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I. General Information

Purpose

This manual provides information for the servicing of **SCIFIT** ISO1004R cordless recumbent bikes. It uses systematic troubleshooting procedures to address problems that may arise with the cordless bikes. The actions taken to resolve problems must be performed in the order stated. Deviating from this sequence may cause damage to the equipment, lead to unnecessary repairs, and/ or void the warranty.

Technical Support

For further assistance in the service of **SCIFIT** products, please call **(800) 745-1373 or (918) 359-2040**. We can also be reached by fax at **(918) 359-2045** or by e-mail at **service@scifit.com**. The Product Support department is staffed from 7 AM to 6 PM CST Monday through Friday. A voicemail service is available 24 hours daily for recording messages to request technical support and to order replacement parts. Our mailing address is **5151 S. 110th E. Avenue, Tulsa, OK 74146**.

Please have the following information prior to calling product support:

- Model number of equipment
- Serial number of equipment
- Point of contact name, address, and phone number
- Detailed description of symptoms encountered

SCIFIT Statement of Warranty

SCIFIT warranties new products against defective workmanship and/ or materials under normal and proper use subject to the following limitations:

1. SCIFIT's obligation to the original purchaser shall apply to both parts and cost of labor required to replace or repair a defective product for a period of one (1) year from the user purchase date as documented by the warranty card. If the customer fails to return the warranty card, the date of shipment from the factory is used. Thereafter, for a period of two (2) years, such obligation shall extend only to the supply of replacement parts or products with any labor costs associated with such replacement or repair to be at the Buyer's expense.

2. SCIFIT's obligation shall be limited to repairing or replacing defective parts. ***No allowance shall be granted for repairs made by Buyer without SCIFIT's prior written approval.*** The decision to replace or repair shall be solely at SCIFIT's election.

3. SCIFIT's warranty does not apply to parts requiring replacement or repair due to abnormal wear and tear, improper use, corrosion (perspiration), improper maintenance, improper rated grounded or dedicated electrical circuits, or improper storage, nor does it apply where all or part of the product has been altered from its original state.

4. **THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, ARISING BY LAW OR OTHERWISE INCLUDING WARRANTY OR MERCHANTABILITY OF FITNESS FOR PARTICULAR PURPOSE, AND IS IN LIEU OF ALL OTHER LIABILITIES OF SCIFIT INCLUDING DIRECT, INDIRECT, SPECIAL AND CONSEQUENTIAL DAMAGES OR PENALTIES EXPRESSED OR IMPLIED WHETHER ARISING OUT OF CONTRACT, NEGLIGENCE, OR OTHER TORT.**

5. Certain wear items are excluded from warranty coverage unless determined to be defective. These items include, but are not limited to:
   Rubber Grips
   Pedal Straps
   Seat

6. The following items are covered for a period of one (1) year only:
   Pedals
   Contact Heart Rate Grips
   Heart Rate PCB/ Transmitter

Freight and Shipping

SCIFIT is NOT responsible for the repair or replacement of any unit or part damaged during transit or installation. The customer is responsible for pursuing all freight damage claims with the appropriate transit company. ***If the customer signs for freight-damaged goods without noting the damage on the bill of lading, the customer is solely responsible for the cost of repair or replacement for such freight damage.*** Fire, flood, and acts of God are NOT covered under this warranty.

Parts Supply

During the first 30 days, warranty parts will be shipped via next day overnight delivery, excluding international shipments. Determination must be made before 2:00 p.m. CST on any given weekday for next day delivery. After 30 days, parts will be shipped via ground shipment. The customer is welcome to request overnight or second day parts shipping at the customer's expense. If requested, SCIFIT will charge the customer's UPS or Federal Express account, or COD the difference in freight cost between ground shipment and overnight or second day.

Return Parts

In order to research problems and ensure they do not reoccur, the rapid return of defective parts is our biggest help! Thank you in advance for your assistance.

On electronics orders, a $100.00 core charge is assessed to each printed circuit board. This amount will be credited once the boards have been received by SCIFIT. All defective parts must be returned to the SCIFIT factory within 20 days of receipt of replacement part for invoice credit. Otherwise, SCIFIT will expect payment on the core charge net 30 days.

Please follow these three (3) easy steps for returning parts:

Step 1: Keep the box and packing material in which the new parts arrived. Locate the enclosed prepaid UPS return label. The return label is only for the parts that need to be returned as denoted on the picking ticket.

Step 2: Wrap the defective part and place in the box for a safe return. Include a copy of the picking ticket that came with the replacement part.

Step 3: When the parts have been packaged, place the prepaid UPS return label on the outside of the box. Drop the package at any UPS service center or hand the package to any UPS driver.

When all of the parts are received and inspected at the factory, a credit will be issued for the original parts invoice. **Attention service companies: Warranty labor invoices will NOT be paid until required defective parts are returned to the factory.**

Installation

SCIFIT is NOT responsible for the repair or replacement of any unit or part damaged during installation. The customer is responsible for inspection of each unit and part for damage at the time of installation. The customer is responsible for pursuing all damage claims with the installer.

Service Labor

Where applicable, SCIFIT Product Support will arrange a local field service technician to provide field support. Every effort will be made to schedule service during the two (2) working days following notification of a problem or as soon as repair parts are available to the field service technician. Where possible, parts will be supplied in advance of the field service technicians so that the product is repaired with one (1) call. ***All jobs to be performed under labor warranty must have SCIFIT's prior written approval or they will not be paid.***

Preventative Maintenance

After training, always wipe down your SCIFIT exercise product. Perspiration that continuously settles on the frame, upholstery, casings, and control panels may eventually cause rust or damage. Damage resulting from lack of maintenance will NOT be covered under warranty. .

Preventative maintenance, completed according to the schedule below, will keep your SCIFIT elliptical functioning properly. We realize your time is valuable and have kept these maintenance items to a minimum. This preventative maintenance schedule assumes the equipment is utilized 6 to 8 hours per day. If the equipment is utilized to a greater extent, the maintenance schedule must be adjusted accordingly.

Machine	Weekly	Monthly	6 Months	Yearly
Cordless Bikes	Clean exterior. See Note 1.	Check crank and pedal tightness. See Note 2.	Check belt for fraying. Clean interior. See Note 3.	

