

INTRODUCTION:

This manual is intended to assist Authorized Schwinn dealers in identifying and resolving possible fitness equipment component problems. Dealers should also refer to the appropriate owner's manuals in order to effectively troubleshoot and understand the operational functions as they pertain to individual products.

HELPFUL HINTS:

Before attempting to troubleshoot an electronic component, a dealer should be equipped with as many helpful tools as possible. These tools need not be limited to mechanical tools, but should also include any documented reference material that may be available on a component.

Owner's manuals are the most comprehensive source of detailed information on how a component functions. Oftentimes a dealer will be able to effectively troubleshoot an item simply by knowing its proper operational functions. Being able to identify legitimate problems vs. a customer's potential misconception of how a component operates, will help to eliminate the return of non-defective items to Schwinn, thus saving the dealer the inconvenience of returning parts and ordering replacements.

It would be useful to have a known "good" component on hand as an added troubleshooting tool. This will help you to verify a problem with a defective item or help trace the problem to another component.

An AC/DC multimeter is exceedingly helpful as a troubleshooting tool. It can be used for many things including checking battery voltage, polarity, continuity, current, etc. Multimeters can be purchased at most electronic or hardware stores.

Gather as much information from the customer as possible when they return a component. Ask lots of questions, "what specifically is the problem", "when does it occur", "how old is the component". Document the customers' responses and use this information when filling out the "electronic return tag."

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TROUBLESHOOTING

AIRDYNE, AIRDYNE PRO, AIRDYNE COMP, EVOLUTION, EVOLUTION PRO & EVOLUTION COMP

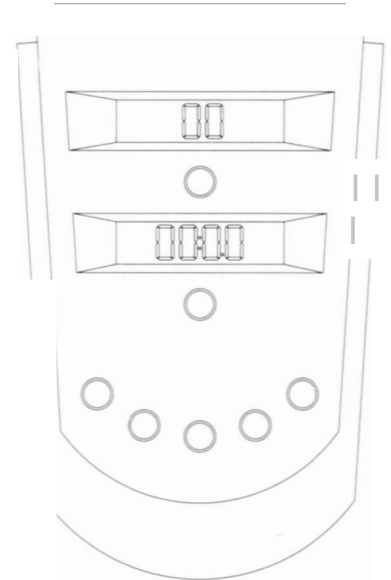
ELECTRONIC

1. PROBLEM: The LCD shows a partial display

SOLUTION: a. Remove the back case of the computer and press on the back of the LCD to see if you can get a full display. If the display returns, tighten the LCD mounting screws until fixed. You can also place a piece of foam between the LCD and the back case to apply additional pressure on the LCD.

b. Inspect the pc board. if the board is damaged, replace the computer.

NOTE: We have seen a number of pc boards damaged by mounting screws. This is not a manufacturer's defect and does not qualify for warranty replacement.



a

2. PROBLEM: The LCD shows no display

SOLUTION: a. Make sure the batteries are seated properly, installed correctly (+/-), and the correct voltage.

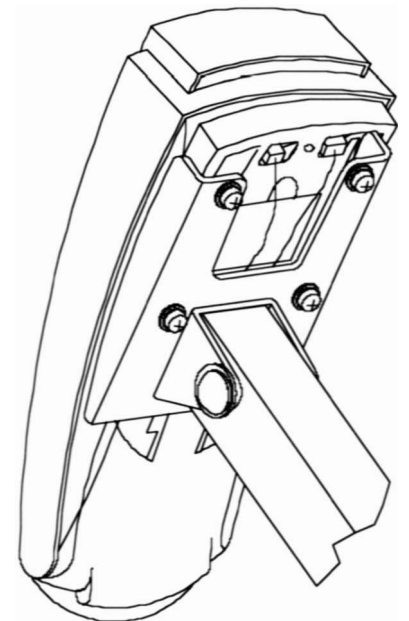
b. Check the battery contacts for oxidation or corrosion.

c. Check all connections.

d. Inspect the ribbon cable for breaks or bad connections.

e. Remove the back case of the computer and inspect the pc board. If the board is damaged, replace the computer.

NOTE: We have seen a number of pc boards damaged by mounting screws. This is not a manufacturer's defect and does not qualify for warranty replacement.



a,b,c,d,e

TROUBLESHOOTING

AIRDYNE, AIRDYNE PRO, AIRDYNE COMP, EVOLUTION,
EVOLUTION PRO & EVOLUTION COMP

ELECTRONIC (continued)

3. PROBLEM: No RPM reading

SOLUTION: a. Check all connections.

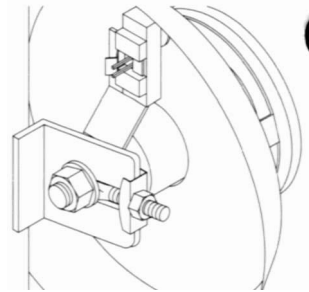
- b. Remove the sensor from the mounting bracket and pass a hand held magnet over the surface of the sensor. If a signal is received, remount the sensor and make sure the gap between the flywheel magnet and the sensor is between 2 and 4mm.
- c. If no signal is received, use a multimeter to check the continuity of the sensor and then the sensor wire. If both the sensor and wire are functioning, replace the computer.

MECHANICAL

PROBLEM: If you have vibration

SOLUTION: a. Reduce belt tension by first loosening the axle nuts and then loosening the tensioner nuts.

- b. Check the hub bearing for rough operation

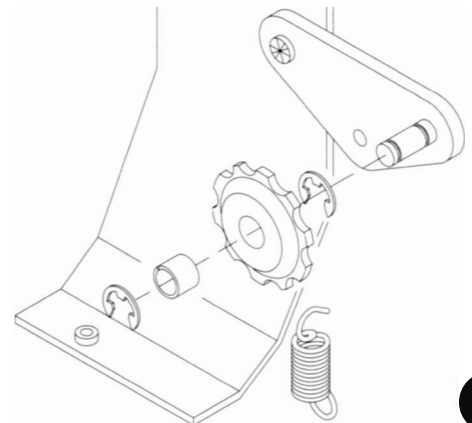


a

5. PROBLEM: If you have squeaking, tapping or rubbing noises

SOLUTION: a. Check chain tension - tighten or loosen

- b. Order new tension device - updated wheel type
- c. Lube chain
- d. Lube pivot points
- e. Align the belt using the fan tensioner
- f. Check all bearings for binding or play
- g. See if fan is rubbing cage



b

TROUBLESHOOTING

AIRDYNE, AIRDYNE PRO, AIRDYNE COMP, EVOLUTION, EVOLUTION PRO & EVOLUTION COMP

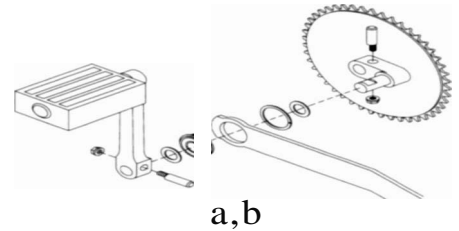
MECHANICAL (continued)

6. PROBLEM: Pedals feel loose

SOLUTION: a. Check cotter pins for looseness or excessive wear.

b. Check chain ring to ensure that it hasn't separated from the right eccentric.

c. Make sure the bottom bracket is tight in the frame and that the bearings operate smoothly.



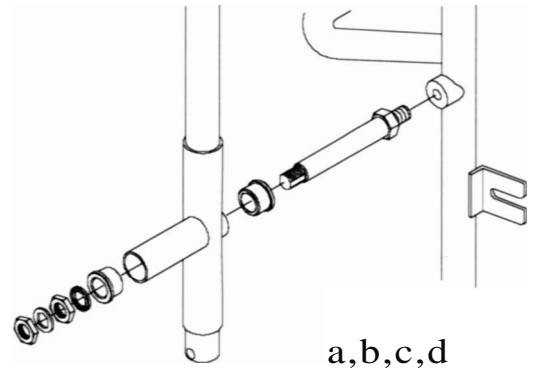
7. PROBLEM: Lever arm feels loose

SOLUTION: a. Check Olite bushing for excessive wear

b. Tighten the pivot bolt to eliminate play

c. Check threads on pivot bolt

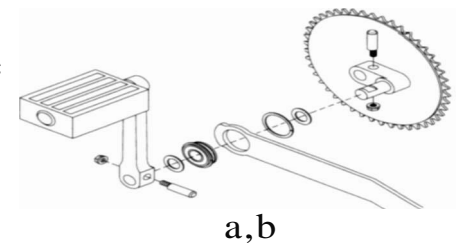
d. Look for cracks on frame at pivot area



8. PROBLEM: Connecting arm feels sloppy or loose

SOLUTION: a. Check the bearing for excessive play

b. Add another white spacer to connection at eccentric

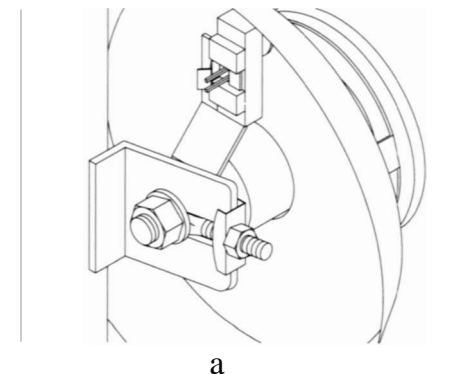


9. PROBLEM: Belt squeaking or out of alignment

SOLUTION: a. Adjust tension and alignment at fan hub

b. Adjust cam washer at idler hub to align the belt

c. Put belt dressing on belt



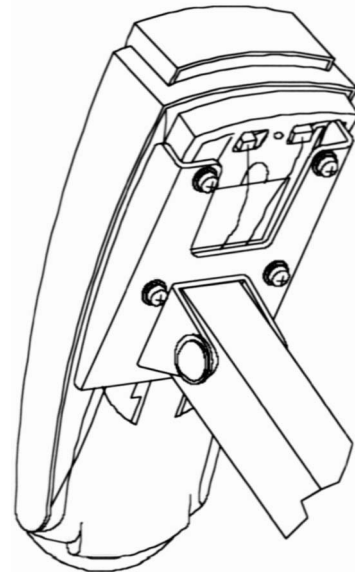
ELECTRONIC

1. PROBLEM: The LCD shows a partial display

SOLUTION: a. Remove the back case of the computer and press on the back of the LCD to see if you can get a full display. If the display returns, tighten the LCD mounting until fixed. You can also place a piece of foam between the LCD and the back case to apply additional pressure on the LCD.

b. Inspect the PC board. If the board is damaged, replace the computer.

NOTE: We have seen a number of PC boards damaged by mounting screws. This is not a manufacturer's defect and does not qualify for warranty replacement.



a,b

2. PROBLEM: The LCD shows no display

SOLUTION: a. Make sure the batteries are seated properly, installed correctly (+/-), and the correct voltage.

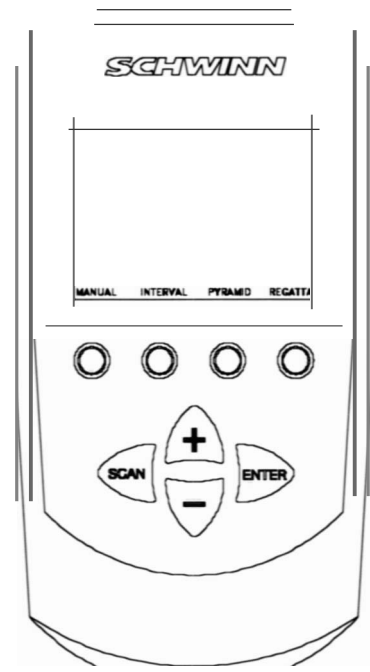
b. Check the battery contacts for oxidation or corrosion.

c. Check all connections.

d. Inspect the ribbon cable for breaks or bad connections.

e. Remove the back case of the computer and inspect the PC board. If the board is damaged, replace the computer.

NOTE: We have seen a number of PC boards damaged by mounting screws. This is not a manufacturer's defect and does not qualify for warranty replacement.



a,b,c,d,e

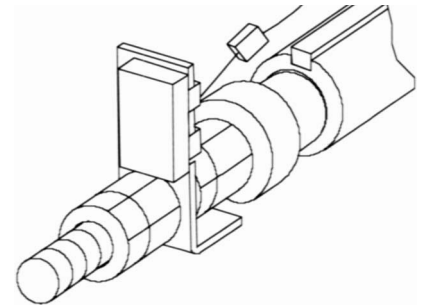
TROUBLESHOOTING

WINDJAMMER

ELECTRONIC (continued)

3. PROBLEM: The computer is on but has no WATTS reading

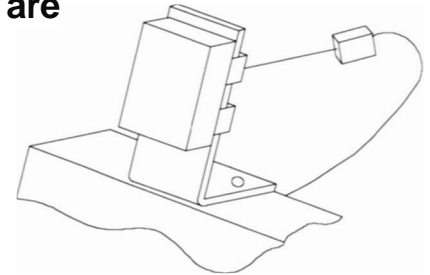
SOLUTION: a. Using a volt meter, test the continuity of the fan sensor and fan sensor wire. If either is bad, replace it.



a

4. PROBLEM: The RPM's are not working but WATTS are

SOLUTION: a. Using a volt meter, test the continuity of the crank sensor and the crank sensor wire. If either is bad, replace it.



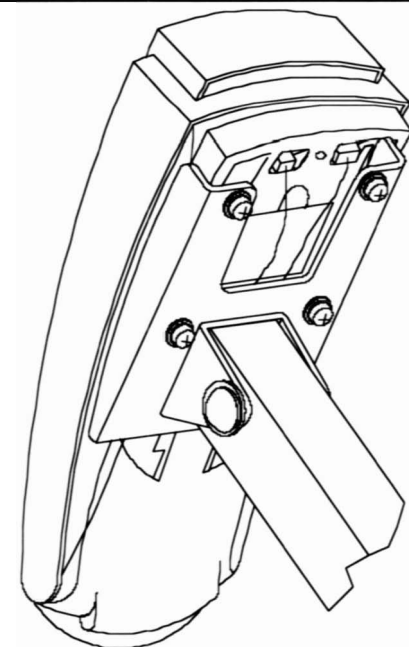
a

5. PROBLEM: The resistance display is not working

SOLUTION: a. Make sure the two prong plug is securely plugged into the back of the computer.

