already be pressed-on, on the pedal shaft.

Otherwise, press on a new industrial bearing ring on the cleaned pedal shaft up to the stop at the pulley.



Spread Loctite on the outside of the ball bearing rings on the pulley. In the offset area of the inner surface, also spread some glue.

Then insert this pulley unit into the pedestal.

Now plug the second industrial bearing onto the pulley shaft and press it into the pedestal by means of the special tool (see opposite photo) up to the stop. Finally, make sure to re-fix the securing ring on the axle.

After a drying period, carry out a final control (hear the noise of the bearing). If everything is in order, the ergometer can be re-assembled (in reverse order).

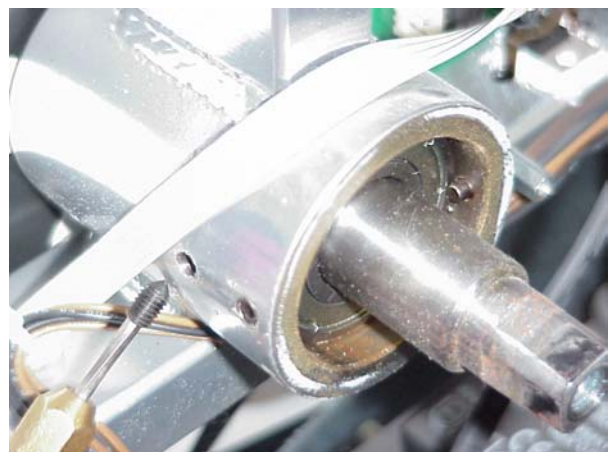


c) *Industrial bearing, fixed with screws:*

You recognize this industrial bearing by the fact that on the left side (in direction of motion) of the ergometer there are 4 hexagon socket screws on the pedestal of the pulley bearing.

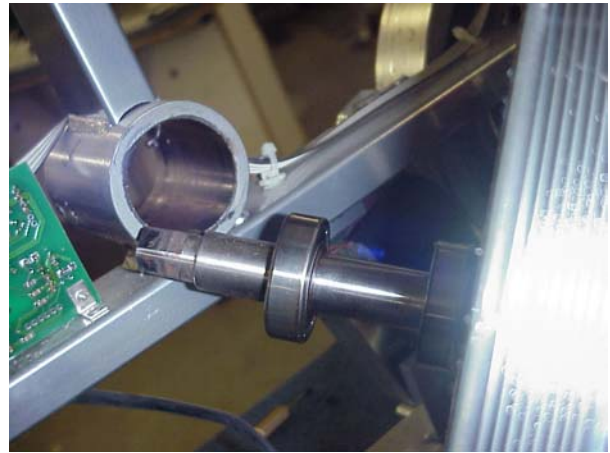
First, release the two rear screws. Do not change the two front screws.

Then, the complete pulley can be taken out.





The two industrial bearings are situated on the pedal shaft. Pull them off and replace them by new ball bearings (see b) „Industrial bearing, glued“).



When re-mounting the pulley with the new industrial bearings, spread Loctite on the outsides of both ball bearings. Effect the further assembly steps in general in reverse order.

Exchange of the Ball Bearing of the Disk Flywheel

Warning: Before opening the device, make sure to pull out the mains plug!



To disassemble the disk flywheel, remove both pedal arms, both side coverings and the drive belt (see „Exchange of the Power Section“, the following photos and and the Operating Instructions).

Before removing the drive belt, plug in a crank and turn the pedal in order to hear the

noise of the ball bearing of the disk flywheel.



ATTENTION: DEPENDING ON THE YEAR OF CONSTRUCTION OF YOUR ERGO_BIKE, THERE ARE TWO DIFFERENT VARIANTS OF THE BALL BEARING OF THE DISK FLYWHEEL:

- d) INDUSTRIAL BEARING, FIXED WITH SCREWS
- e) INDUSTRIAL BEARING, GLUED

PLEASE VERIFY BEFORE CONTINUING WHICH BEARING CONSTRUCTION YOU POSSESS!