Note 1: Clean the console with a damp cloth. Use mild soap and warm water. Dry with a clean towel. The rest of the machine can be cleaned using common household cleaners.

Note 2: **IMPORTANT: All pedal crank arms MUST be tightened after eight (8) hours of initial use to ensure that the crank arms are seated properly.** Not tightening the crank arms upon initial use will loosen the arms and cause damage. This will void the warranty. To comply with this requirement, simply tighten the 8mm Allen bolt to approximately 40-45 foot lbs.

Note 3: Clean the interior using a damp cloth. Dry with a clean towel.

II. Theory of Operations

The following is a theory of operation that encompasses all the electrical components, their functions, and how they interact with each other.

Independent electrical components found in SCIFIT's Cordless product line:

1. Lower PCB (Power Supply)
2. Upper PCB (Display)
3. Generator/Electromagnetic Brake
4. 12 Volt Battery
5. Wall Pack Receptacle
6. Hand Grip Heart rate PCB (HG HR)
7. Wireless Heart rate PCB (Polar)

Component Functions

1. Lower PCB (Power Supply)
    - A. Converts the12 to 400 volts AC from the generator into 12 volts DC using switching power supply technology.
    - B. Provides 12 volts DC to upper PCB.
    - C. Accepts 12 volts DC from either the battery or wall pack transformer if unavailable from the generator
    - D. Receives Pulse Width Modulation (PWM) signal from the upper PCB for brake control.
    - E. Contains Hi-power MOSFET circuitry that controls the brake.

2. Upper PCB (Display)
    - A. Accepts commands from a user.
    - B. Displays information to the user.
    - C. Regulates 12 volts DC from lower PCB down to 8 volts DC and 5 volts DC.
    - D. Operates the 8 and 5 volt DC serial communications (c-safe and cardio-key)
    - E. Provides 5 Volts DC to the contact and wireless heart rate jacks.
    - F. Receives signals from the contact and wireless heart rate PCB's.
    - G. Contains 5 volt DC display (LED) drivers.
    - H. Contains the 5 volt DC memory and processor components.
    - I. Provides PWM signal to lower PCB for brake control.

3. Generator/Electromagnetic Brake

    Generator:
    - o A three (3) phase generator that produces 0 to 400 volts AC depending on the RPM's.
    - o Provides AC voltage to the lower PCB.

Electromagnetic Brake
- An eddie current transformer that uses rising and collapsing electromagnetic fields to slow down the generator magnet traveling through it's field.
- Controlled by the lower PCB.

4. 12 Volt DC Battery
   A. 12 volt sealed lead acid 1.3 Amp Hour Battery.
   B. Provides 12 Volts DC to lower PCB during:
      - Pause mode
      - Between intervals
      - Provides power for 15 seconds after generator stops.

5. Wall Pack Receptacle
   A. 12 volt DC input receptacle that accepts voltage from a DC wall pack.
   B. Provides 12 volts DC to lower PCB when a wall pack is connected to it.
   C. Aids in battery charging.

6. Hand Grip (Contact) Heart Rate (HG HR) PCB
   A. Outputs a square wave to the upper PCB.
   B. Equipped with right and left grip inputs.
   C. Power and ground is provided by the upper PCB.

7. Wireless Heart rate PCB
   A. Outputs a square wave to the upper PCB.
   B. Has a 30" range and position is critical.
   C. Power and ground is provided by the upper PCB.

System Functions

Starting the Machine

A. Pedaling the machine rotates the generator, which generates a current to power the electronics. A minimum of 13 RPM or 10 FPM must be maintained to keep machine powered up.

B. The generator provides AC voltage to the lower PCB. The lower PCB then provides DC voltage to the upper PCB.

C. The User controls the resistance by selecting a level on the display. The display sends a PWM signal which varies, depending on the level selected. The signal travels through the ribbon cable to the lower PCB. The lower PCB sends a square wave signal to the transformer on the brake which is proportionate to the amount of resistance commanded.

D. The brake LED on the lower PCB, labeled D38 on older units and D19 on newer units, will illuminate any time braking is applied. The intensity of the LED is proportional to the level of resistance.

E. The battery is charged anytime there is more than 13 RPM's present.

Stopping the unit

A. When pedaling is discontinued, the brake continues to spin.
B. The battery will engage once the actual RPM's dip below 13.
C. The battery remains active for 15 seconds and then a transistor that connects the battery to the rest of the lower PCB is unlatched. The transistor will remain unlatched until the unit sees an rpm value above 13 RPM's.

Using the Wall Pack

A. Using the wall pack will allow the machine to be powered up without pedaling. Quick Start or any other program can be selected without have to pedal first. The machine will be powered up constantly when the wall pack is in use.

III. Mechanical Troubleshooting

A. Mechanical Troubleshooting Table

Problem	Possible Reasons	Solutions
Pedals wobble when bike is pedaled.	Pedal is loose or stripped out.	Replace pedal, if threads are damaged. (Page 53-54)
	8mm crank bolt is loose.	Tighten 8mm crank bolt.
	Spindle crank shaft is rounded off.	Replace spindle crank shaft assembly. (Page 54-56)
	Square tapered hole in crank arm is rounded out.	Replace crank arm. (Page 52)
Pedals lock up while operating.	Flywheel has moved over and is seized on a pem nut on the monocoque.	Realign flywheel by loosening the set screws on bearing collars and sliding over. (Page 54-56)
	Bearing on spindle crank assembly has seized up.	Replace bearing. (Page 54-56)
Grinding, rubbing, or scraping noise while rotating pedals.	Flywheel has moved over and is rubbing a pem nut on the monocoque.	Realign flywheel by loosening the set screws on bearing collars and sliding over. (Page 54-56)
	Bad bearing on spindle crank shaft.	Replace bearing on spindle crank shaft. (Page 54-56)
	Bad bearing in the brake.	Replace brake. (Page 50-51)
	Belt not aligned properly.	Realign belt. (Page 56-57)
Clunking noise from inside the unit.	Brake pulley is loose.	Replace brake. (Page 50-51)
	Idler bearings are bad.	Replace idler. (Page 42)
	Loose set screw on bearing collar on spindle crank assembly.	Loc-tite and tighten set screw on spindle crank assembly bearing collar. (Page 54-56)

Mechanical Troubleshooting Table (cont.)