- b. Recalibrate the resistance by:
1. Turning the resistance crank counterclockwise until it stops.
 2. Simultaneously pressing the "ENTER" and "MANUAL" keys.
 3. Pressing the "RACE" key, and then pressing "ENTER".
 4. Turning the crank to full resistance and pressing "ENTER".

- c. Using a volt meter, test the continuity of the sensor wire. If the wire is good, replace the Slide Potentiometer.



a

TROUBLESHOOTING

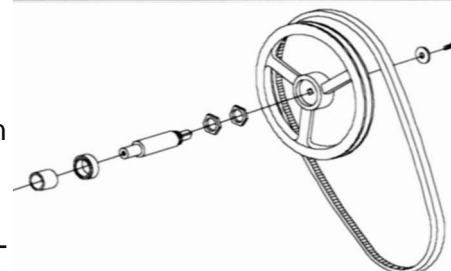
WINDJAMMER

MECHANICAL

6. PROBLEM: The cranks turn, but the fan slips or doesn't move

SOLUTION: a. Remove the shroud and make sure both belts are on the pulleys.

b. If the cogged belt turns and the V-belt doesn't, replace the intermediate hub shaft.



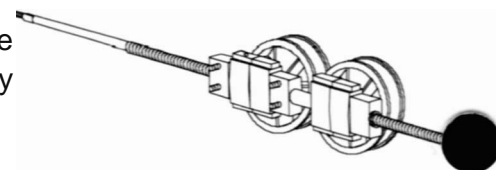
b

7. PROBLEM: The resistance crank does not move freely

SOLUTION: a. Remove the shroud and make sure the threads on the lead screw are not damaged. If the lead screw is undamaged, grease the threads.

b. Remove the resistance mechanism by removing the stop blocks. Replace any parts that do not slide freely on the lead screw.

NOTE: During reassembly, keep in mind that the lead screw has a left hand thread on one end and a right hand thread on the other. Also, the right handed pulley block (resistance handle side of the lead screw) has a hole on top to accept the slide potentiometer.



a,b

TROUBLESHOOTING

WINDRIGGER

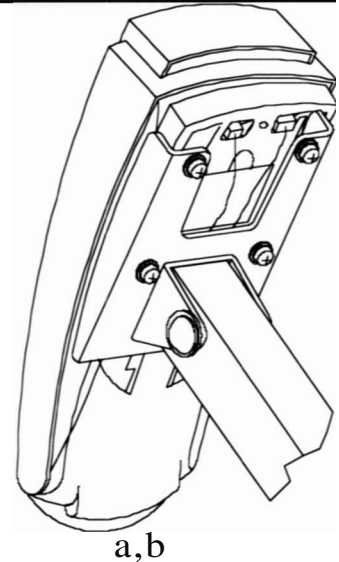
ELECTRONIC

1. PROBLEM: The LCD shows a partial display

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b. Inspect the PC board. If the board is damaged, replace the computer.

NOTE: We have seen a number of PC boards damaged by mounting screws. This is not a manufacturer's defect and does not qualify for warranty replacement.



2. PROBLEM: The LCD shows no display

SOLUTION: a. Make sure the batteries are seated properly, installed correctly (+/-), and the correct voltage.

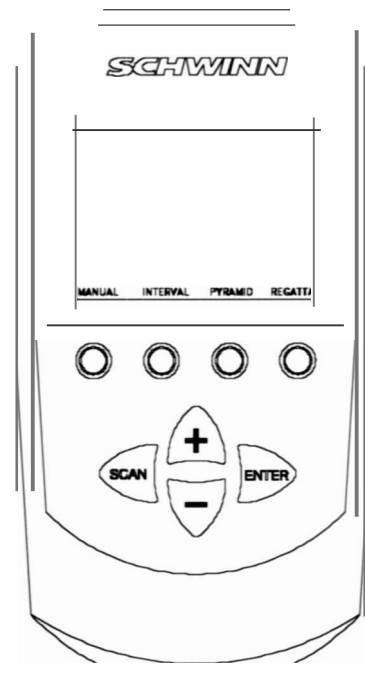
b. Check the battery contacts for oxidation or corrosion.

c. Check all connections.

d. Inspect the ribbon cable for breaks or bad connections.

e. Remove the back case of the computer and inspect the PC board. If the board is damaged, replace the computer.

NOTE: We have seen a number of PC boards damaged by mounting screws. This is not a manufacturer's defect and does not qualify for warranty replacement.



TROUBLESHOOTING

WINDRIGGER

ELECTRONIC (continued)

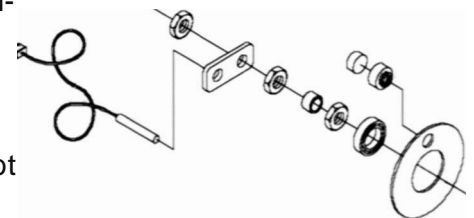
3. PROBLEM: Inconsistent or no speed reading

SOLUTION:a. Remove the left shroud (see note) and make sure the gap between the fan sensor and fan magnet is between 2mm and 4mm.

b. Using a volt meter, test the continuity of the sensor wire. If the sensor wire is functioning, replace the computer.

NOTE: To remove the shrouds, follow these steps:

1. Remove the right shroud mounting screws (not the crash plate screws).
2. Remove the right crash plate screws while holding onto the nut plate inside the shroud.
3. Remove the left shroud screws except the top corner screw.
4. Remove the left crash plate screws while holding onto the nut plate.
5. Keep the handle and crash plate connected and remove the shrouds.



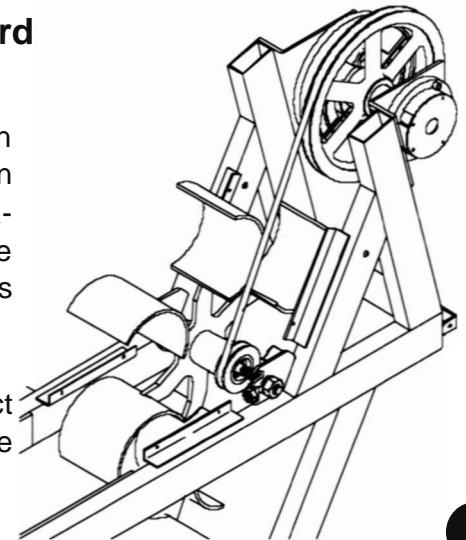
a,b

MECHANICAL

4. PROBLEM: The drive feels rough when pulling hard on the handle

SOLUTION:a. Remove the shrouds (see previous note) and tighten the V-belt at the fan using the fan tensioners. Tighten the belt just until the slipping stops (belt tension, measured on a belt tension gauge #91348, should be between 85 and 95 lbs). Replace the V-belt if it is glazed or cracked.

b. If tightening or replacing the V-belt doesn't correct the problem, the roller clutch is slipping on the drive axle. Replace the drive axle assembly.



a

TROUBLESHOOTING

WINDRIGGER

MECHANICAL (continued)

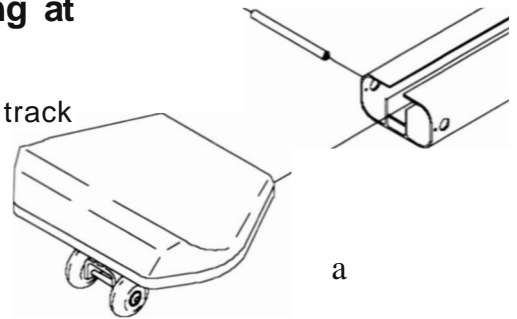
5. PROBLEM: There is excessive frame vibration during fan deceleration

SOLUTION: a. Make sure the four bolts that attach the rail to the frame are tight.

b. Check for bad belt alignment, an overtensioned belt, or bad fan bearings.

6. PROBLEM: The seat carriage is rough or bumping at a fixed point in the rail

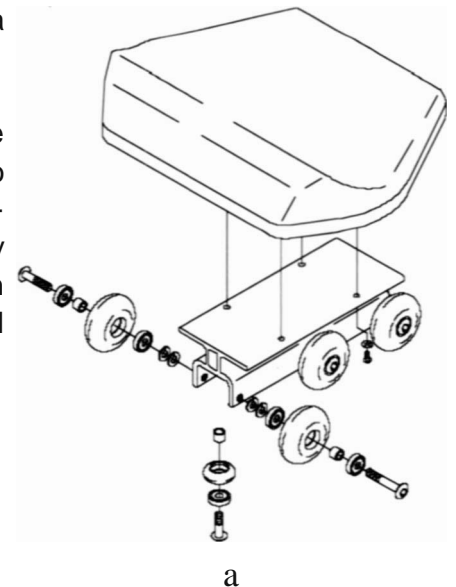
SOLUTION: a. Remove the seat assembly and clean the rail track with a long handled screwdriver and a rag.



7. PROBLEM: The seat carriage is rough or bumping at regular intervals along the rail track

SOLUTION: a. Inspect both the vertical and horizontal wheels. If a wheel is rough, replace it.

NOTE: When reinstalling the seat carriage assembly, the wheels should fit snugly in the seat rail. If the fit is too tight or too loose (the carriage has enough clearance to rock in the rail track), you can tune the fit by moving the middle vertical wheel up or down. Bear in mind that the seat assembly may feel too tight until you are actually sitting on the seat and rowing.



TROUBLESHOOTING

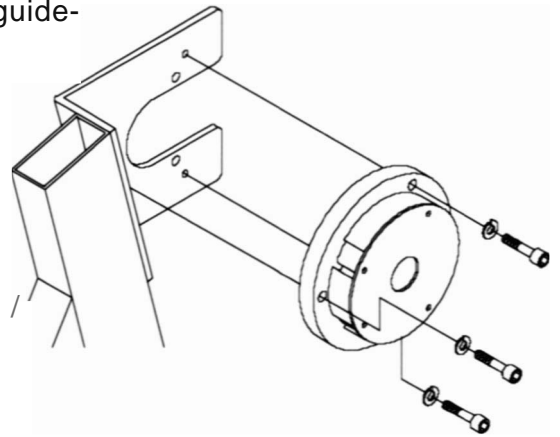
WINDRIGGER

MECHANICAL (continued)

8. PROBLEM: The rowing handle belt doesn't rewind quickly

SOLUTION: a. It is likely that a belt spring has failed. Replace both the right and left springs using the following guidelines:

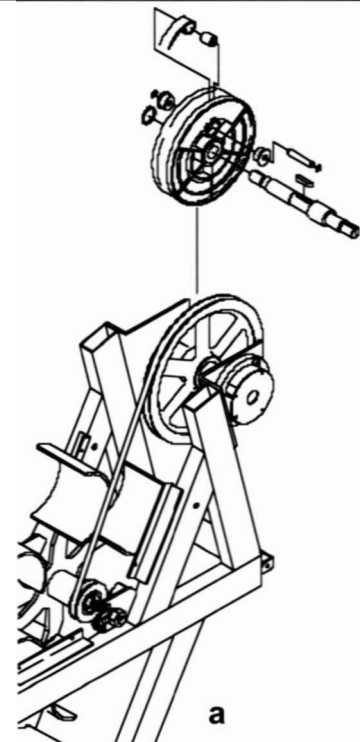
1. Remove the shrouds (see previous for shroud removal).
2. Make sure the rowing handle is resting in the two hooks on the fan cage or the springs will not be wound correctly.
3. Replace the springs one at a time. When removing the last of the three allen head mounting screws, hold the spring case with one hand so it doesn't spin.
4. Keeping in mind that the springs are right and left specific, follow the directions printed on the spring casing with one important exception. *Prewind the springs in the direction of the arrow between 3 to 3 1/2 turns (not the 1 to 1 1/2 turns printed on some labels).*



a

9. PROBLEM: The rowing handle belt broke and rewound into the shroud

SOLUTION: a. Replace the belt (and the belt springs, see previous) using a screwdriver to release the old belt by turning the belt holding cam. Install the new belt under the cam making sure that the free end of the belt does not extend above the wrapping surface of the flat belt pulley. Wrap the belt in the direction of the arrow on the flat belt pulley.



a

TROUBLESHOOTING

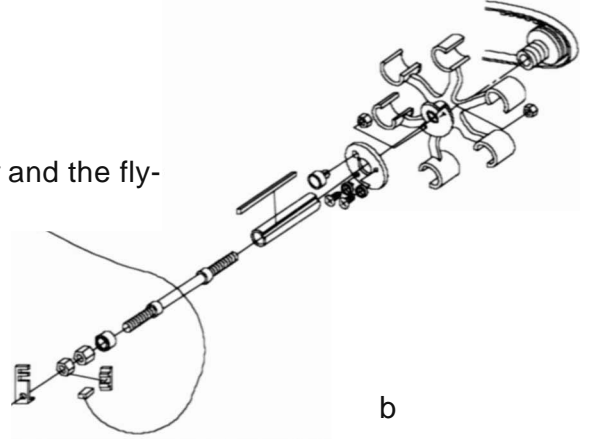
BACKDRAFT & WINDSPRINT

ELECTRICAL

1. PROBLEM: Computer will not start

SOLUTION: a. Replace the batteries.

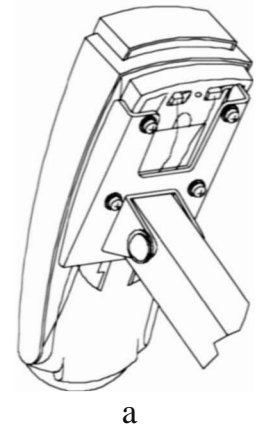
b. Make sure the gap between the sensor and the fly-wheel magnet is between 2 and 4mm.



2. PROBLEM: Computer does not read properly

SOLUTION: a. Check all connections.

b. Make sure the proper elevation is entered.