- a) *Industrial bearing, fixed with screws:*

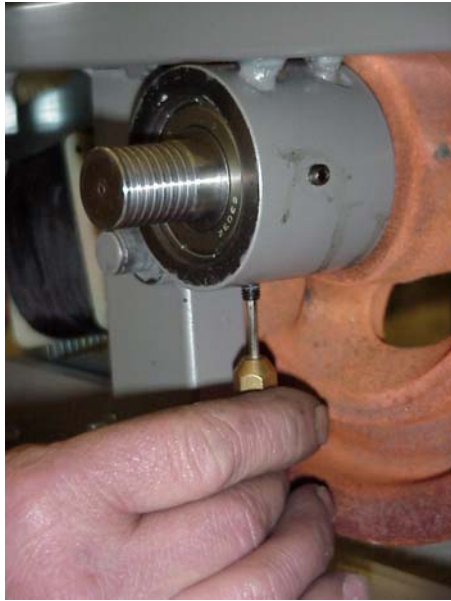
You recognize this fastening construction by the fact that from the right side of the ergometer (viewed in direction of motion), two black hexagon socket screws project at the pedestal.



First of all, remove the belt tightener. For this purpose, remove the securing ring from the belt tightener axis, using suitable pliers.



Now, you can pull the belt tightener off the axle and unhook its spring.



Loosen the two hexagon socket screws at the pedestal, making sure not to forget the lower screw!



Now you can knock the disk flywheel out of the pedestal, hitting with a hammer on the left axle shaft.



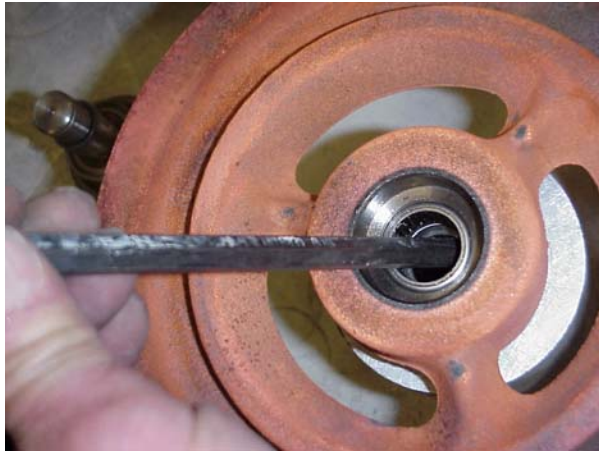
Then thoroughly clean the pedestal with acetone.

If you have received from the factory a new disk flywheel, complete with industrial bearings, you may skip the next three photos and continue under „*Gluing*“.

If only the ball bearings are replaced, remove first of all the securing ring from the axle shaft, on that side of the disk flywheel where „ergo_bike“ is written.

With a hammer and a pin, you can now knock out the axle from the disk flywheel.





In the disk flywheel, there is another industrial bearing, which must also be knocked out (see opposite photo).

Now clean the disk flywheel first of all inside (with acetone).

Then press the cleaned disk flywheel onto the new disk flywheel axle, on the side marked „ergo_bike“, too, press in a new industrial bearing and here finally (important!) clamp on the securing ring again.

Clean the outsides of the bearings also with acetone before effecting the gluing.



Gluing:

Spread glue only on the outside of the ball bearing which is next to the disk flywheel.



Spread further glue at the very rear (viewed from the left side of the ergometer) inside the pedestal, over a width of about 2 cm.

Then insert the disk flywheel now equipped with new bearings into the pedestal up to the stop.

Then re-tighten the two black hexagon socket screws (carefully, with little force, in order not to destroy the thread!), mount the belt tightener and fasten it with a securing ring, and mount the drive belt.

b) *Industrial bearing, glued:*

You recognize this fastening construction by the fact that from the right side of the ergometer (viewed in direction of motion), no hexagon socket screws are to be seen at the pedestal of the disk flywheel bearing.

The entire exchange of the bearings is effected analogously to bearing type a), with the exception that the fastening with the hexagon socket screws is omitted.



Spare Parts List:

The list below is valid EXCLUSIVELY FOR OLDER DEVICES UP TO SERIES NUMBER 36800 !!!

For the NEW DEVICES AS FROM SERIES NUMBER 36801, each Operating Instructions include at the end a list of all spare parts available.