Problem	Possible Reasons	Solutions
Unit slips when pedaled.	Drive belt is loose.	Re-tension drive belt. (Page 50-51)
	Brake roller clutch is bad.	Replaced brake. (Page 50-51)
	Lower PCB is bad.	Replace lower PCB. (Page 31-34)
Clicking noise heard around pedals.	Pedal bearings are bad.	Replace pedal. (Page 53-54)
	Bad bearing on spindle crank.	Replace bearing. (Page 54-56)
Crunching noise is heard when pedaled.	Bad bearing on spindle crank.	Replace bearing. (Page 54-56)
	Bad bearings in brake assembly.	Replace brake assembly. (Page 50-51)

IV. Electrical Troubleshooting

A. Electrical Troubleshooting Table

Problem	Possible Reason	Solution
No lights are showing on the upper PCB at idle.	Unit is not in use.	Start rotating cranks (at least 13 RPMs). Unit stays lit for 15 seconds after use unless a wall pack is in use.
No lights on upper PCB when unit is pedaled.	Faulty lower PCB. Faulty upper PCB. Bad Telco or Telco connection. Brake is shorted to the frame.	See flowchart. (Page 14-15) See flowchart. (Page 14-15) See flowchart. (Page 14-15) See flowchart. (Page 14-15)
Lights on upper PCB are dim.	Faulty lower PCB.	Replace lower PCB. (Page 31-34)
Lights on upper PCB are frozen.	Faulty upper PCB.	Replace upper PCB. (Page 23-30)
Lights on upper PCB flicker and then go dead.	Bad Telco or ribbon cable connection. Faulty lower PCB. Faulty upper PCB.	Fix connection or replace cable. Replace lower PCB. (Page 31-34) Replace upper PCB. (Page 23-30)
Lights on upper PCB go out as soon as you stop pedaling or go to change direction.	Battery is weak. Bad brake to lower PCB connection.	Charge battery with wall pack. If problem continues, replace battery. (Page 35) Fix connection.
"PAUSED" is displayed in top display window.	The PAUSE/CLEAR button has been pressed during program.	Press START to resume program or PAUSE/CLEAR to return to start up screen.
Display resets after starting program.	Bad Telco or ribbon cable connection. 13 RPMs not maintained. Faulty upper PCB.	Fix connection or replace cable. Maintain 13+ RPMs to keep the upper PCB lit. Replace upper PCB. (Page 23-30)
Upper PCB won't light up without use of wall pack.	Bad brake to lower PCB connection. Faulty lower PCB. Brake shorted to monocoque.	Fix connection. Replace lower PCB. (Page 31-34) Fix short or replace brake. (Page 50-51)

Electrical Troubleshooting Table (cont.)

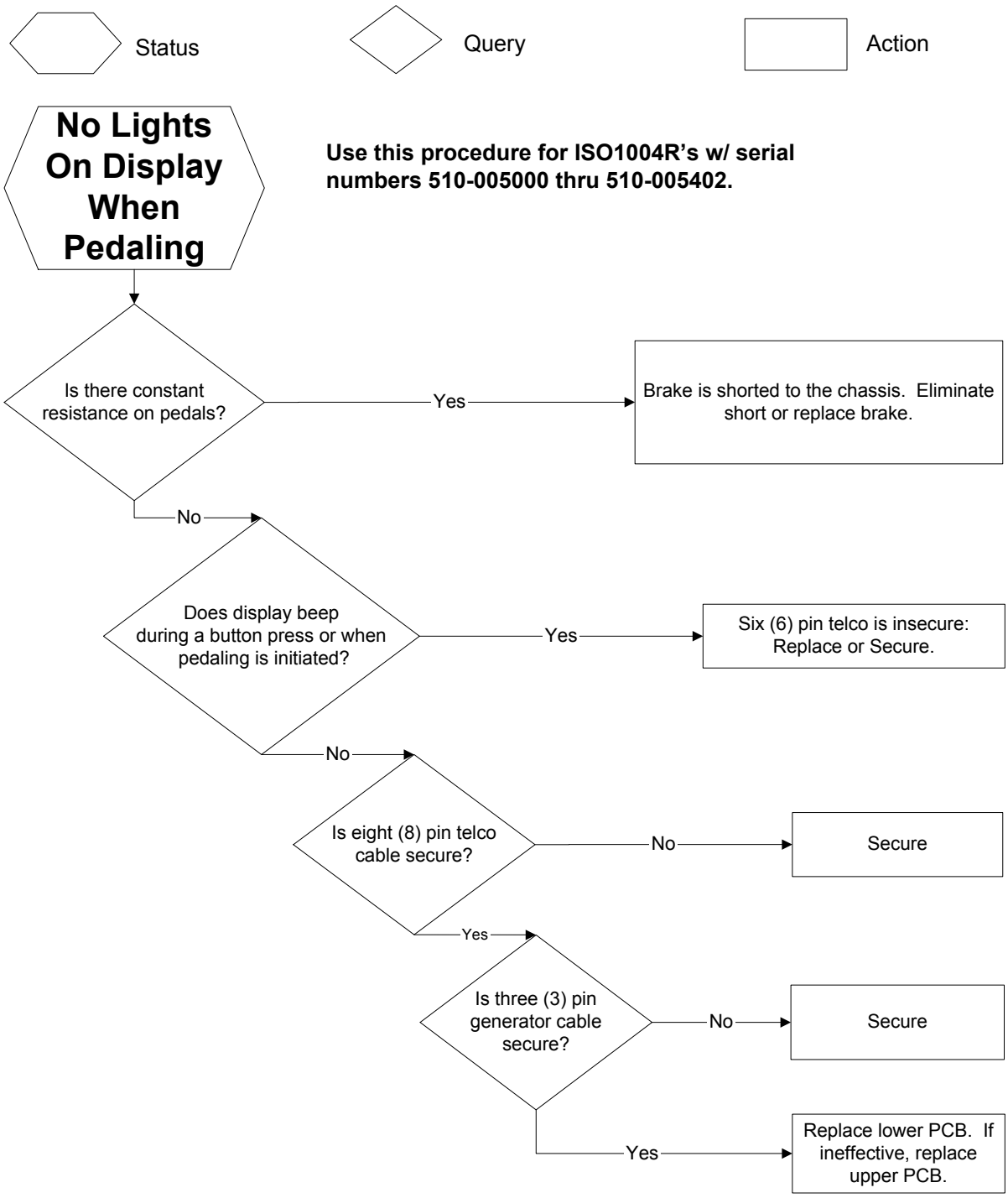
Problem	Possible Reason	Solution
Upper PCB is lit up but values don't change.	Faulty upper PCB. Overlay and buttons on upper PCB not making contact.	Replace upper PCB. (Page 23-30) Secure overlay to upper PCB by tightening standoffs or Philips screws.
Machine shuts down in programs but works in manual mode.	Faulty upper PCB.	Replace upper PCB. (Page 23-30)
Can't select program or enter information and there is no beep when buttons are pressed.	Faulty upper PCB. Overlay and buttons on upper PCB not making contact.	Replace upper PCB. (Page 23-30) Secure overlay to upper PCB by tightening standoffs or Philips screws.
Constant resistance.	Faulty lower PCB.	Replace lower PCB. (Page 31-34)
Intermittent resistance or spiking.	Bad brake to lower PCB connection. Faulty lower PCB. Faulty upper PCB.	Fix connection. Replace lower PCB. (Page 31-34) Replace upper PCB. (Page 23-30)
Resistance is different than when you received unit.	Defined unit type has been changed. Faulty lower PCB.	Redefine unit type. Call SCIFIT for procedure. Replace lower PCB. (Page 31-34)
No resistance.	Bad brake to lower PCB connection. Faulty lower PCB. Faulty upper PCB.	See flowchart. (Page 16-17) See flowchart. (Page 16-17) See flowchart. (Page 16-17)
No heart rate displayed. (If using contact grips, see "No contact heart rate" below.)	No chest strap worn. Faulty chest strap. Wireless heart rate PCB is not plugged in. Faulty wireless heart rate PCB. Faulty upper PCB. Faulty combo heart rate PCB, if equipped.	Must wear chest strap. Verify chest strap works. Check and fix connection to upper PCB. Replace wireless heart rate PCB. (Page 36-41) Replace upper PCB. (Page 23-30) Replace combo heart rate PCB. (Pages 47-48)