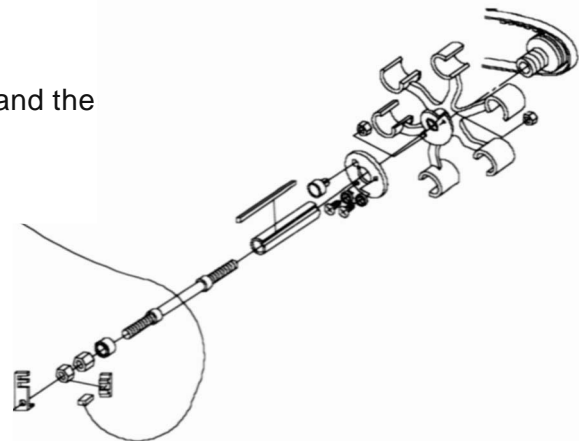


3. PROBLEM: No RPM reading.

SOLUTION: a. Make sure the gap between the sensor and the flywheel magnet is between 2 and 4mm.

b. Inspect the sensor wires for any breaks.

c. Check all connections.



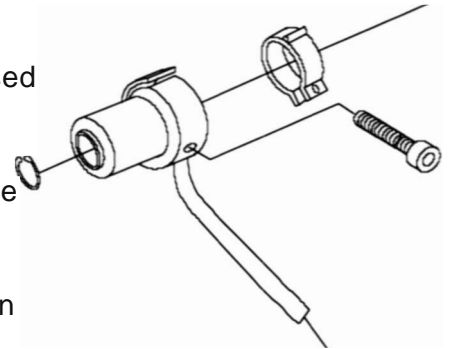
TROUBLESHOOTING

BACKDRAFT & WINDSPRINT

ELECTRICAL

4. PROBLEM: Shifter is hard to turn

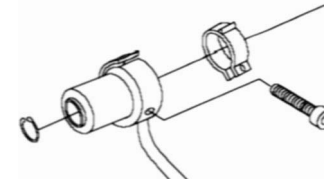
- SOLUTION:**
- Make sure the up/down toggle switch is being used correctly.
 - Loosen the cable stops to allow the cable to move freely.
 - Lubricate the cable and remove any tight bends in the housing.
 - Replace the cable.



a

5. PROBLEM: Shifter slips into first gear

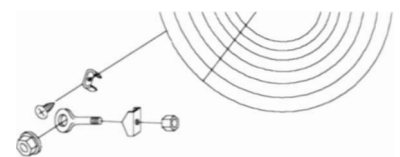
- SOLUTION:**
- Make sure the toggle switch pin is centered in the shifter housing.



a

6. PROBLEM: Will not shift into 5th gear

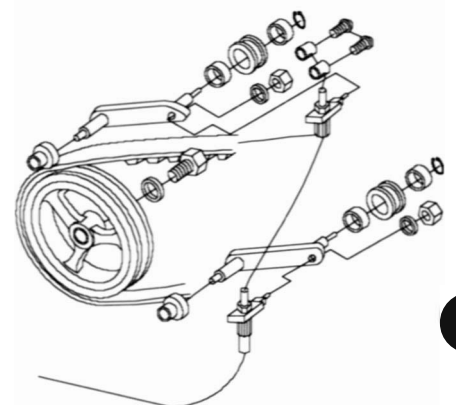
- SOLUTION:**
- Reduce the belt tension by adjusting the fan tensioners.
 - Loosen the cable stops to allow the cable to move freely.



a

7. PROBLEM: Belt slips while in 5th gear

- SOLUTION:**
- Increase the belt tension by adjusting the fan tensioners.
 - Tighten the cable stops until the belt quits slipping.



a

TROUBLESHOOTING

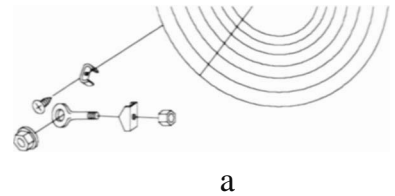
BACKDRAFT & WINDSPRINT

ELECTRICAL (continued)

8. PROBLEM: If you have vibration

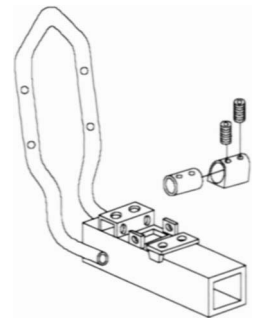
SOLUTION: a. Reduce the belt tension by adjusting the fan tensioners.

b. Check all bearings for binding or play.



9. PROBLEM: Seat lock mechanism (backdraft) will not hold the seat in place

SOLUTION: a. Replace the current cam block with the urethane backed version.



10. PROBLEM: If you have squeaking, tapping, or rubbing noises

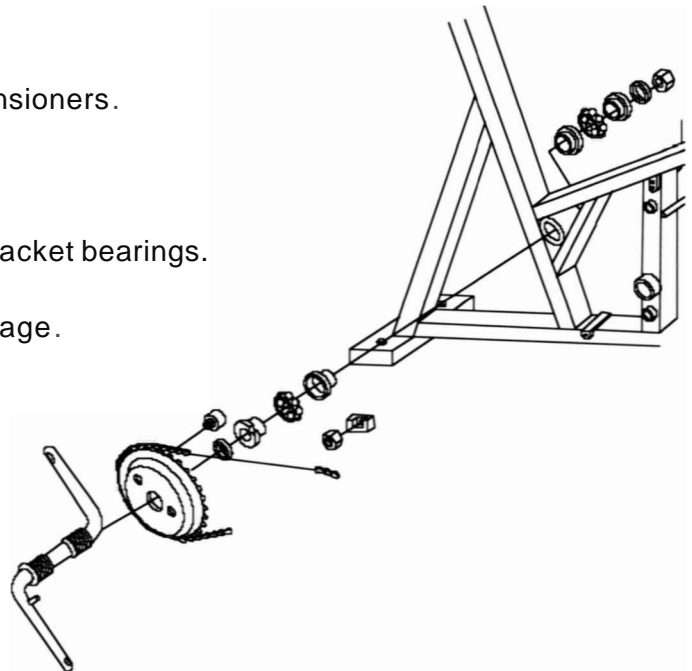
SOLUTION: a. Lube the chain.

b. Align the belt using the fan tensioners.

c. Apply belt dressing.

d. Check the hub and bottom bracket bearings.

e. See if the fan is rubbing the cage.



ELECTRICAL

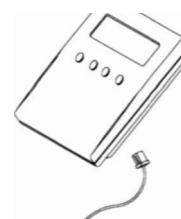
1. PROBLEM: Faded or no computer display

SOLUTION: a. Replace the batteries (make sure you have the correct voltage and polarity). If the display does not return, clean the battery contacts. If the batteries and contacts are okay, replace the computer.



2. PROBLEM: The LCD shows a partial display

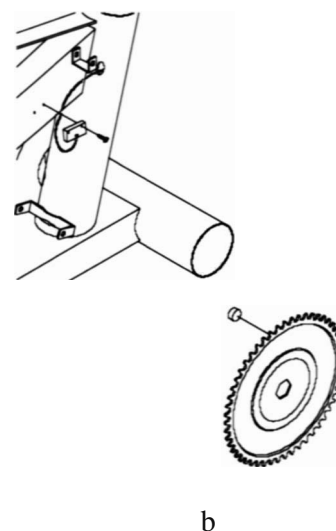
SOLUTION: a. Remove the back case of the computer and tighten the Mounting Screws to ensure a proper connection between the LCD and the PCB. If the display does not return by adjusting the Mounting Screws, replace the computer.



3. PROBLEM: Inconsistent or no SPEED reading

SOLUTION: a. Disconnect and reconnect the sensor wire on the back panel of the computer. If the SPEED reading doesn't return, disconnect the sensor wire and using a multimeter (set for an audible response if available) test the wire by placing your probes on each of the two sensor wire pins. Slowly turn the cranks and you should get a response (beep) once for each full revolution. If you do get a response from the sensor/wire, replace the computer. If you don't get a response, move on to Section B.

b. Remove the shrouds and make sure that the sensor and magnet are securely mounted. Adjust the sensor so that it's squarely aligned with the magnet and there's a 2mm to 4mm gap between them. Using the multimeter, retest the sensor wire pins. If you still don't get a response, replace the sensor/wire.



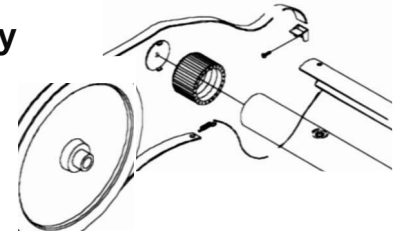
TROUBLESHOOTING

PT 105/205 & 105/205/210p

MECHANICAL

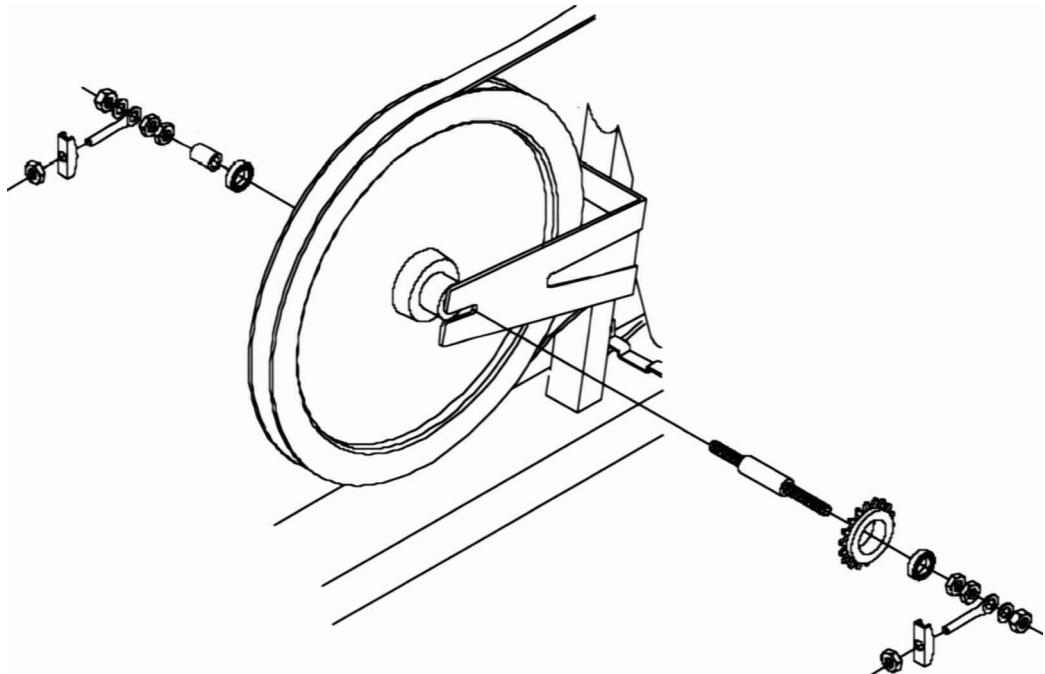
4. PROBLEM: The resistance belt wears out too quickly

SOLUTION: a. Remove the resistance belt from the flywheel and hold a piece of emery cloth against the belt channel in the flywheel as you turn the cranks. The emery cloth will smooth out any flaws in the channel surface.

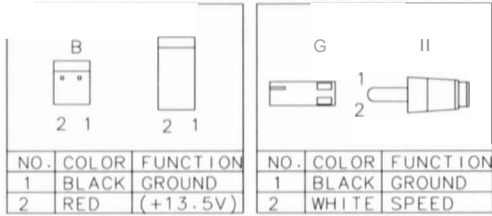
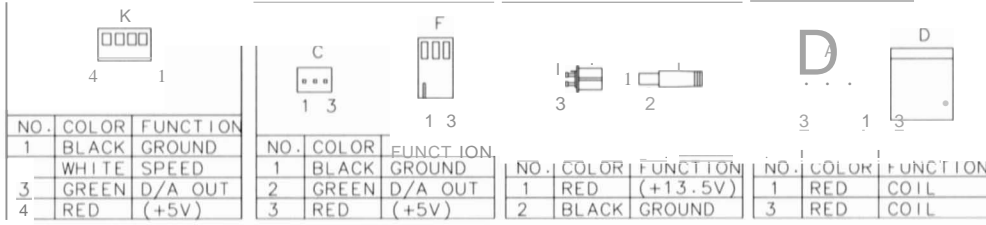


5. PROBLEM: When turning, the flywheel is rough or grinding

SOLUTION: a. (If the flywheel is rough out of the box, loosen the chain tensioner nuts to reduce the chain tension.) Remove the shrouds and disconnect the tension belt. Loosen the 15mm axle nuts and remove the flywheel. Remove the locknuts on either side of the axle and, using a hammer, tap out the flywheel axle. Remove the one sealed bearing that came out with the axle and reinsert the axle to tap out the remaining bearing. Replace the bearings and replace the axle if it is damaged.