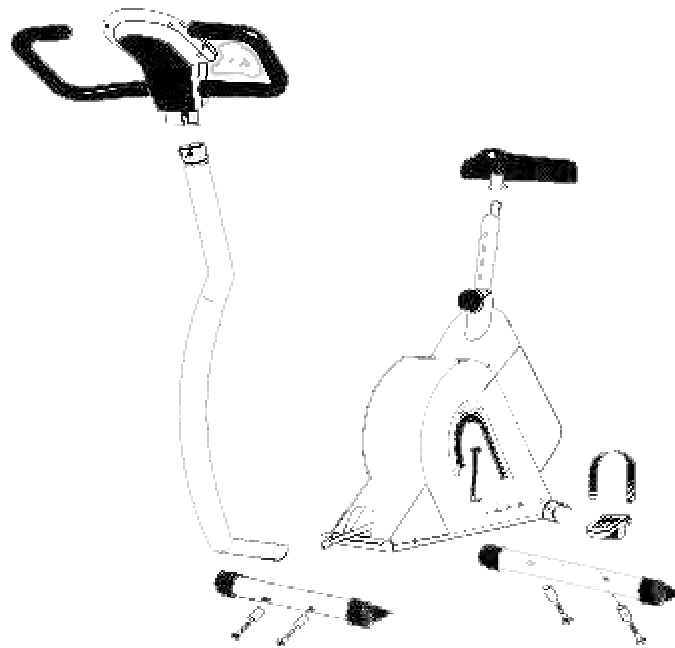
Please find out first of all the series number of your ergometer!

<u>Article number</u> <u>No.)</u>	<u>Article designation</u>	<u>Suitable for (series</u>
0031070	Drive belt	All devices
1210796	Connection cable power section / body	All devices
1210785	Connection cable cockpit / body	All devices
E0310101	Power section BT 1	As from 31972
E0310102	Power section BT 2	Up to 31971
M217293	Pulley with pedaling axle, cup-and-cone bearing and bearing set, black-and-white label	Devices with cup-and-cone bearing
M317293 with	Pulley with pedaling axle, cup-and-cone bearing and bearing set, black-and-white label and TRS „ergo_bike“ label	TRS 4000 devices cup-and-cone bearing
M8090170	Pulley with pedaling axle, cup-and-cone bearing and bearing set, black-and-white label	Devices with glued bearing
M8090175	Pulley with pedaling axle, cup-and-cone bearing and bearing set, black-and-white label and TRS „ergo_bike“ label	TRS devices with glued bearing
M217270	Pulley with pedaling axle, cup-and-cone bearing and bearing set, black-and-white label	Devices with screwed bearing
M317270	Pulley with pedaling axle, cup-and-cone bearing and bearing set, black-and-white label and TRS „ergo_bike“ label	TRS devices with screwed bearing
0009316	Deep-groove ball bearing	Additionally needed for all devices with industrial bearing

All disk flywheels and cockpits have to be sent to us for repair, it is not possible to order spare parts for them. Should you only need the ball bearings for the disk flywheel, please indicate in your order the type number punched into the old ball bearing!

In each order, please indicate your customer number, the series number of the device and the device type! Please send your written orders to our fax number +911 / 75 37 14 !

Service Instructions



Devices as from series number 36801

(and all Vita models)