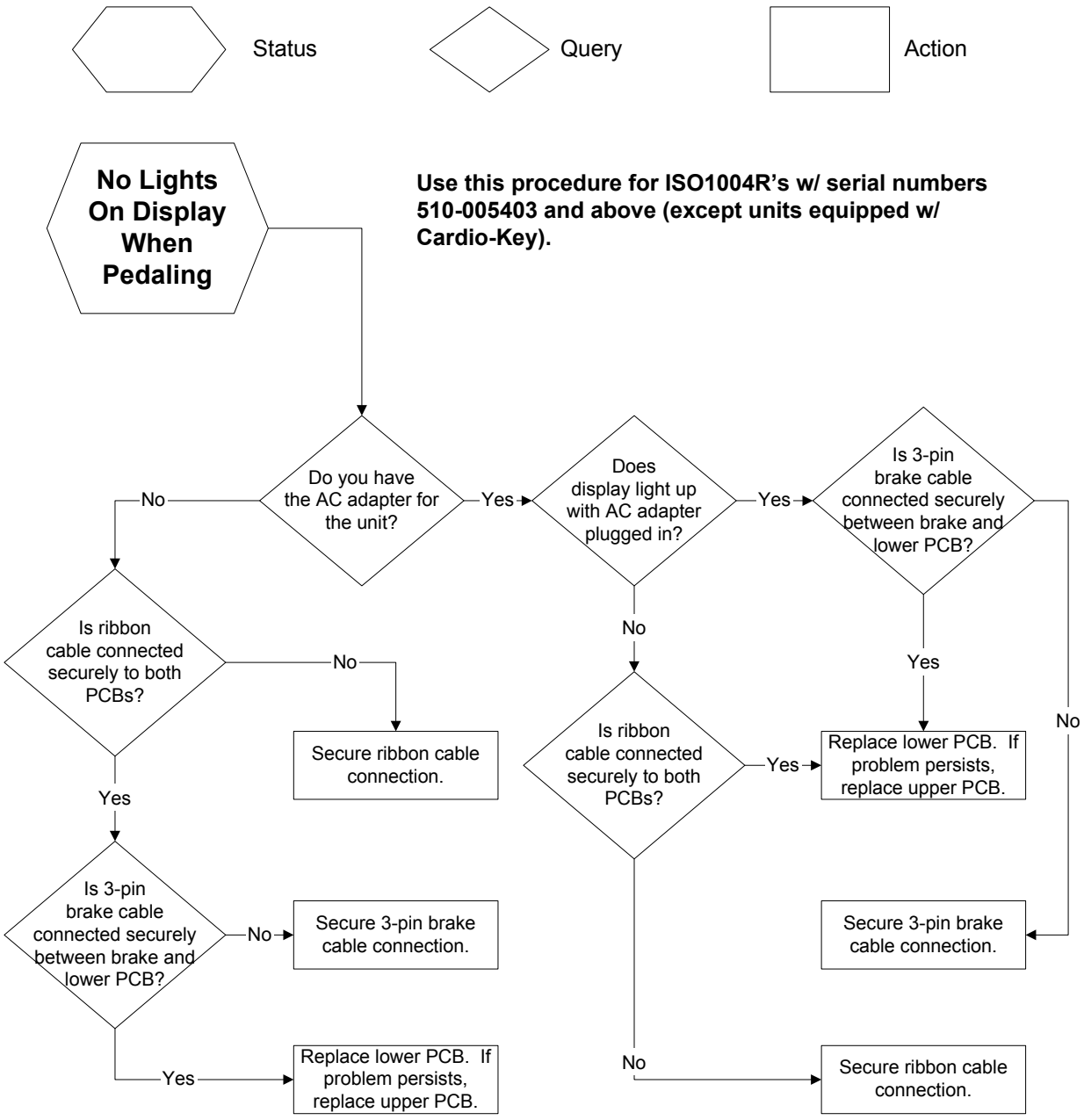
Electrical Troubleshooting Table (cont.)