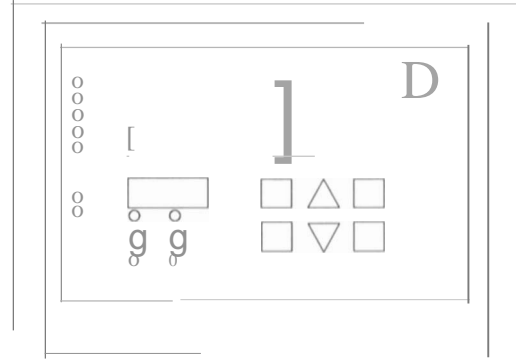


System Assembly Diagram for CI 130/230

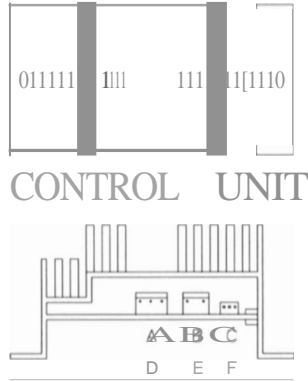
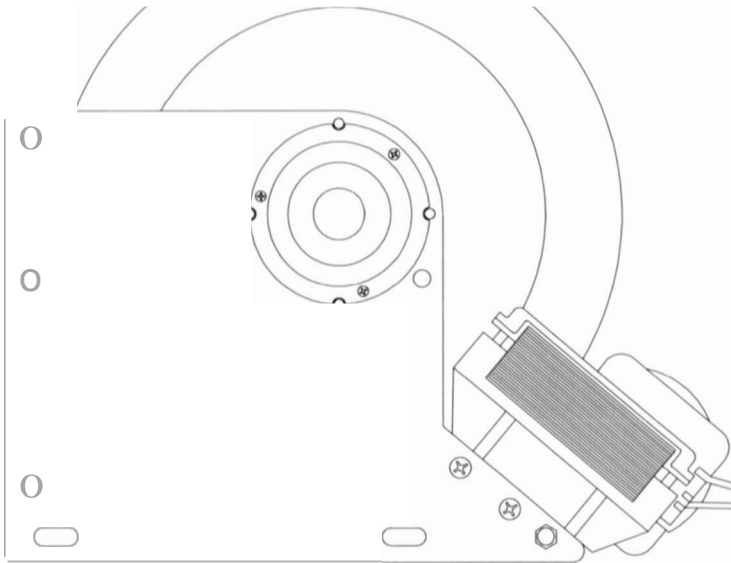


- A - D
- B - E
- C - F
- G - II
- I - J
- K - M[T[R

METE

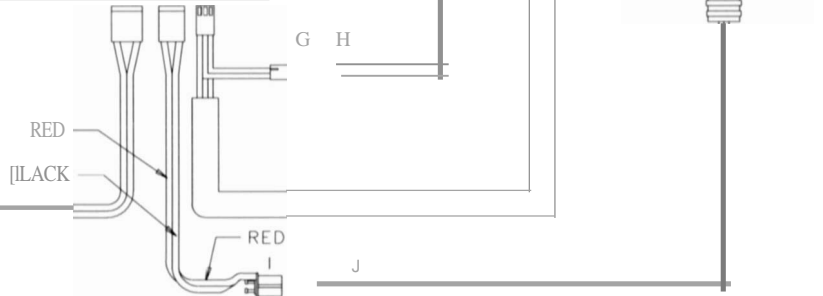


BRAK

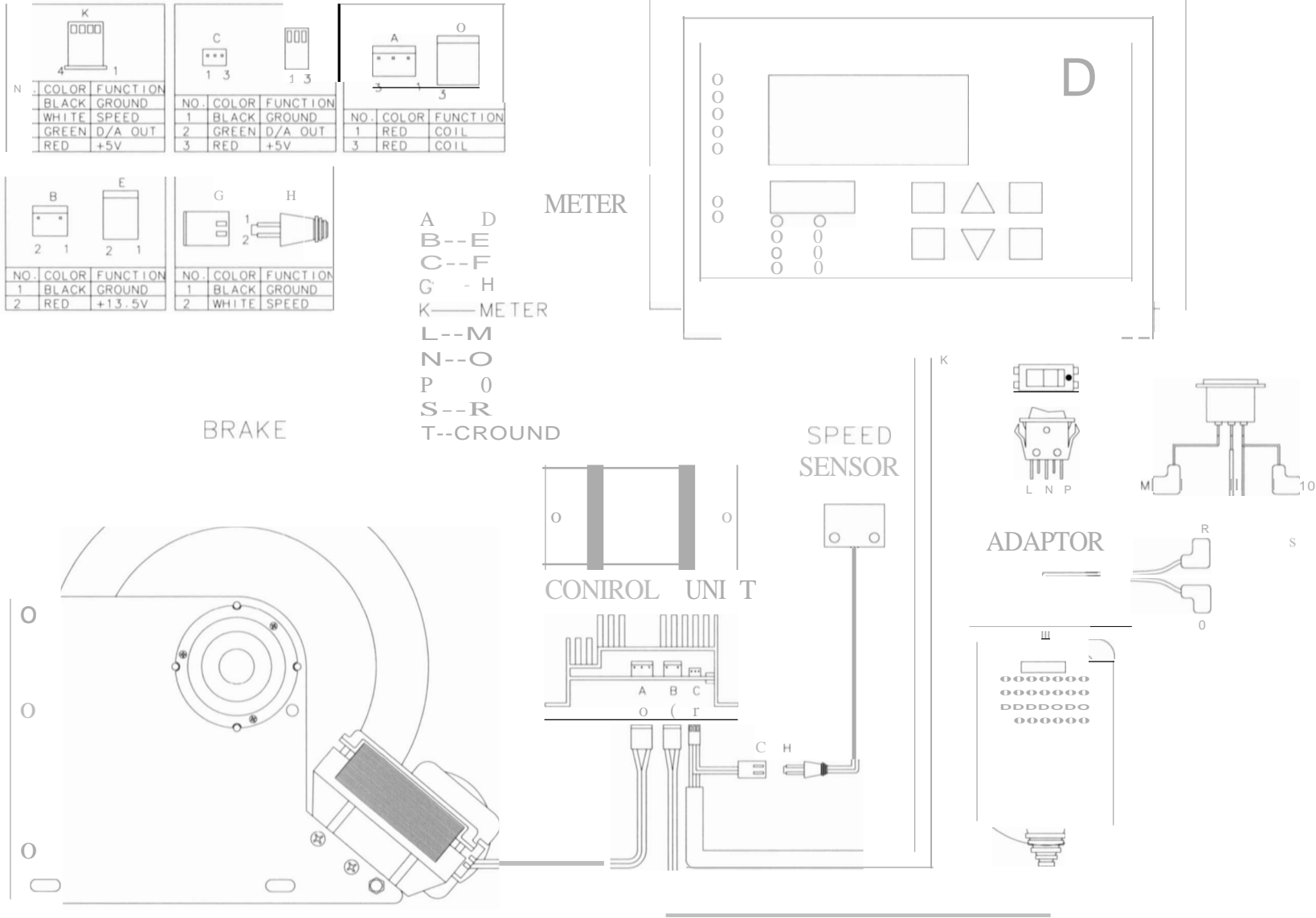


SPEED
SENSOR

ADAPTER



System Assembly Diagram for 130/230i



TROUBLESHOOTING
 CI130/230 & 130/230i

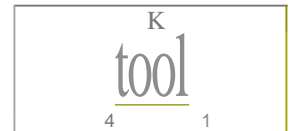
TROUBLESHOOTING

CI130/230 & 130/230i

ELECTRONIC

1. PROBLEM: No computer display

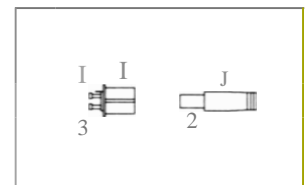
SOLUTION: a. Disconnect and reconnect the computer wire on the back panel of the computer. If the display does not return, disconnect the computer wire and, using a multimeter, verify that 5.5 volts (D.C.V plus or minus 5%) are coming up from the controller by placing your probes on pins one (black) and four (red). If you are getting the correct voltage, replace the computer.



NO.	COLOR	FUNCTION
1	BLACK	GROUND
2	WHITE	SPEED
3	GREEN	D/A OUT
4	RED	+5v

a

b. If the correct voltage is not passing through the computer wire, make sure that power is getting to the controller by: **(Older CI1301230 units)** verifying that a voltage range of 12-20 D.C.V is getting through the *NC* adapter. Disconnect the *NC* adapter from the exerciser and place one multimeter probe on the outside metal casing of the plug end and the other probe inside the plug end hole. If the voltage is outside the specified range, replace the *NC* adapter. If the voltage is okay, move on the Section C.

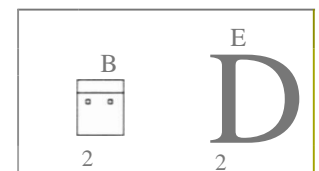


No.	COLOR	FUNCTION
1	RED	1(+13.5V)
2	BLACK	GROUND

b

(Newer 1301230i units) verify that the on/off switch is lit. If the switch is not lit open the fuse door by the on/off switch and make sure the fuse isn't blown. If the fuse is okay, disconnect the external power cable from the exerciser and, using a multimeter set on volts *NC* (V.A.C.), verify that 110 volts are passing from the wall through the cable. If the fuse and voltage are okay, replace the on/off switch.

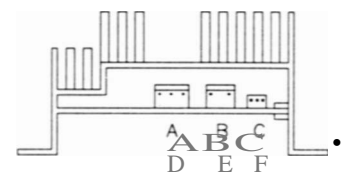
If the on/off switch is lit, remove the shrouds and verify that a voltage range of 12-20 D.C.V is getting through the *NC* adapter by placing your multimeter probes on each of the two connecting contacts between the adapter and the controller. If the voltage is outside the specified range, replace the *NC* adapter. If the voltage is okay, move on to Section C.



NO.	COLOR	FUNCTION
1	BLACK	GROUND
2	RED	(+13.5V)

b

c. Disconnect and reconnect the computer wire at the controller. If the connection is okay, use a multimeter to test the computer wire continuity (against pinch breaks caused by the computer mast) by placing the probes on corresponding upper and lower wire pins. (Red wire pin to red wire pin, etc.) If the wires are functional, replace the controller.



c

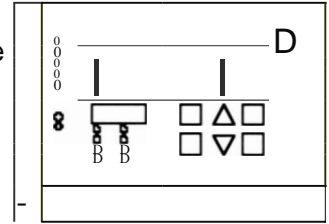
TROUBLESHOOTING

CI130/230 & 130/230i

ELECTRONIC (continued)

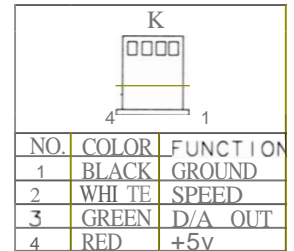
2. PROBLEM: The keyboard does not function

SOLUTION: a. Remove the computer and take off the back panel. Make sure the ribbon cable is properly connected. If the keyboard function does not return by reconnecting the ribbon cable, replace the computer.



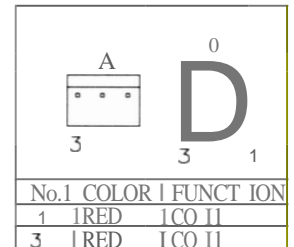
3. PROBLEM: The computer works, but the exerciser provides minimal or no resistance

SOLUTION: a. Disconnect and reconnect the computer wire on the back panel of the computer. If the resistance doesn't change, disconnect the computer wire and, using a multimeter, verify that 5.5 volts (D.C.V. plus or minus 5%) are coming up from the controller. If you are getting the correct voltage, move on to Section B. If you don't get the correct voltage, follow the steps outlined in *no computer display*, Section C.



a

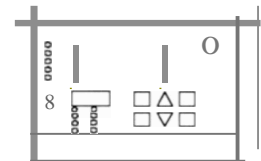
b. Remove the shrouds and disconnect, then reconnect the electromagnetic brake wire from the controller. If the resistance doesn't change, disconnect the mag brake wire from the controller and, using a multimeter, check the controller pins for a voltage output range between 12-20 D.C.V. If the voltage is in the specified range, replace the electromagnetic brake. If the voltage is not within the range, replace the controller.



b

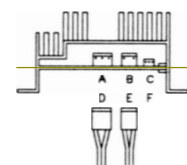
4. PROBLEM: The computer works, but the exerciser provides only maximum resistance

SOLUTION: a. Disconnect the computer wire from the back of the computer. If the resistance level changes, replace the computer. If the resistance level doesn't change, move on to Section B.



a

b. Remove the shrouds and disconnect both the computer wire and the electromagnetic brake wire from the controller. If the resistance level changes, replace the controller. If the resistance level doesn't change, replace the brake.



b

TROUBLESHOOTING

CI130/230 & 130/230i

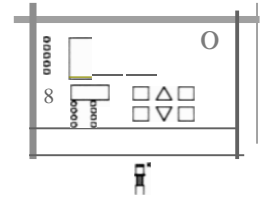
ELECTRONIC (continued)

5. PROBLEM: No Speed/RPM reading

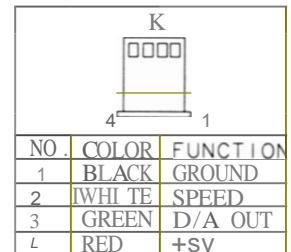
SOLUTION: a. Disconnect and reconnect the computer wire at the back of the computer. If the speed/RPM function doesn't return, move on to Section B.

(Optional if you have a second computer on hand, plug it in to see if you get a reading. If so, replace the computer.)

- b. Disconnect the computer wire from the back of the computer and, using a multimeter, check for continuity by placing the probes on the number one (black) and number two (white) connector pins and slowly turning the pedals. This method works best with the multimeter set to an audible response. The multimeter should beep each time the magnet passes the sensor. (Make sure that the magnet is securely in place). If the multimeter does respond when the magnet passes the sensor, replace the computer. If the multimeter doesn't respond when the magnet passes the sensor, replace the sensor and wire.