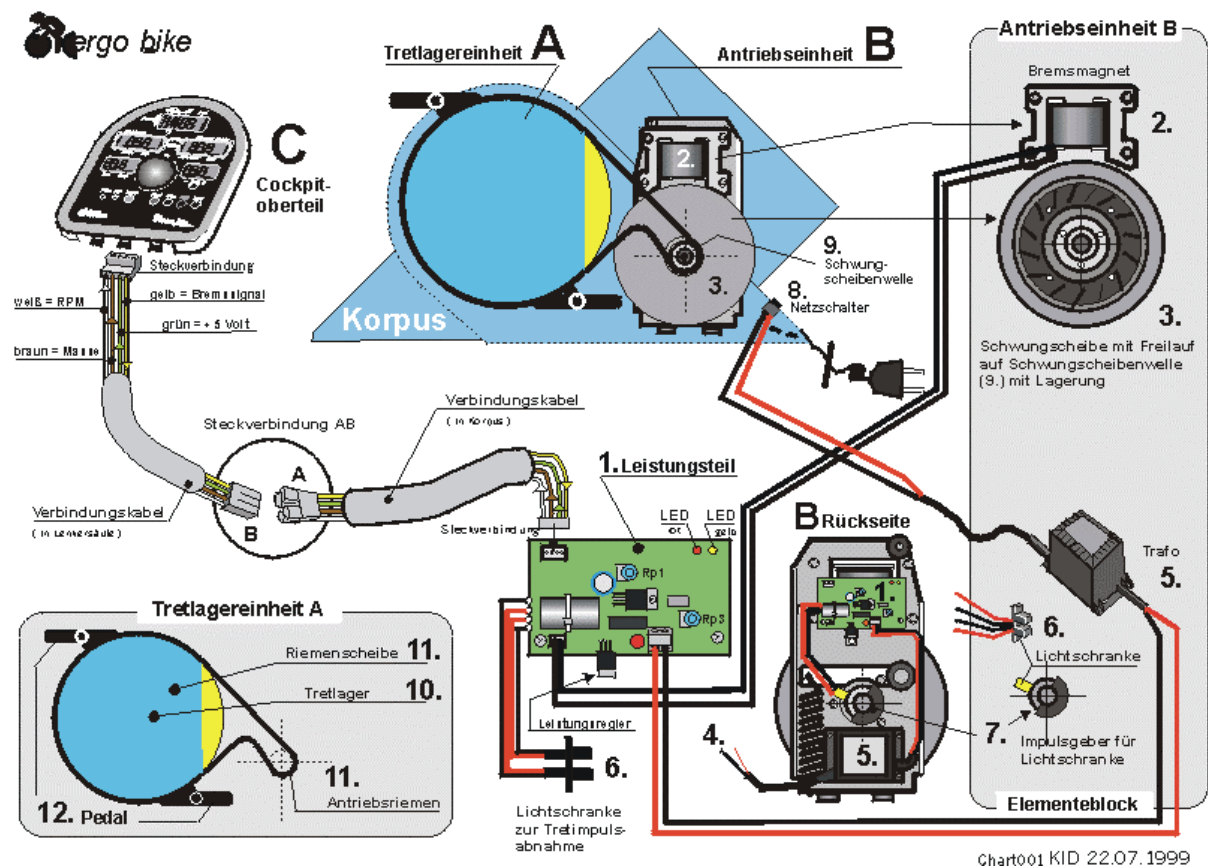
Service Info: Technical Sub-Assemblies

A Upper part of the cockpit

The cockpit contains the control and display electronics and is connected with the lower part of the device (body) by means of a 4-pole round cable (control cable), laid inside the handlebar column.

By means of the control cable,

- the cockpit is supplied with an operating voltage of 5 V (green conductor),
- the cockpit is supplied with the electric earth (negative pole) (brown conductor),
- the cockpit is supplied with a rectangular pulse (rpm pulse) whose frequency is determined by the number of revolutions of the pedal (white conductor),
- the body is supplied with a wattage-dependent, 60 Hz, pulse duration-modulated rectangular pulse (braking signal) (yellow conductor).



B Body

The body contains the drive unit (B), the pedal bearing unit (A) and the mains switch.



A Pedal bearing unit

The pedal bearing unit consists of 2 ball bearings pressed and glued into the pedal pedestal, and the pulley with welded-in pedal shaft.

B Drive unit

The drive unit includes:

- the mains transformer
- the brake magnet
- the disk flywheel with free-wheel and bearings
- the pulse emitter for the rpm light barrier
- the belt tightener with tension spring



- the power section with power electronics for control of the eddy current brake magnet, the power supply (without mains transformer) and the electronic components for rpm pulse generation

Service Info: Pedaling Resistance

Warning: Before opening the device, make sure to pull out the mains plug!

For a survey of the individual sub-assemblies, see diagram „Sub-Assemblies“.

If in spite of a high wattage being set at the cockpit, there is no pedaling resistance, the fault may lie in the cockpit itself, in the control cable or in the body.

To enable an easy localization of the reason of fault, the power section in the body is provided with a red and a yellow diagnosis LED. These two LED's are visible from outside through the perforated-plate covering.

The yellow LED must flash during pedaling.

The red LED must light with high intensity when no pedaling is effected and must light, when pedaling is done, with less and less intensity the higher the wattage setting is.