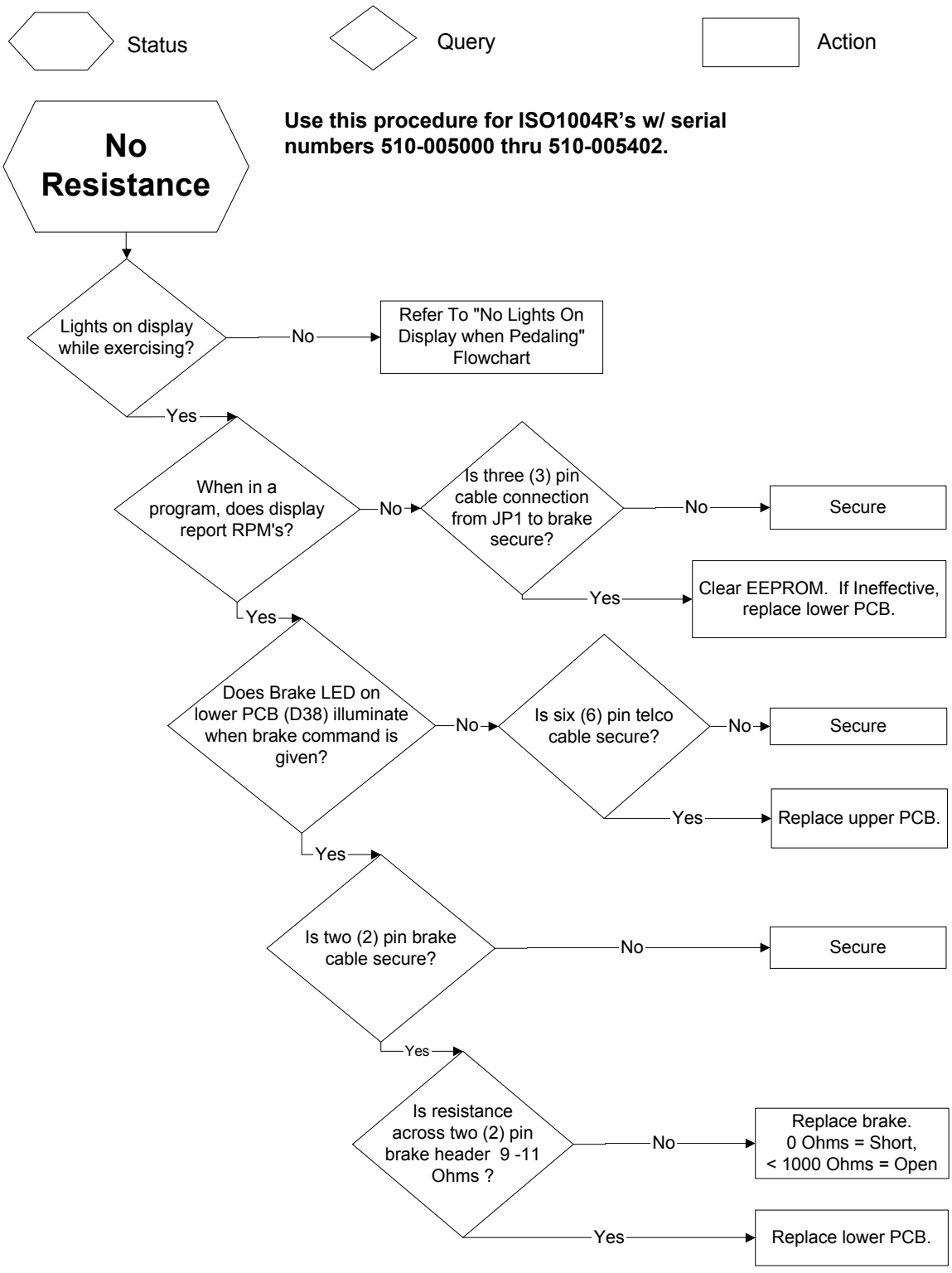
Problem	Possible Reason	Solution
Heart rate displayed is very high.	Is picking up FM frequency from radio / transmitter.	Move radio or transmitter.
	Is picking up reading from another person's chest strap.	Make sure no one with a chest strap is standing next to your unit.
	Faulty combo heart rate PCB, if equipped.	Replace combo heart rate PCB. (Pages 47-48)
"---" then "No Heart Rate Detected" is displayed in top window while using Heart Rate Program.	No chest strap is worn.	Contact grips do not work in this program.
	Faulty wireless heart rate PCB.	Replace wireless heart rate PCB. (Page 36-41)
	Faulty combo heart rate PCB, if equipped.	Replace combo heart rate PCB. (Pages 47-48)
No contact heart rate or intermittent contact heart rate reading displayed.	Both hands not being used.	Must hold onto both grips.
	Contact heart rate doesn't work on all users.	Verify w/ multiple users that there is no contact heart rate.
	Bad connection from contact heart rate PCB to upper PCB or contact grips.	Fix connection.
	Faulty contact heart rate PCB.	See flowcharts. (Page 18-19)
	Faulty upper PCB.	See flowcharts. (Page 18-19)
	Faulty combo heart rate PCB, if equipped.	See flowcharts. (Page 18-19)
Contact heart rate is very high or very low.	Faulty contact heart rate PCB.	Replace contact heart rate PCB. (Page 42-46)
	Faulty upper PCB.	Replace upper PCB. (Page 23-30)
	Faulty combo heart rate PCB, if equipped.	Replace combo heart rate PCB. (Pages 47-48)