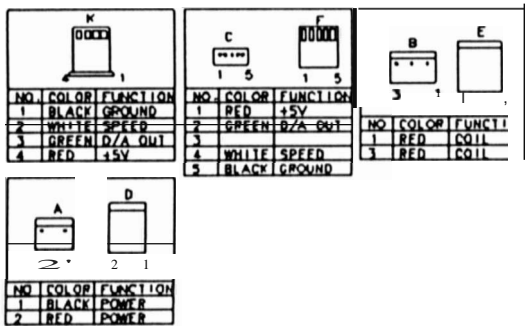


a

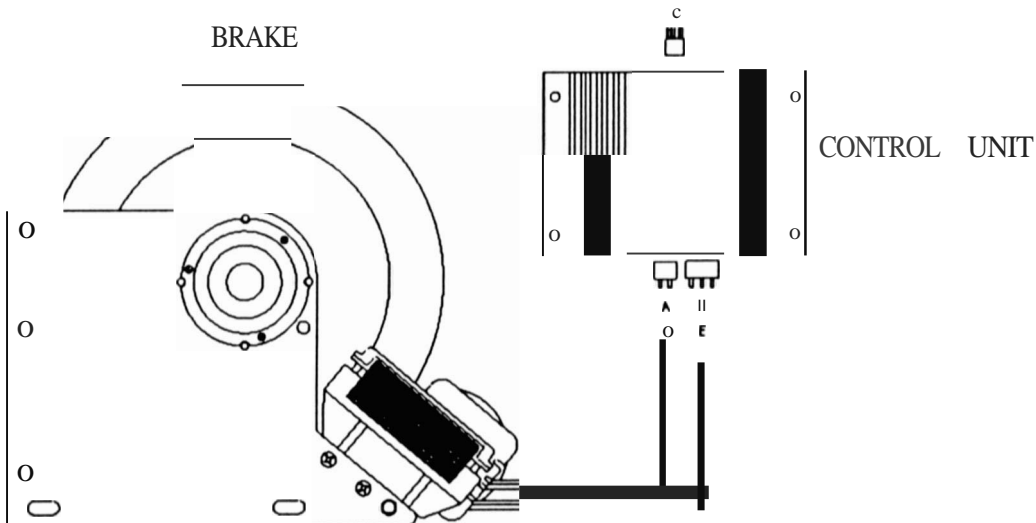
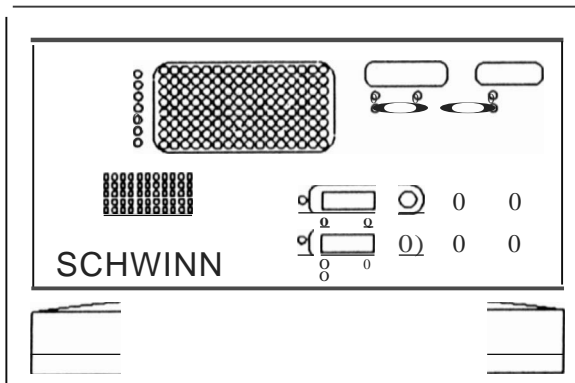
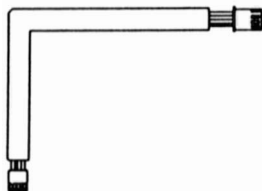


b

System Assembly Diagram for 135/235i



A- D
 B- E
 C- F
 G- H
 K- METER



TROUBLESHOOTING
 CI135/235 & 135/235i

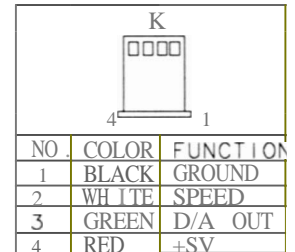
TROUBLESHOOTING

CI135/235i

ELECTRONIC

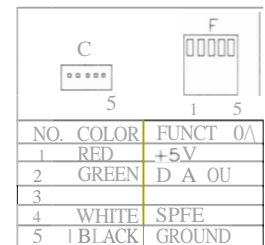
1. PROBLEM: No computer display while pedaling

SOLUTION: a. Have someone pedaling throughout the following steps. If the computer displays a battery icon, replace the batteries. Disconnect and reconnect the computer wire on the back panel of the computer. If the display does not return, disconnect the computer wire and, using a multimeter, verify that 5.5 volts (D.C.V plus or minus 10%) are coming up from the controller by placing your probes on pins one (red) and five (black). If you are getting the correct voltage, replace the computer. If you aren't getting the correct voltage, move on to Section B.



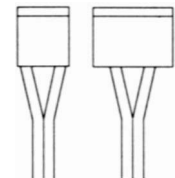
a

b. Remove the shrouds and disconnect then reconnect the computer wire at the controller. If the connection is okay, disconnect the wire and use a multimeter to check controller pins one and five for the correct voltage output of 5.5 volts (D.C.V plus or minus 10%). If you are getting the correct voltage, replace the computer wire. If you aren't getting the correct voltage, move to Section C.



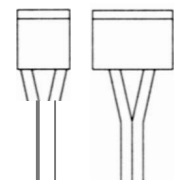
b

c. Disconnect the generator wire (2 pin connector) and the brake wire (3 pin connector) that run from the electromagnetic brake to the controller. Using a multimeter, check the wire continuity. The generator wire should provide a resistance of 3 ohms (plus or minus 1 ohm) and the brake wire should provide a resistance of 13 ohms (plus or minus 3 ohms). If either wire is bad, replace the electromagnetic brake. If the wires are good, move on to Section D.



c

d. Disconnect the generator wire (2 pin connector) that runs from the electromagnetic brake to the controller. Using a multimeter set on volts A/C (V.A.C.), test the generator voltage while someone pedals at a normal cadence (60 RPMS). A voltage output of 10 volts or greater indicates a good brake. If you don't get 10 volts or better, replace the electromagnetic brake. If you do get 10 volts or more, replace the controller.



d

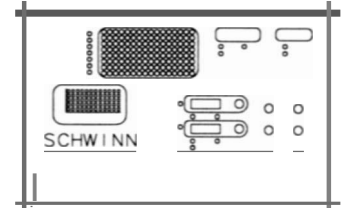
TROUBLESHOOTING

CI135/235i

ELECTRONIC (continued)

2. PROBLEM: The keyboard does not function

SOLUTION: a. If the computer displays a battery icon, replace the batteries. Remove the computer and take off the back panel. Make sure the ribbon cable is properly connected. If the keyboard function does not return by reconnecting the ribbon cable, replace the computer.



a

3. PROBLEM: The computer works, but the exerciser provides minimal or no resistance

SOLUTION: a. Remove the shrouds and disconnect the computer wire at both the computer and the controller. Using a multimeter, check the continuity of each of the four wires. If any of the wires are bad, replace the wire harness. If the wires are good, reconnect the computer wire and move on to Section B.

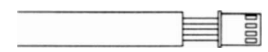


a

b. Follow the steps outlined in *NO COMPUTER DISPLAY WHILE PEDALING*, Sections C and D.

4. PROBLEM: The computer works, but the exerciser provides only maximum resistance

SOLUTION: a. Disconnect the computer wire from the back of the computer. If the resistance level changes, replace the computer. If the resistance level doesn't change, move on to Section B.



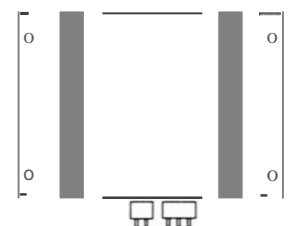
a

b. Remove the shrouds and disconnect both the computer wire and the electromagnetic brake wire from the controller. If the resistance level changes, replace the controller. If the resistance level doesn't change, replace the brake.

5. PROBLEM: No SPEED/RPM reading

SOLUTION: a. If you have a second computer on hand, plug it in to see if you get a reading. If so, replace the computer.

b. Check all connections and continuities, following the steps outlined in *NO COMPUTER DISPLAY...*, Section C and *THE COMPUTER WORKS BUT PROVIDES MINIMAL...*, Section A. If all wires and connections are good, replace the controller.



b

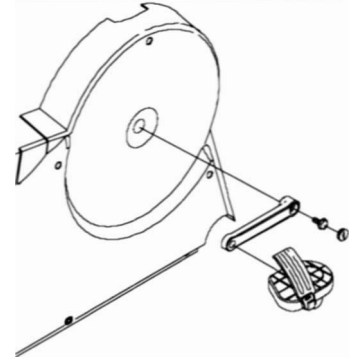
TROUBLESHOOTING

CI130,135,230,235, & 130,135,230,235i

MECHANICAL

1. PROBLEM: The crank arms feel loose

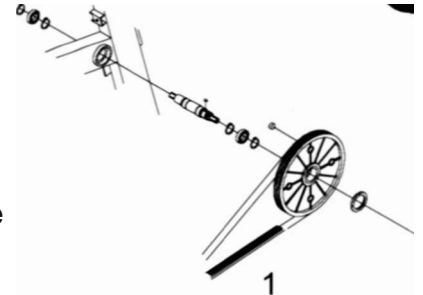
SOLUTION: a. Remove the suspect crank arm and make sure that the squared surface that contacts the crank shaft hasn't rounded out. If the crank arm is okay, slide it back on the crank shaft and torque the crank bolts to 25 foot pounds. (300 inch pounds, or 35 Newton meters). If the crank arm is damaged, replace it and torque the crank bolts to the above specification.



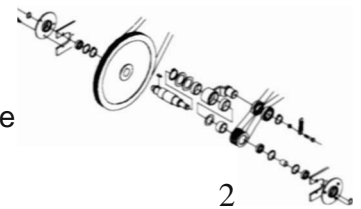
2. PROBLEM: Grinding or rough operation

SOLUTION: a. This is usually due to a bad bearing in one of three areas. At first, remove the crank arms and shrouds and try to pinpoint the problem. Replace a crank arm and turn the crank to look for bad belt alignment and listen for bad bearings. If you can't pinpoint the source, move on to the specific bearing areas.

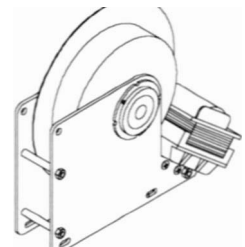
1. Crank shaft bearings. Remove the Crank Arms and the Poly-V Belt (or chain) from the Crank Pulley (sprocket). Rock the crank shaft by hand to see if there is excessive play caused by bad bearings. Rotate the crank shaft and feel for any grinding or rough operation. If the bearings have failed, replace the Crank Pulley Assembly (bearings).



2. Mid Hub assembly. Remove both belts (Belt & Chain) and rock the Mid Hub Flywheel by hand to see if there is excessive play caused by bad bearings. Rotate the Flywheel to feel and listen for any grinding or rough operation. If the bearings have failed, replace the Mid Hub Assembly (bearings).



3. Electromagnetic brake bearings. This is the least likely of the three bearing failures. Remove the belt and rotate the disc by hand while listening for any grinding.



TROUBLESHOOTING

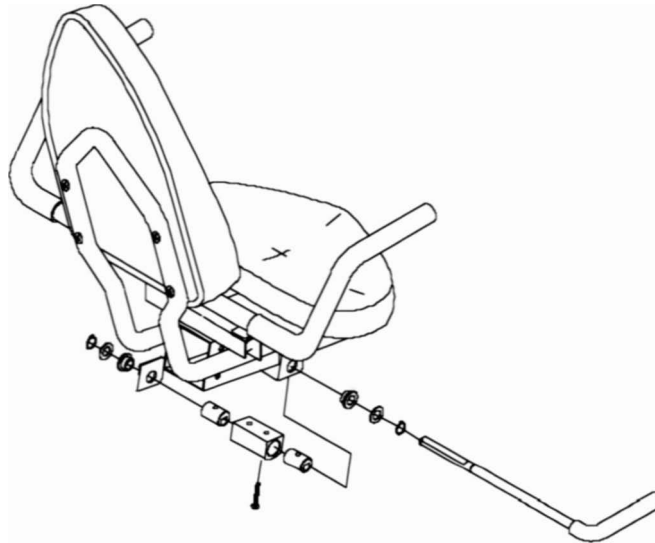
CI130,135,230,235, & 130,135,230,235i

MECHANICAL(continued)

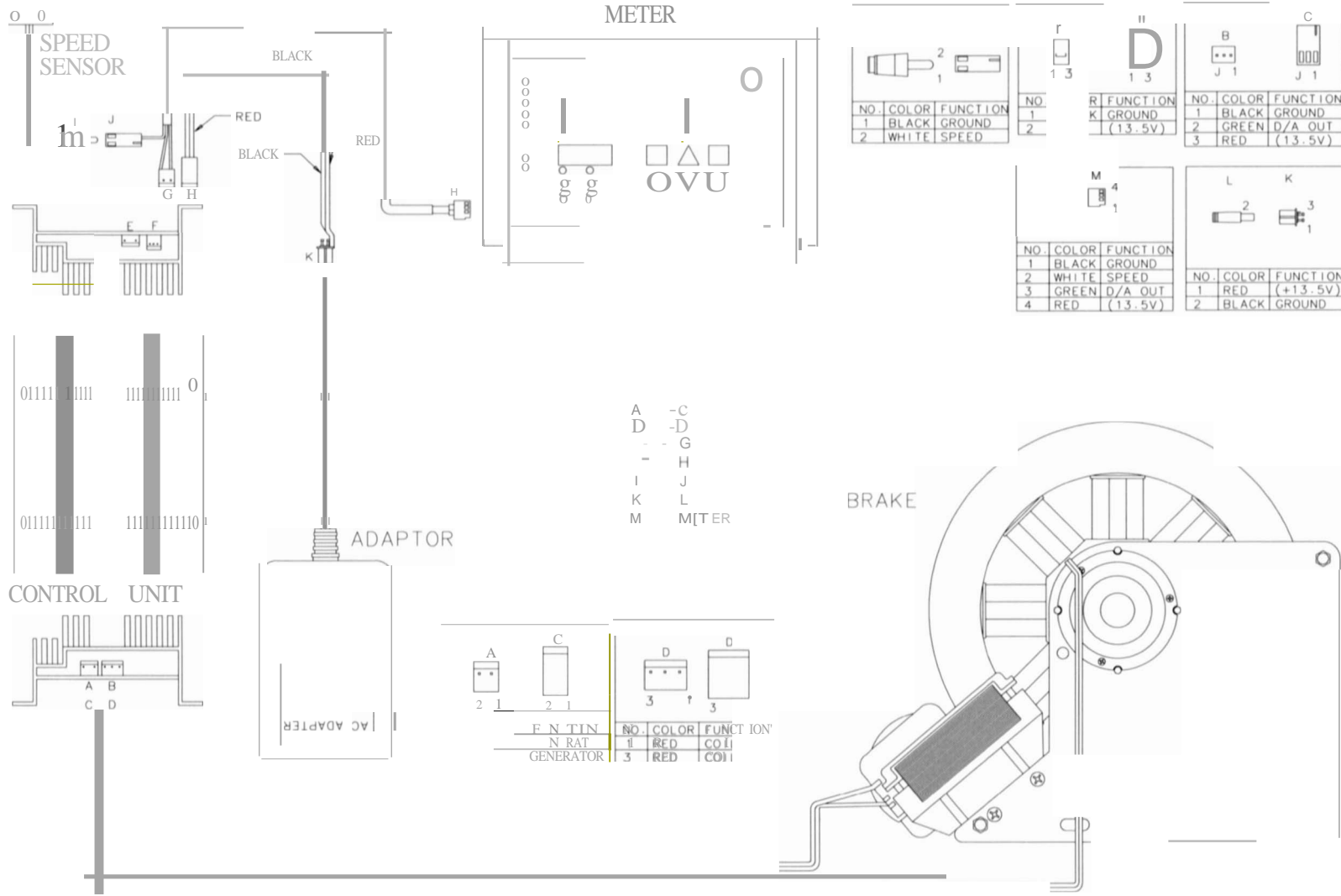
3. PROBLEM: The seat locking mechanism won't keep the position tube in place (recumbents)

SOLUTION: a. Remove the black plastic seat cam base and shave off 1mm from the flat bottom surface. This will increase the holding power of the seat cam.