If these conditions are given, the fault will with very high probability not lie in the drive unit (the body), but either in the control cable, because it was squeezed in the body when assembling the handlebar column (highest probability!) or because it was squeezed in die handlebar column when assembling the cockpit (less probable), or in the electronics of the cockpit (extremely rarely).

If one of the two LED's does not function properly, the fault lies with very high probability in the power section situated on the drive unit in the body.

Check of the Control Cable

The control cable consists of two parts which are connected with the plug-in connection AB (diagram: „Sub-Assemblies“)

Check of the control cable part which is laid inside the body:

After having disassembled the handlebar column and having pulled the plug-in connection AB apart, a short piece of round cable with the socket A of the plug-in connection will be hanging out of the body.

Connect, e.g. with a paper clip bent open, the yellow and the brown conductors of the control cable (warning: Make sure that a firm electrical contact exists).



Then plug in the mains plug, switch on the mains switch of the device, and pedal. Provided that the two diagnosis LED's function as described above, the device must now brake with full load, i.e. it must hardly be possible to pedal.

If this is not the case, the control cable portion leading into the body is defective and has to be replaced or repaired (often, the cable was squeezed into the body upon assembly of the handlebar column (most frequent reason of fault). The squeezed spots are near the socket and are usually visible).

Check of the control cable part which is laid inside the handlebar column:

If the diagnosis LED's function properly and the control cable part which is laid inside the body is in order (body fully brakes when the yellow and the brown conductors are bridged), check the control cable inside the handlebar column (most frequent reason of fault).

Warning: Pull mains plug out!!!!

Screw off the upper part of the cockpit of the assembled device (see Manual, chapter: Maintenance, page W5). The end of the control cable is now hanging out of the handlebar column.

By means of a paper clip, connect the yellow and the brown conductors of the plug.



Do not forget at this moment to re-establish the contact with the power section, by re-connecting the cable of the bottom end of the handlebar column with the previously checked cable of the body!

Plug in the mains plug, switch the device on and pedal. If the diagnosis LED's function properly and the portion of the control cable which is laid inside the body is in order, the device will now brake with full load.

If this is the case, the defect lies in the cockpit. Please send it to us for repair.

If the device still does not brake, the fault lies in the control cable of the handlebar column, which has to be repaired or replaced. The most frequent reason of defect are squeezed spots at the top or bottom end due to an improper assembly of the handlebar column.

Check of the Body

The function of the electronic components in the body can be diagnosed by means of a red and a yellow diagnosis LED, visible from outside through the perforated-plate covering.

The yellow diagnosis LED

The flashing of the yellow diagnosis LED during pedaling signalizes that the rpm processing is functioning and the rpm pulses are transmitted to the control cable for further transmission to the cockpit.

If the yellow diagnosis LED does not function as described above, this means that no rpm pulses are transmitted to the control cable (to the cockpit). The fault lies in the power section (most frequent reason) or in the pulse generator for die light barrier (very rarely).



The red diagnosis LED

The red LED signalizes that the control pulses for the eddy current brake, emitted by the cockpit, arrive in the power section. The red LED must light, when pedaling is done, with less and less intensity the higher the wattage setting on the cockpit is.

If the red diagnosis LED does not function as described above, this means that no brake pulses arrive from the cockpit. Check the control cable, as described above. If it is in order, the fault lies in the upper part of the cockpit. Send this part to us, together with a detailed description of the fault and the indication of the device number (on a silver label at the rear base) for check and repair.

If the red diagnosis LED functions as described and the device still does not brake, the fault lies in the power section (most frequent reason) or in the eddy current brake magnet (very rarely).

Exchange of the Power Section

Warning: Before opening the device, make sure to pull out the mains plug!

Please never change the adjustments of the setting controllers Rp1 and Rp2 on the power section!

To exchange the power section, disassemble the perforated-plate covering of the ergometer (see the following photos and the Operating Instructions).



1. First of all, release the fastening screw of the light barrier (see page 3) at the disk flywheel axle. As it is not easily accessible, it may be useful to disassemble the belt tightening unit as well.

2. Then separate all cable connections to the power section.

The power section is fastened on the drive unit by means of 3 fastening screws, via 2 spacer sleeves. The screw, with which the power controller is fastened on the drive unit is led through a plastic sleeve, for electrical insulation. Upon assembly, this sleeve must be all means be re-inserted. When disassembling the power section, make sure not to lose the spacer rolls situated behind the printed circuit board and to insert them when assembling the power section.