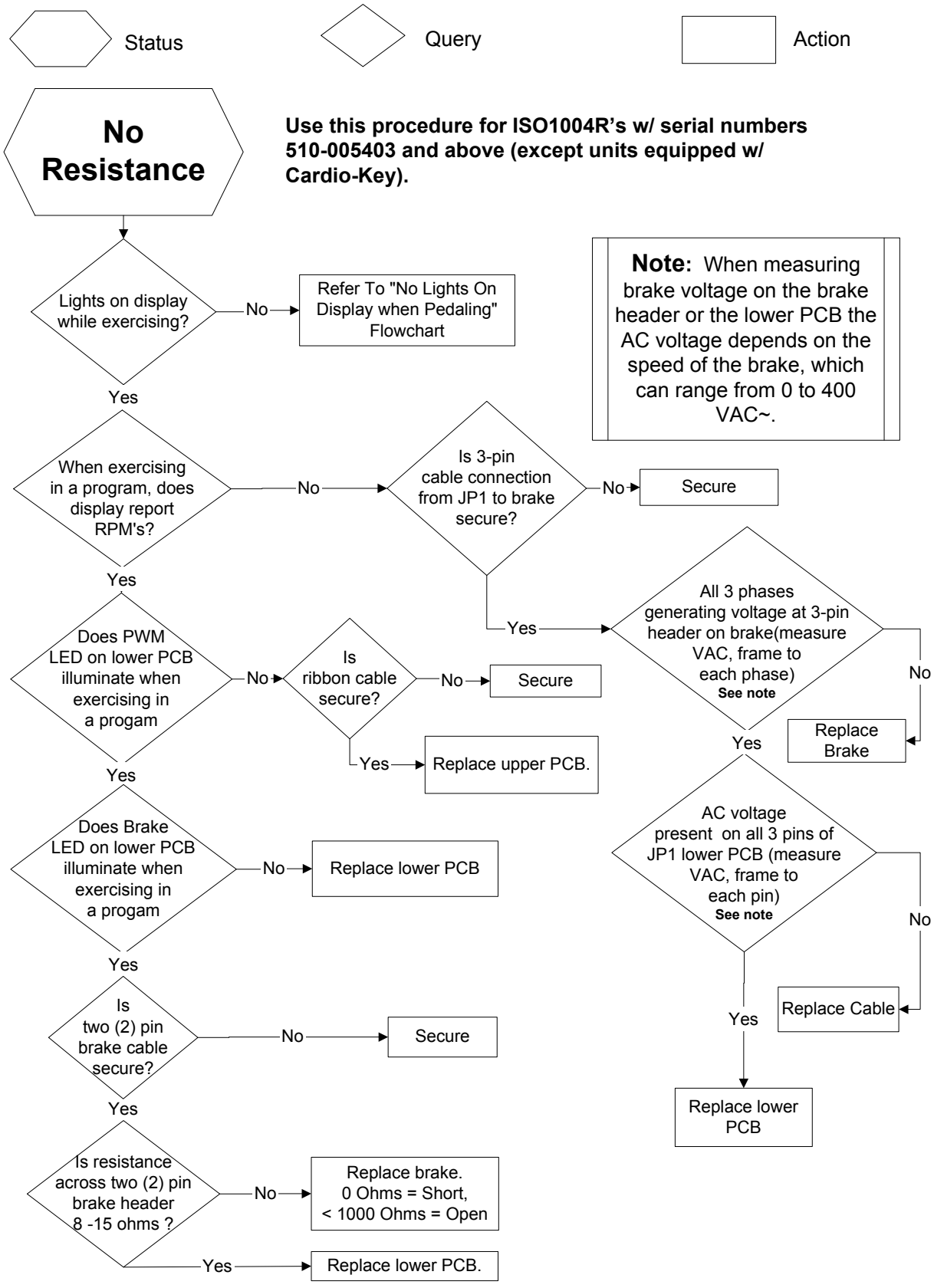
B. Troubleshooting Flowcharts

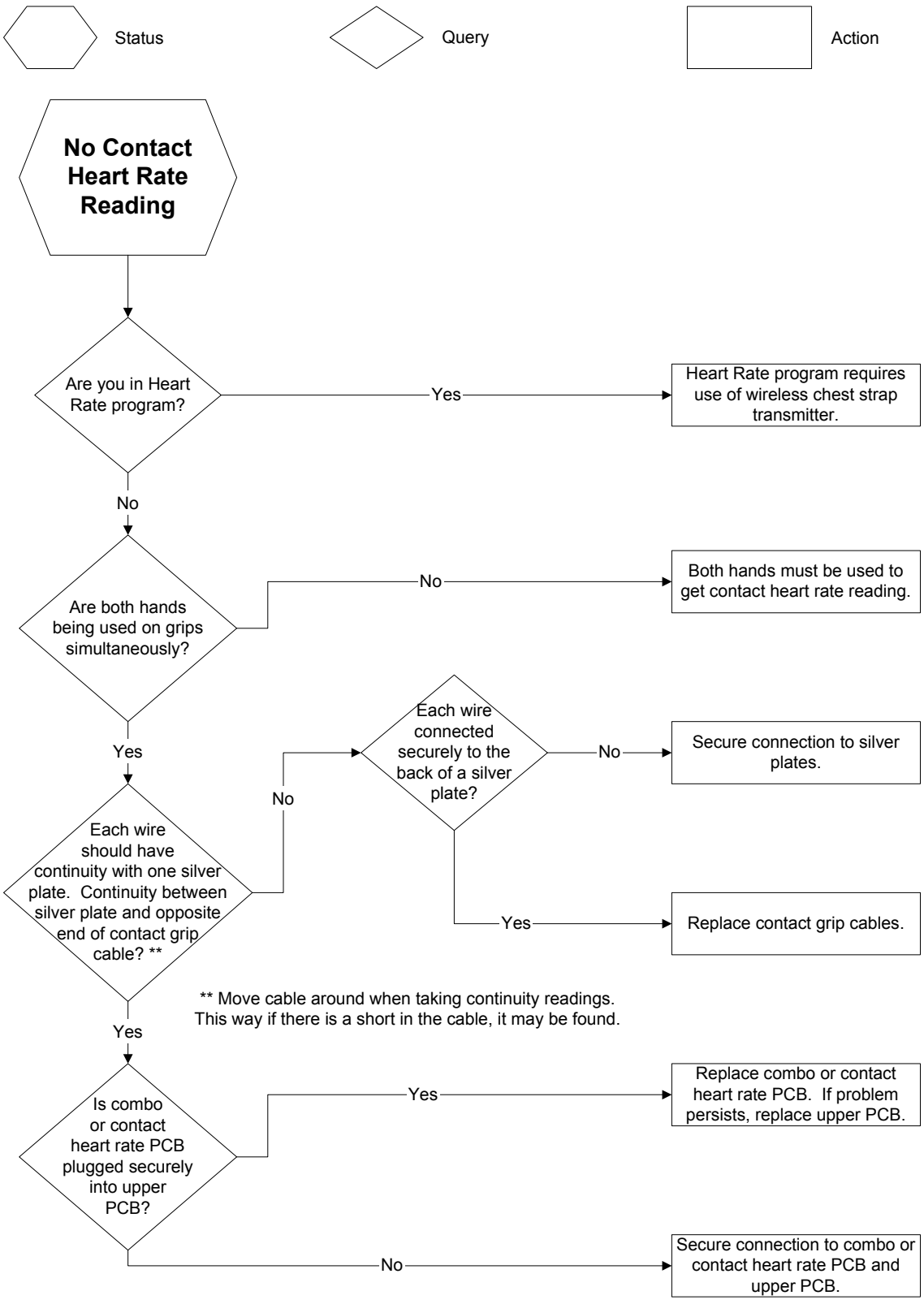
Although it is impossible to foresee every eventuality, the flowcharts on the following pages will cover the most common possibilities. If further assistance is required, please consult SCIFIT SYSTEMS, Inc.