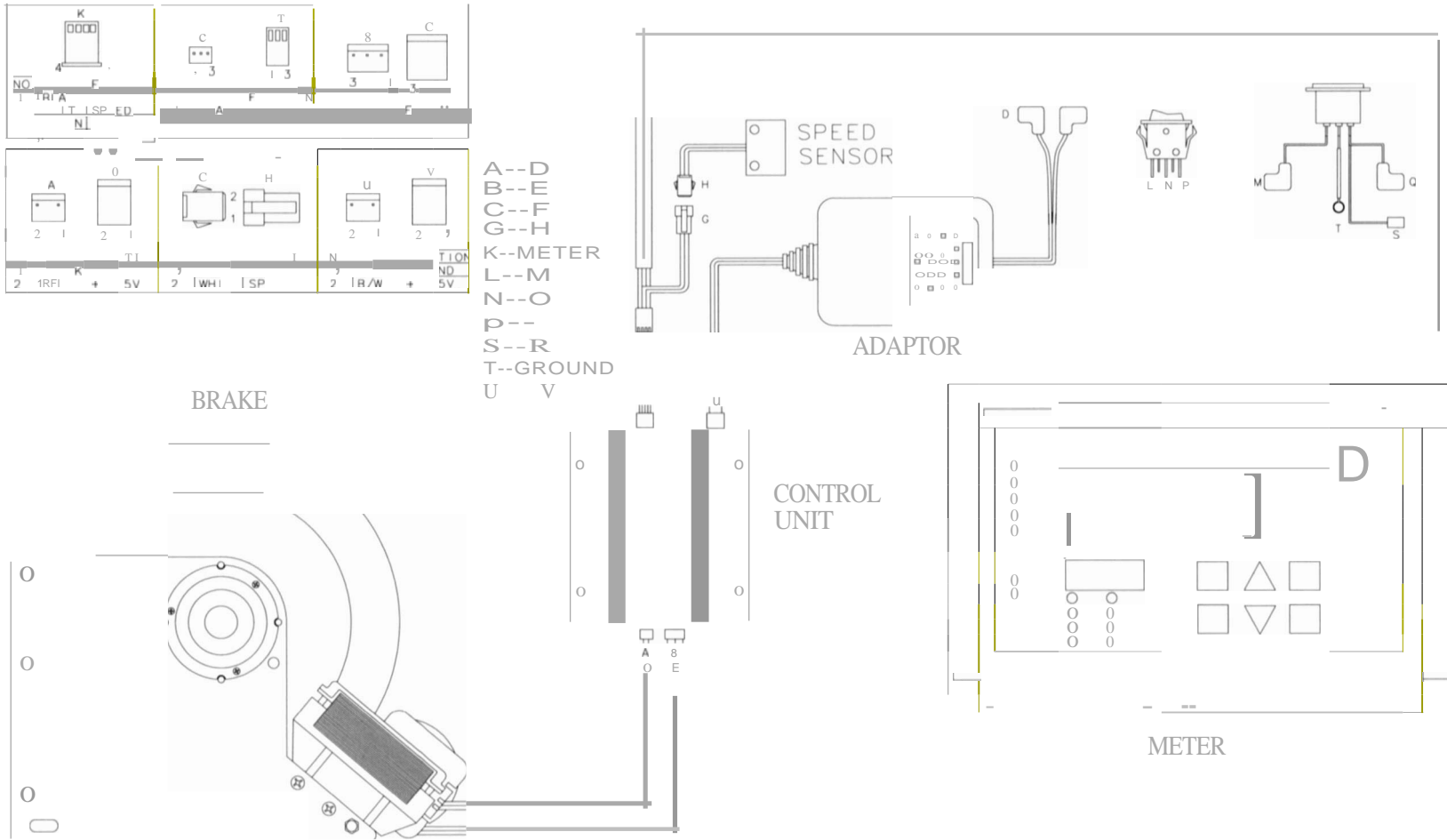
NOTE: On future shipments of 230/235i's the seat cam base will have a urethane "Grip Strip" on the bottom surface. If you have this type of cam base do not grind it down. Call Fitness Tech Service.



System Assembly Diagram for CI330



System Assembly Diagram for 330i



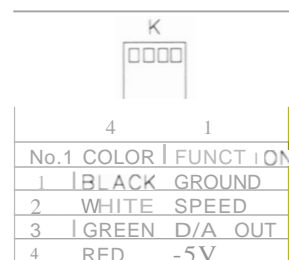
TROUBLESHOOTING

CI330/330i

ELECTRONIC

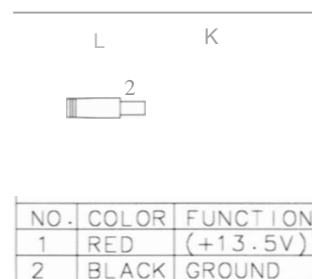
1. PROBLEM: No computer display

SOLUTION: a. (After making sure that the computer rear panel switch is ON). Disconnect and reconnect the computer wire on the back panel of the computer. If the display does not return, disconnect the computer wire and, using a multimeter, verify that 5.5 volts (D.C.V plus or minus 5%) are coming up from the controller by placing your probes on pins one (black) and four (red). If you are getting the correct voltage, replace the computer.



a

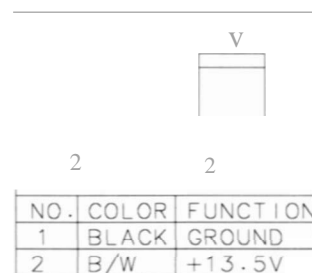
b. If the correct voltage is not passing through the computer wire, make sure that power is getting to the controller by: **(Older CL330 units)** verifying that a voltage range of 12-20 D.C.V is getting through the A/C adapter. Disconnect the A/C adapter from the exerciser and place one multimeter probe on the outside metal casing of the plug end and the other probe inside the plug end hole. If the voltage is outside the specified range, replace the A/C adapter. If the voltage is okay, move on to Section C.



b

(Newer 330i units) verifying that the ON/OFF switch is lit. If the switch is not lit open the fuse door by the ON/OFF switch and make sure the fuse isn't blown. If the fuse is okay, disconnect the external power cable from the exerciser and, using a multimeter set on volts A/C (V.A.C.), verify that 110 volts are passing from the wall through the cable. If the fuse and voltage are okay, replace the ON/OFF switch.

If the ON/OFF switch is lit, remove the shrouds and verify that a voltage range of 12-20 D.C.V is getting through the A/C adapter by placing your multimeter probes on each of the two connecting contacts between the adapter and the controller. If the voltage is outside the specified range, replace the A/C adapter. If the voltage is okay, move on to Section C.



b

c. Disconnect and reconnect the computer wire at the controller. If the connection is okay, use a multimeter to test the computer wire continuity (against pinch breaks caused by the computer mast) by placing the probes on corresponding upper and lower wire pins. (Red wire pin to red wire pin, etc. if the wires are functional replace the controller.

c

TROUBLESHOOTING

CI330/330i

ELECTRONIC (continued)

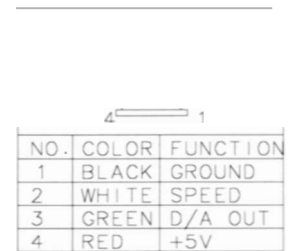
2. PROBLEM: The keyboard does not function

SOLUTION: a. Remove the computer and take off the back panel. Make sure the ribbon cable is properly connected. If the keyboard function does not return by reconnecting the ribbon cable, replace the computer.



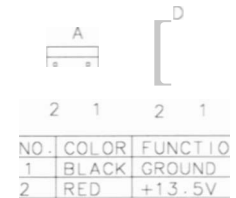
3. PROBLEM: The computer works, but the stepper provides minimal or no resistance (fastest step rate)

SOLUTION: a. Disconnect and reconnect the computer wire on the back panel of the computer. If the resistance doesn't change, disconnect the computer wire and, using a multimeter, verify that 5.5 volts (D.C.V. plus or minus 5%) are coming up from the controller. If you are getting the correct voltage, move on to Section B. If you don't get the correct voltage, follow the steps outlined in *No Computer Display*, Section C.



a

b. Remove the shrouds and disconnect the mag brake wire from the controller and, using a multimeter, check the controller pins for a voltage output range between 12-20 D.C.V. If the voltage is in the specified range, replace the electromagnetic brake, If the voltage is not within the range, replace the controller.



b

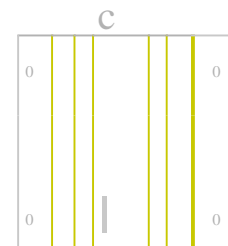
4. PROBLEM: The computer works, but the stepper provides only maximum resistance (slowest step rate)

SOLUTION: a. Disconnect the computer wire from the back of the computer. If the resistance level changes, replace the computer. If the resistance level doesn't change, move on to Section B.



a

b. Remove the shrouds and disconnect both the computer wire and the electromagnetic brake wire from the controller. If the resistance level doesn't change, replace the brake.



b

TROUBLESHOOTING

CI330/330i

ELECTRONIC (continued)

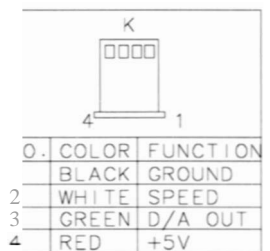
5. PROBLEM: No STEPS/MIN reading

SOLUTION: a. Disconnect and reconnect the computer wire at the back of the computer. If the STEPS/MIN function doesn't return, move on to Section B. (Optional if you have a second computer on hand, plug it in to see if you get a reading. If so, replace the computer.)



a

- b. Disconnect the computer wire from the back of the computer and, using a multimeter, check for continuity by placing the probes on the number one (black) and number two (white) connector pins and slowly turning the pedals. This method works best with the multimeter set to an audible response. The multimeter should beep each time the magnet passes the sensor (make sure that the magnet is securely in place). If the multimeter does respond when the magnet passes the sensor, replace the computer. If the multimeter doesn't respond when the magnet passes the sensor, replace the sensor & wire.



b

NOTE: The flywheel on the 330 contains eight magnets. Therefore, for one revolution of the flywheel, the multimeter should beep eight times. A misaligned sensor could double trip causing sporadic readings. If this occurs try to realign the sensor with the magnets.

TROUBLESHOOTING

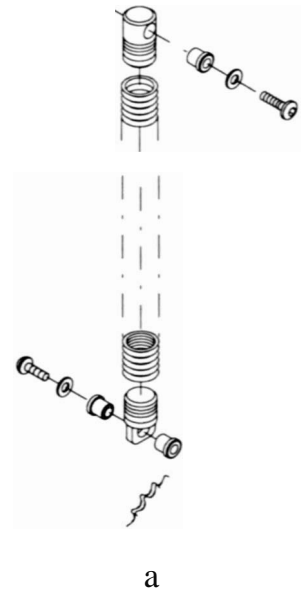
CI330/330i

MECHANICAL

6. PROBLEM: Broken pedal spring (large diameter)

SOLUTION: a. Replace the Pedal Spring following these steps:

1. Remove the upper and lower mounting hardware and compare the original pedal spring connectors with the replacement connectors (If included with the new spring) If the connectors match, simply install the new spring. If there are no connectors, or the connectors don't match, move on to Step 2.
2. Secure the old spring in a vise (below the spring connector) and remove any brass bushings from the connector.
3. You may need to keep the spring end from turning as you unscrew the connector using a pivoting lock ring spanner (Part #74412). The hook end on the spanner holds the Spring open.
4. Use a screwdriver to rotate the pedal spring connector counterlockwise until it's free.
5. Insert the connector into the new spring (Do not use a vise) and rotate the connector clockwise until it's tight.
6. Reinstall the springs.



7. PROBLEM: Broken chain spring (small diameter)

SOLUTION: a. Replacement chain springs ship with connectors that will fit all connector mounts. Simply remove the old spring and install the new one. See NOTE.

The 330i will accept the new spring without modifications. The CI 330 (Pre '96, or models with white and blue computer overlays) will need to be modified because the new chain spring is longer. Remove two half links from the chain using a 3/16" Dia. Drift Punch (or a motorcycle chain tool) to punch out the chain pin. If you are using a Drift Punch, you can use the Allen Head of the pedal spring connecting bolt as a backing plate to start the pin. Alternately, you can remove the entire pedal arm and use a socket as a backing plate. Reattach the new spring using the masterlink.



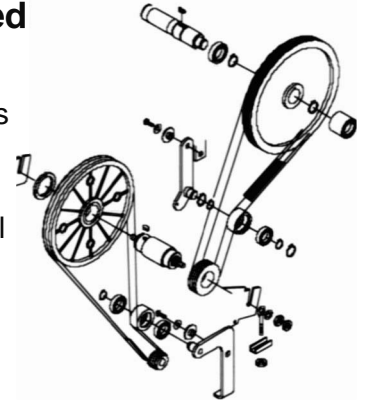
TROUBLESHOOTING

CI330/330i

MECHANICAL (continued)

8. PROBLEM: The step pedal is frozen and can't be moved

SOLUTION: a. Remove the shrouds and inspect the Poly V Belts. It's likely that the belt has shifted off the pulley grooves and is pushed up against the bearing housing. Shift the belt back into position and make sure that the belt tensioning pulley is centered on the belt. A misaligned tensioner will keep pushing the belt off track, so you will have to bend the tensioner arm until the pulley is centered.