3. After having removed these fastening screws, you can take out the power section.

4. On the power section, there is an electronic power controller, screwed onto the drive unit for cooling. To assure an electric insulation, a transparent insulating lamina is placed between the power controller and the drive unit.

For better heat transmission, this insulating lamina is daubed on both sides with heat conducting paste.

When assembling the new power section, make sure to re-insert the insulating lamina and to daub it on both sides with heat conducting paste.

Otherwise, when assembling the new power section, proceed in reverse order of disassembly.



Service Info: Running Noise

ergo_bike ergometers are provided with branded ball bearings, robust sliding bearings and a silent belt drive. This guarantees optimum truth of running, silent running, and long lifetime.

Nevertheless, a certain noise is inevitable, lying, however, below LpA 52 dB (decibel). Due to the necessary gearing up, the incorporated disk flywheel, for example, rotates with 100 pedal revolutions per minute at a speed of 1500 rpm, which, of course, generates some noise.

The most frequent reasons of unnormal running noise are:

- The fastening screws of the pedal arm are not tightened very firmly.
- The pedal fastening is not tightened very firmly.
- The fastening screws of the base and/or the handlebar column are loose.

Before complaining about excessive running noise, please check by all means the above screws for firmness !!!

To prevent long after-running of the incorporated disk flywheel, the latter is automatically braked shortly after pedaling has stopped. A slightly increased noise level and faint chattering during the few seconds of this operating phase is normal.

In the course of time, depending on the average wattage during training, this noise level may increase. A slight after-pulling of the pedals may also occur during this operating phase.

This effect signals that the disk flywheel has to be disassembled (see below) and the sliding bearings have to be re-greased with the special grease Klüberplex BEM 34-132 (or an equivalent grease).

Disassembly of the disk flywheel and lubrication of the sliding bearings in the disk flywheel, check of the pedal bearing

Warning: Before opening the device, make sure to pull out the mains plug!

For disassembling the disk flywheel and hearing the noise of the pedal bearing, remove first of all the perforated-plate covering (like for the disassembly of the power section) (see the following photos and the Operating Instructions).





Next, the pedal arms have to be disassembled by means of the extractor (see also Operating Instructions, page W2):



Now the right and left side coverings can be screwed off and removed:



As the last step, pull off the V-ribbed belt:

Pedal bearing

After removal of the drive belt, you can hear the noise of the pedal bearing during rotation of the pedals. The pedal bearing is provided with 2 deep-groove ball bearings which are pressed and glued into a pedestal. Fault are very rare here!

Disk flywheel

The disk flywheel is plugged onto the disk flywheel shaft and secured with of a screw (Attention, left-hand thread!)

To loosen this screw, it will be helpful to fix the pedal with the pedaling surface facing the frame, so that the disk flywheel is fixed by the jammed pedal and the screw with left-hand thread is easier to release.



Between this screw and the disk flywheel, there is a transparent sliding disk which must be re-inserted when assembling the disk flywheel!

After having screwed out the screw, clockwise, the disk flywheel can easily be taken off:

The sliding bearings and the free-wheel are pressed into the disk flywheel. Re-grease them when during the after-running of the disk flywheel, there is increased running noise and „after-pulling“ of the pedals.



Exchange of the Drive Unit

Warning: Before opening the device, make sure to pull out the mains plug!

ergo_bike-ergometers are equipped with a spring-mounted drive unit, which can easily be disassembled and re-assembled as a sub-assembly.

For its disassembly, remove (like for the disassembly of the disk flywheel) the perforated-plate covering, the pedal arms, the side coverings and the drive belt (see Operating Instructions and the following photos).



The Drive unit is fastened with 3 nuts.



After having pulled the control-cable plug off the power section, separate the plug-in connections of the mains cable from the mains switch and removed the cable fixtures, you can take out the drive unit.

Separation of the plug-in connection of the mains cable from the mains switch

The mains cable carries a current of 230 V. Improper working is hazardous. If you are not skilled for such work, call in an expert !!!!



First of all, push the mains cable with the mains switch through the screen.



Then pull the cables off the mains switch.

Assemble the drive unit in reverse order.

When re-assembling the drive unit, do not forget to re-insert the white guide disks.