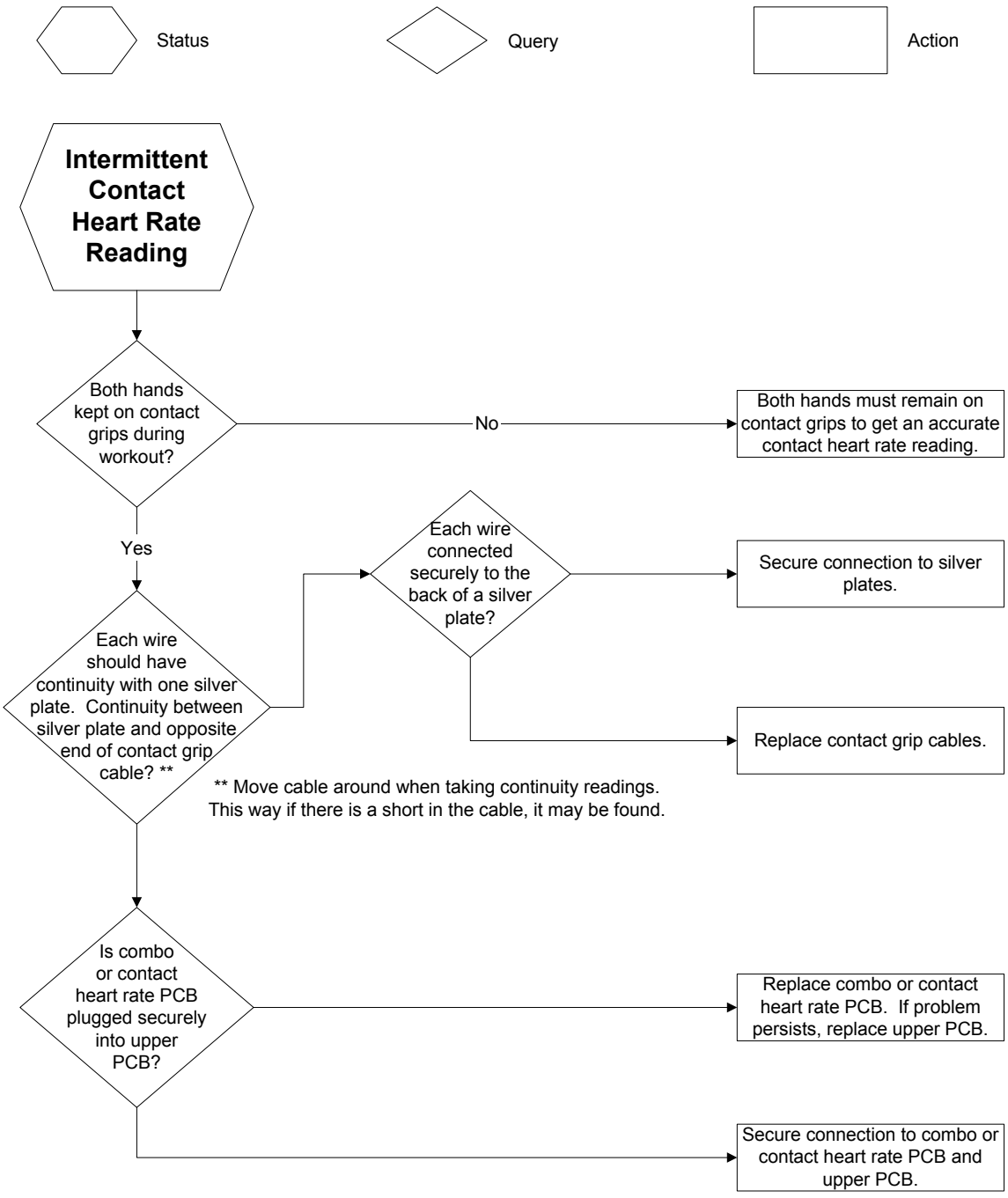



Status
Query
Action
No Lights On Display When Pedaling
Use this procedure for ISO1004R's w/ serial numbers 510-005403 and above (except units equipped w/ Cardio-Key).
Do you have the AC adapter for the unit?
No
Yes
Does display light up with AC adapter plugged in?
Yes
Is 3-pin brake cable connected securely between brake and lower PCB?
Yes
No
Is ribbon cable connected securely to both PCBs?
No
Secure ribbon cable connection.
Yes
Is 3-pin brake cable connected securely between brake and lower PCB?
No
Secure 3-pin brake cable connection.
Yes
Replace lower PCB. If problem persists, replace upper PCB.
No
Is ribbon cable connected securely to both PCBs?
Yes
Replace lower PCB. If problem persists, replace upper PCB.
No
Secure 3-pin brake cable connection.
No
Secure ribbon cable connection.


Status
Query
Action
No Resistance
Use this procedure for ISO1004R's w/ serial numbers 510-005000 thru 510-005402.
Lights on display while exercising?
No
Refer To "No Lights On Display when Pedaling" Flowchart
Yes
When in a program, does display report RPM's?
No
Is three (3) pin cable connection from JP1 to brake secure?
No
Secure
Yes
Clear EEPROM. If Ineffective, replace lower PCB.
Yes
Does Brake LED on lower PCB (D38) illuminate when brake command is given?
No
Is six (6) pin telco cable secure?
No
Secure
Yes
Replace upper PCB.
Yes
Is two (2) pin brake cable secure?
No
Secure
Yes
Is resistance across two (2) pin brake header 9 -11 Ohms ?
No
Replace brake. 0 Ohms = Short, < 1000 Ohms = Open
Yes
Replace lower PCB.