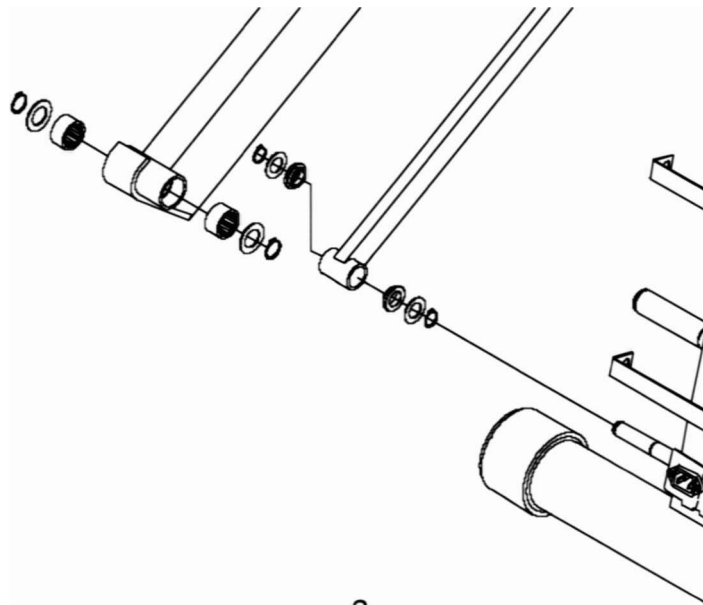


a

9. PROBLEM: Squeaking noises

SOLUTION: a. There are three areas that may be squeaking:

1. Treat the belts with belt dressing to eliminate belt squeak.
2. Spray the lower pedal spring connector mount with a spray lube (Schwinn Fit Tech is Part #72016)
3. Remove the pedal arms and grease the pedal arm shafts. (Schwinn Team Shop Grease is Part #72002).



a

TROUBLESHOOTING

SPINNER, SPINNER COMP, & DX900

ELECTRONIC

1. PROBLEM: The LCD shows a partial display (DX900)

SOLUTION: a. Remove the back case of the computer and press on the back of the LCD to see if you can get a full display. If the display returns, tighten the LCD mounting screws until fixed.

2. PROBLEM: Inconsistent or no speed reading (DX900)

SOLUTION: a. Check the connection between the sensor cable and the computer.

b. Make sure the gap between the flywheel sensor and flywheel magnet is between 2 and 4mm.

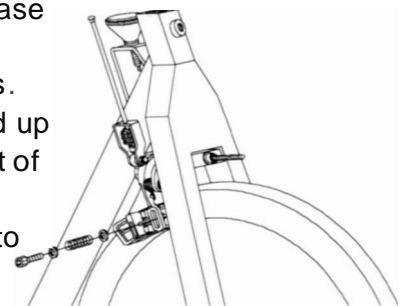
c. Disconnect the sensor wire from the computer and using a volt meter test the continuity by pedaling the bike. The meter should beep each time the magnet passes the sensor. If the gap and sensor wire are ok, replace the computer.

MECHANICAL

3. PROBLEM: Squealing brake pads

SOLUTION: a. Remove the brake pads following these steps:

1. Completely back off the tension control knob
2. Pinch the brake pads against the flywheel and release the rods from the rod carrier.
3. Use a 4mm wrench to remove bolt type brake pads. Using a fine wire brush or steel wool, remove any build up on surface and saturate the pads with a liberal amount of Fit Tech Silicone Lube (Schwinn part #72016). Reapply Fit Tech as needed to help prevent the hard surface build up.



a

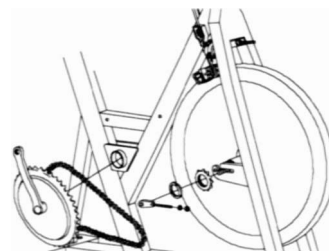
TROUBLESHOOTING

SPINNER, SPINNER COMP, & DX900

MECHANICAL (continued)

4. PROBLEM: Vibration in the drive train

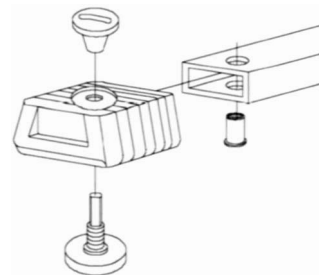
SOLUTION: a. Make sure the chain is properly adjusted by moving the crank arms forward and backwards. If the chain moves more than 1/4" before the flywheel turns, tighten the chain by loosening the flywheel axle bolts and rotating the chain tensioner bolts clockwise a 1/2 turn. With the chain properly adjusted, the crank arms will have little or no movement before the flywheel turns. An overtightened chain will "pop" or grind. To remedy, simply back off the tension. Make sure that the flywheel is aligned evenly using the procedure described above.



a

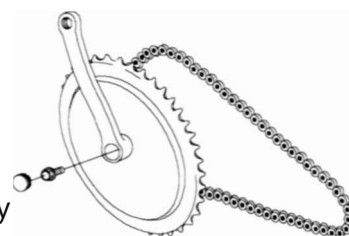
5. PROBLEM: The bike is uneven or wobbling

SOLUTION: a. Adjust the leveling feet until the unit is level and stable. Make sure the leveling lock nuts are tight.



6. PROBLEM: Loose crank arms (Spinner Pro & Comp)

SOLUTION: a. Remove the crank bolt and inspect the crank arm to ensure the squared surface that slides onto the bottom bracket spindle hasn't rounded out. If the crank arm has rounded out, replace it. When you reinstall the crank arm be sure to use a torque wrench to tighten the crank bolt to 360 inch/lbs. The crank bolts should be retorqued monthly or as needed to prevent rounding problems.



a

TROUBLESHOOTING

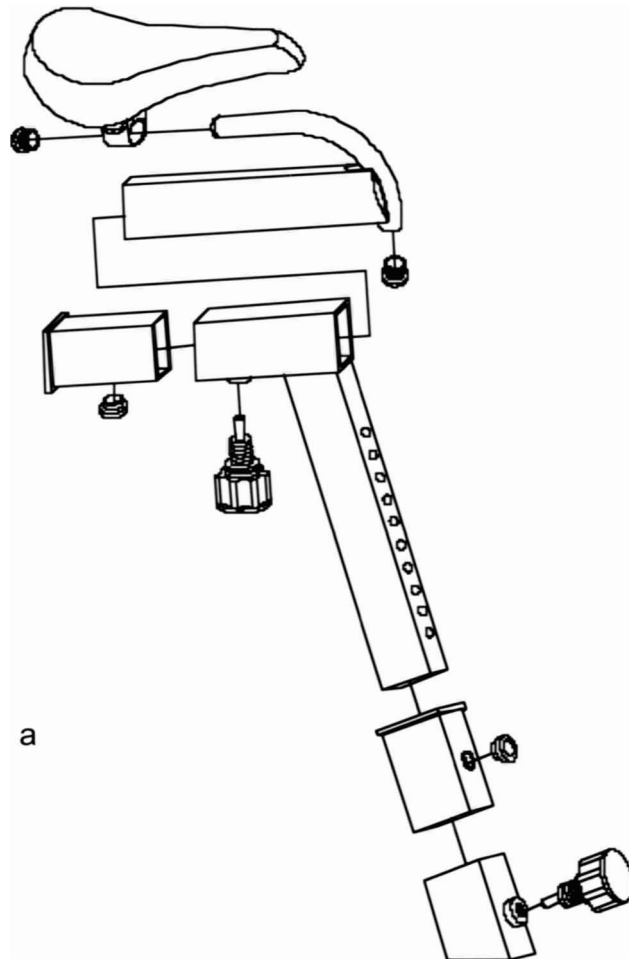
SPINNER, SPINNER COMP, & DX900

MECHANICAL (continued)

7. PROBLEM: The handlebar or seat post won't move freely (Spinner Pro & Comp)

SOLUTION: a. Clean the handlebar or seat post slider tube and the black plastic frame shim with Schwinn Citrus Degreaser (Schwinn #72011) and reapply Fit Tech Silicone Lube (#72016).

b. If the handlebar or seat post still won't move freely check the black plastic frame shim for signs of bowing due to metal burrs or excess material at the pop pin weld. Remove the metal with a file or a drill with a hone attachment.



TROUBLESHOOTING

TREADMILL

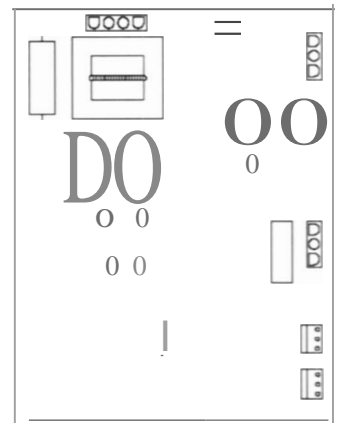
ELECTRICAL

1. PROBLEM: A C01 through C07 (communications) error code is displayed

SOLUTION: a. Unplug the unit for ten seconds then replug to reset the communication between the upper and lower boards.

2. PROBLEM: An E01 (motor too fast) error code is displayed

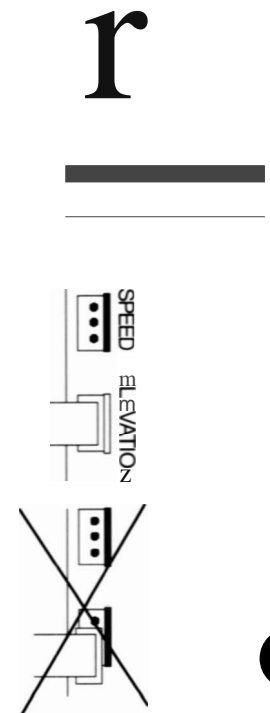
SOLUTION: a. Replace the motor control (lower) board. Determine whether the treadmill has a Leeson or Baldor Drive Motor before ordering.



a

3. PROBLEM: An E02 (motor too slow) error code is displayed

- SOLUTION:**
- a. There's too much load at start-up. Do not stand on the deck belt while starting the treadmill
 - b. Make sure the speed sensor connection on the lower board is lined up correctly (not shifted to one side) and that the connector is not plugged in upside down (the wires should lead away from rather than across the circuit board)
 - c. The speed sensor may be misaligned or defective. See E04 Section C and D.
 - d. The drive motor may be locked. Remove the drive belt and try to turn the motor by hand. If it won't turn, replace the motor. If it turns, replace the lower board



b

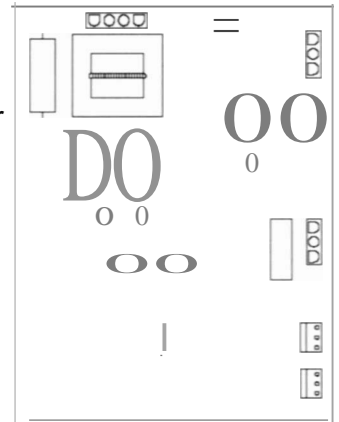
TROUBLESHOOTING

TREADMILL

ELECTRICAL

4. PROBLEM: An E03 (breakway) error code is displayed

SOLUTION: a. Replace the motor control (lower) board. Determine whether the treadmill has a Leeson or Baldor Drive Motor before ordering.



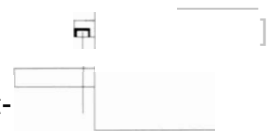
a

5. PROBLEM: An E04 (no speed input) error code is displayed

SOLUTION: a. Reconnect and/or reposition the safety lanyard

b. Locate the speed sensor on the lower board and disconnect the speed wire connector. Make sure that the connection pins aren't bent or damaged. Reinstall the connector making sure it's fully seated and lined up correctly (not shifted to one side). The connector can be forced on upside down, so make sure the wires lead away from, rather than across, the circuit board.

c. Locate the optical sensor on the drive motor and make sure it isn't misaligned. The speed disk should be centered in the sensor channel. Make sure the sensor mounting hardware is tight.



c

d. Determine whether or not the speed sensor is defective following these steps:

1. The treadmill power should be on.
2. Set your multimeter on "volts"
3. With the speed sensor wire connected, place the black probe on the bottom pin (nearest the board mounting screw) and the red probe on the middle pin.
4. Turn the drive belt so that the speed disk cutout passes by the optical sensor.
5. If the sensor and wire are functioning you should get a reading that fluctuates between approximately .3 and 6 volts. If you don't get a reading, replace the optical sensor & wire. If you get a reading, replace the lower board.

TROUBLESHOOTING

TREADMILL

ELECTRICAL (continued)

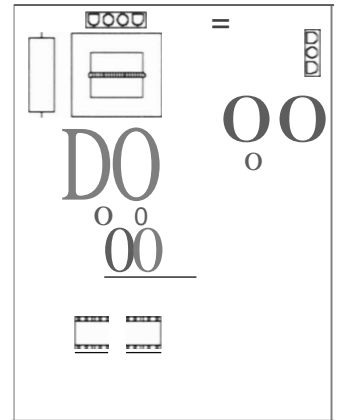
6. PROBLEM: The belt does not start and the unit displays an E04

SOLUTION: a. If the drive motor relay (L.ED. D11) comes on for a second and then clicks off, check and replace the large motor fuse if it's blown.

b. Make sure the belt can turn freely. If the fuse blows again, or if the relay comes on and clicks off without the motor running, replace the lower board

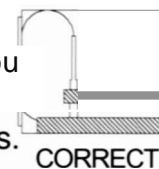
c. If the drive motor relay never comes on, reconnect or reposition the safety lanyard. If repositioning the lanyard doesn't work the:

1. Safety Lanyard Micro Switch is broken (most likely problem). To check, remove the display board from its housing and inspect the small glass tube (Micro Switch) located in the lower right corner. If it looks undamaged, test it by holding a short length of wire on each end of the switch to close the circuit and running the system again. If the treadmill works, the switch is bad and you need to replace the upper board. (See Note)
2. Communication cable or connector is broken. Inspect the cable and connector pins for damage and, using a multimeter, run a continuity test on corresponding pins. Replace a bad cable.
3. Keypad is defective. To test, put the unit in recalibration mode (See E06 Section B) after you get the CAL HI Display, press start, if the elevation motor does not start up, then the start button is defective and the keyboard needs to be replaced
4. Upper board safety logic is faulty. If none of the above measures correct the problem, replace the upper board. (See Note)



a

NOTE: A ribbon cable (tail) connects the upper board to the keypad. Make sure that the ribbon cable is not bent or creased. Use special care not to damage the tail as you reassemble the upper board and housing. A damaged ribbon cable will result in the failure of one or more keys.



TROUBLESHOOTING

TREADMILL

ELECTRICAL (continued)

7. PROBLEM: The belt starts up and then stops after a few seconds and displays E04

SOLUTION: Usually caused by the lack of a speed signal. See E04 Sections B, C, & D.

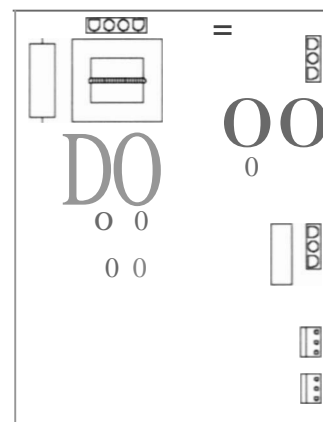


8. PROBLEM: The display is dead when the power switch is pushed

SOLUTION: a. Check the lower board to see if the power lights are on (keep in mind that L.ED .016 will remain lit for a short period as the capacitors discharge). If the lights are lit, check the phone cable connection at both the upper and lower boards for a loose connection or bent pins. Then check the low voltage fuse (F1) on the lower board.

b. If the power lights are not on, see if the circuit breaker has tripped on the back of the treadmill. Also make sure the main A/C power cord connection is fully seated on the back of the treadmill (unplug the unit before testing this connection)

c. Unplug the treadmill and wait 20 seconds to restore power. If the display flashes the revision number (105, for example) and then goes blank, replace the keypad. If nothing came up on the display, use your multimeter set on volts to measure the voltage across the blue capacitor (C5) on the lower board. If you get a reading between 14 and 18 volts DC, replace the display (upper) board. If the voltage is not in the proper range, replace the control (lower) board.



a, c

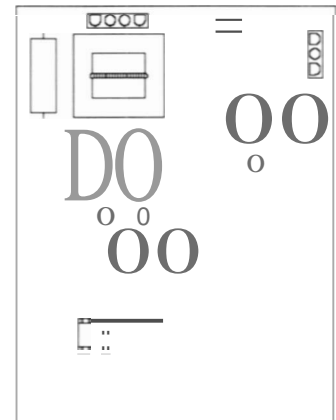
TROUBLESHOOTING

TREADMILL

ELECTRICAL (continued)

9. PROBLEM: An E05 (system reset) error code is displayed

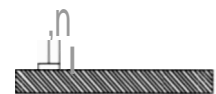
SOLUTION: a. Can be caused by lightning or power drop out. Unplug the unit for ten seconds and replug. If the problem isn't corrected, replace the lower board.



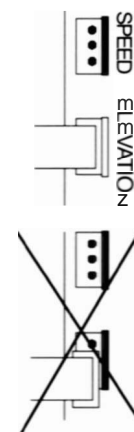
10. PROBLEM: An E06 (elevation) error code is displayed

SOLUTION: a. Disconnect the elevation wire from the circuit board (at J2/ elevation) make sure that the connection pins aren't bent or damaged. Re-install the connector making sure it's fully seated and lined up correctly (Not shifted to one side). The connector can be forced on upside down, so make sure the wires lead away from, rather than across, the circuit board.

r



- b. Recalibrate the elevation following these steps:
1. Simultaneously press and hold the power and scan keys until the display reads *CAL HI*. (Approximately three seconds)
 2. Press the *START* key once. The elevation should start up.
 3. When the elevation reaches 15 degrees, press the *START* key to set the upper limit. (If you have no idea when the deck's at 15 degrees, allow the motor to stop when it reaches it's upper limit)
 4. Press the *START* key again (within 5 seconds or you will get an error message) and the deck will begin to move downward
 5. When the deck reaches the bottom of it's travel, press the *START* key once more and the deck will move up a bit to set the lower limit. The elevation is now calibrated.



a

TROUBLESHOOTING

TREADMILL

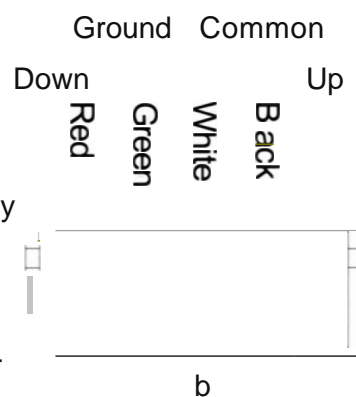
ELECTRICAL (continued)

11. PROBLEM: Elevation is stuck and the display reads E06

SOLUTION: a. Confirm that one of the control relays on the lower board is trying to move the elevation motor. Either the up relay light (L.ED. D9) or the down relay light (L.E. D. D3) should be on. If both lights are on, or if neither light is on, replace the lower board.

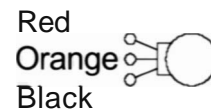
b. Unplug the unit and reconnect after ten seconds. The down relay should go on (lighting L.ED. D3) and try to move the elevation motor. If the motor won't move (See Note) test the motor's winding resistance by following these steps:

1. Make sure the elevation motor is neither fully up or fully down.
2. Unplug the unit and disconnect the elevation wire connector from the lower board (connector J3).
3. Inspect the connector for loose wires or signs of charring.
4. Set your multimeter to OHMS and place one probe on *COMMON* (The white wire) and the other probe on *UP* (The black wire) a good up winding will read 22 OHMS. If you get no reading, replace the elevation motor.
5. Perform the same test for the down windings by placing one probe on *COMMON* (The white wire) and one probe on *DOWN* (The red wire) you should also read 22 OHMS for a good motor.



c. If the relays, connector & wire, and windings are okay, test the elevation sensor following these steps:

1. Remove the two small screws that mount the elevation sensor to the top of the elevation motor.
2. Carefully pry the sensor straight up out of the motor. There's a shaft pressed straight down into a plastic housing, so be careful not to put side pressure on the sensor. Loosen the shaft lock nut.
3. Set your multimeter to volts and measure the voltage between the orange and black wires. As you turn the Sensor Shaft the voltage should vary smoothly through a 2.5 volt range (usually reading between 2 and 4.5 volts). If the voltage does not change, or if it jumps wildly as you turn the shaft, replace the sensor.



c

TROUBLESHOOTING

TREADMILL

ELECTRICAL (continued)

11. PROBLEM: Elevation is stuck and the display reads E06 (continued)

- SOLUTION:**
4. If the tread deck is sitting level, the control should be set at approximately 2 volts. If the tread deck is fully elevated, the voltage should be set at approximately 4.5 volts. Unfortunately, at this point you'll need to estimate the tread deck position (1/2 way up, 3/4 of the way up, etc.) and set the sensor shaft accordingly. Don't worry if you're not dead-on accurate, the recalibration will reset the 2.5 volt range.
 5. Tighten the sensor shaft locknut and, with the mounting holes lined up with the motor holes, carefully re-insert the sensor shaft. Recheck the voltage to ensure it didn't change during the remount and tighten the mounting screws.
 6. Recalibrate the elevation by following the steps outlined in E06 Section B.

NOTE: The elevation motor is rated for a 5 to 1 duty cycle. For every minute *ON* it will need 5 minutes *OFF* to allow proper cooling. This is not an issue during normal use, but if you are testing the elevation motor by running it up and down repeatedly, the motor's circuit breakers may open and the motor will stop *even if the relay is on*. (The display will read E06). The motor should recover after it cools, but we have seen cases where the motor can't recover and must be replaced. To test, follow the steps outlined in "Elevation is stuck..." Section B. It is useful to keep this note in mind when the treadmill is in a setting where children have access to the unit.

TROUBLESHOOTING


TREADMILL

ELECTRICAL (continued)

12. PROBLEM: Elevation will not go all the way up or all the way down

SOLUTION: a. Recalibrate the elevation following the steps outlined in E06 Section B

Red
Orange
Black



b. If the deck moves a bit each time and stops showing an E06 error code. Then the elevation sensor voltage is not getting back to the control board. Follow the steps outlined in E06 Section A to make sure you have a good contact.

c. Test the elevation sensor following the steps outlined in "Elevation is stuck..." Section B. If the calibration, contact, and sensor setting are okay, replace the elevation motor.



13. PROBLEM: The treadmill needs to be recalibrated often

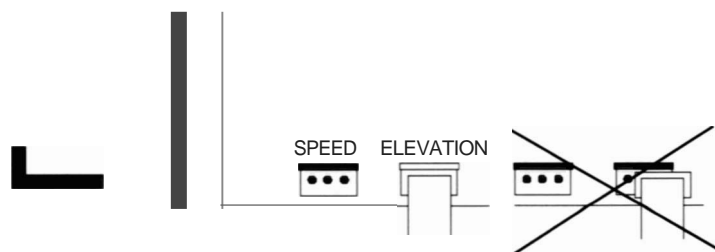
SOLUTION:

a. Replace the display user board.

14. PROBLEM: Elevation only goes in one direction

SOLUTION:

a. First, Make sure the Circuit Board Connections are correct. (See E06 Section A, and "Elevation is stuck..." Section B). Then replace the Elevation Motor



TROUBLESHOOTING

WEIGHSTACK

MECHANICAL

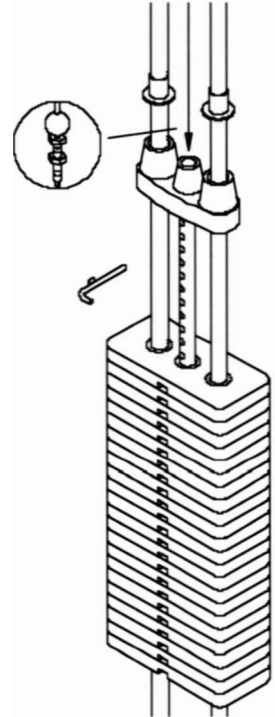
1. PROBLEM: The action of the machine feels rough on one station or movement

SOLUTION: a. Examine the cables to ensure that the casings aren't split or cracked and then consult the assembly manual to double-check the cable routing. If the cables and cable routing are okay, move on to Section B.

b. Remove the weight pin and hand lift the top plate about 8 inches. Reinsert the weight pin to create cable slack. Turn each pulley checking for any rough spots which would indicate overtightening or a bad bearing. If loosening a rough pulley doesn't correct the problem, replace the pulley. If the pulleys operate smoothly, move on to Section C.

c. Disconnect the cables and examine all pivot points (Press ARM, PEC DEC ARM, etc.) inspecting any bushings for cracks or chips. Rotate each pivot point several times to confirm smooth operation. Lubricate each pivot point with a heavy weight oil and make sure the locknuts aren't overtightened.

NOTE: A weightstack in use in an area where the temperature falls below 60 degrees will feel rough due to stiffened cables.

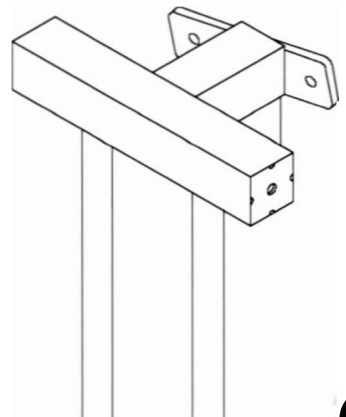


b

2. PROBLEM: The action of the machine feels rough on all stations

SOLUTION: a. Make sure the machine is on a flat, level surface and that all endcaps are securely in place. If a mat is being used, make sure it's under the entire unit. If the machine is level, move on to Section B.

b. Clean, then thoroughly relubricate the weight plate guide rods using a teflon spray lube. If the machine still feels rough, remove the guide rods and roll them on a flat surface to make sure the rods aren't warped or bowed. Replace a rod that is bent, chipped, or dented. Upon reassembly, inspect the plastic weight plate inserts for cracks or imperfections. Replace any bad plates.



b

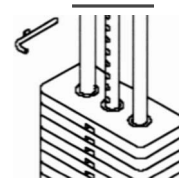
TROUBLESHOOTING

WEIGHSTACK

MECHANICAL (continued)

3. PROBLEM: The weight selector pin doesn't insert into the plates

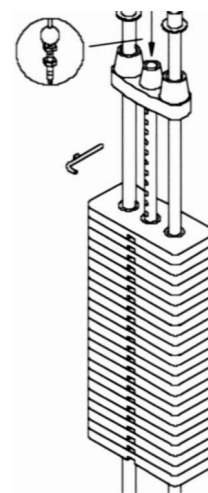
SOLUTION: Usually a misdrilled top plate. Replace the top plate. If the top plate doesn't correct the problem, replace the selector rod.



4. PROBLEM: The cables are twisting

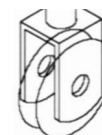
SOLUTION: During assembly there are two steps that you can take to help prevent cable twist:

1. Out of the box, unroll each cable and unwind it until it lays flat.
2. After assembling the machine and routing the cables, select 150 LBS on each weightstack and lift the stack using the most convenient station (you may need help, depending on the station). With the 150 LBS stack suspended from the cable, "bounce" the weight several times without letting the stack touch bottom, to pre-stretch the cable. Lower the stack, remove the weight pin, and hand lift the top plate about 12 inches. Reinsert the weight pin to create cable slack and push the cable through the top plate and release to allow the cable to untwist.



5. PROBLEM: The cable is jumping off the pulley

SOLUTION: Take out excessive cable slack using cable adjusters and repositioning pulleys if necessary. If there is still too much slack in the cable (and the routing is correct) replace the cable.



6. PROBLEM: The cable is too short

SOLUTION: Measure the cable (from connector hole to connector hole, if there is one) and match the cable length with the spec listed on the first page of the weightstack section. If the cable is not within 2 inches of spec, replace the cable. If the cable is in spec, look at assembly, cable routing, cable adjusters, and pulley position.



NOTE: The 733s is a good example here. If the press arm is put on backwards, the cable will seem too short.



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