Status
Query
Action
No Resistance
Use this procedure for ISO1004R's w/ serial numbers 510-005403 and above (except units equipped w/ Cardio-Key).
Note: When measuring brake voltage on the brake header or the lower PCB the AC voltage depends on the speed of the brake, which can range from 0 to 400 VAC~.
Lights on display while exercising?
No
Refer To "No Lights On Display when Pedaling" Flowchart
Yes
When exercising in a program, does display report RPM's?
No
Is 3-pin cable connection from JP1 to brake secure?
No
Secure
Yes
All 3 phases generating voltage at 3-pin header on brake(measure VAC, frame to each phase) See note
No
Replace Brake
Yes
Does PWM LED on lower PCB illuminate when exercising in a progam
No
Is ribbon cable secure?
No
Secure
Yes
Replace upper PCB.
Yes
Does Brake LED on lower PCB illuminate when exercising in a progam
No
Replace lower PCB
Yes
AC voltage present on all 3 pins of JP1 lower PCB (measure VAC, frame to each pin) See note
No
Replace Cable
Yes
Replace lower PCB
Is two (2) pin brake cable secure?
No
Secure
Yes
Is resistance across two (2) pin brake header 8 -15 ohms ?
No
Replace brake. 0 Ohms = Short, < 1000 Ohms = Open
Yes
Replace lower PCB.


Status
Query
Action
No Contact Heart Rate Reading
Are you in Heart Rate program?
Yes
Heart Rate program requires use of wireless chest strap transmitter.
No
Are both hands being used on grips simultaneously?
No
Both hands must be used to get contact heart rate reading.
Yes
Each wire should have continuity with one silver plate. Continuity between silver plate and opposite end of contact grip cable? **
No
Each wire connected securely to the back of a silver plate?
No
Secure connection to silver plates.
Yes
Replace contact grip cables.
** Move cable around when taking continuity readings.
This way if there is a short in the cable, it may be found.
Yes
Is combo or contact heart rate PCB plugged securely into upper PCB?
Yes
Replace combo or contact heart rate PCB. If problem persists, replace upper PCB.
No
Secure connection to combo or contact heart rate PCB and upper PCB.


Status
Query
Action
Intermittent Contact Heart Rate Reading
Both hands kept on contact grips during workout?
No
Both hands must remain on contact grips to get an accurate contact heart rate reading.
Yes
Each wire should have continuity with one silver plate. Continuity between silver plate and opposite end of contact grip cable? **
Each wire connected securely to the back of a silver plate?
Secure connection to silver plates.
Replace contact grip cables.
** Move cable around when taking continuity readings.
This way if there is a short in the cable, it may be found.
Is combo or contact heart rate PCB plugged securely into upper PCB?
Replace combo or contact heart rate PCB. If problem persists, replace upper PCB.
Secure connection to combo or contact heart rate PCB and upper PCB.

C. User Setup (Use this procedure for ISO1004R's thru serial number 510-005402.)

User Setup provides club owners and managers with certain information about their equipment and enables them to customize certain features.

Provide power to the console by either plugging the wall pack into the machine and outlet or working out at a low level on the machine. Press and hold SCAN and ENTER for three (3) seconds to enter User Setup.

Press ENTER to move from one parameter to the next parameter.

1. Language: Toggles between English and German. Use the UP or DOWN keys to select the appropriate language.

2. Model: Displays the model of the machine that is set in the console. If the wrong model of machine is defined, the unit will not calculate resistance, watts, and distance correctly.

3. Version High: Displays the upper console's software version in the Time window.

4. Version Low: Displays the lower PCB firmware version in the Time window. If this version number is zero, no communication has been established between the upper and lower boards.

5. Unit of Measure: Toggles between metric and U.S. units of measure. Use the UP or DOWN keys to select the appropriate unit of measure.

6. Communications Mode: Toggles between Cardio Key and Csafe Comm. Use the UP or DOWN keys to select the appropriate communications mode.

7. Message: If a message has not been entered or is invalid, the upper display will show "**NO MESSAGE**". The TIME window will display the message screen number. The screen number range is ct1 through ct25. Each message screen has 10 characters so the total message can have up to 250 characters.

   To enter a message, use UP and DOWN to select the appropriate character. Characters available include the entire alphabet, numbers 0 through 9, punctuation, and a few other symbols. Press PAUSE to move the cursor to the right and START to shift the cursor to the left. To enter a blank space, press PAUSE without using the UP and DOWN keys to select a character. Press ENTER to save a message and go to the next of the 25 screens. The only method of accessing

previous screens is to enter the User Setup again and move through all the parameters. Pressing ENTER for any message that is empty or invalid will tell the system that message number is the ending message and the scrolling will stop with the previously set message. Pressing ENTER on the 25th screen, the program will advance to the next parameter (Hour Meter) since that is the end of the available memory.

To edit an existing message, access the appropriate screen by pressing ENTER. When at the appropriate screen, press PAUSE to move the cursor to the right and START to shift the cursor to the left. Use UP and DOWN to change the character. Press ENTER to save a message and go to the next screen. Pressing SCAN while editing a message will clear an existing message.

8. Hour Meter: Displays the elapsed run time in days, hours, and minutes. Days are shown on the upper display. Hours and minutes are shown in the TIME window.

   Press ENTER to exit User Setup.

D. User Setup (Use this procedure for ISO1004R's with serial numbers 510-005403 and above.)

User Setup provides club owners and managers with certain information about their equipment and enables them to customize certain features.

Provide power to the console by either plugging the wall pack into the machine and outlet or working out at a low level on the machine. Press and hold SCAN and ENTER for three (3) seconds to enter User Setup.

Press ENTER to move from one parameter to the next parameter.

1. Language: Toggles between English and German. Use the UP or DOWN keys to select the appropriate language.

2. Model: Displays the model of the machine that is set in the console. If the wrong model of machine is defined, the unit will not calculate resistance, watts, and distance correctly.

3. Version High: Displays the upper console's software version in the Time window.

4. Unit of Measure: Toggles between US Units and Metric. Use the UP or DOWN keys to select appropriate measure.

5. Message: If a message has not been entered or is invalid, the upper display will show "**NO MESSAGE**". The TIME window will display the message screen number. The screen number range is ct1 through ct25. Each message screen has 10 characters so the total message can have up to 250 characters.

   To enter a message, use UP and DOWN keys to select the appropriate character. Characters available include the entire alphabet, numbers 0 through 9, punctuation, and a few other symbols. Press PAUSE to move the cursor to the right and START to shift the cursor to the left. To enter a blank space, press PAUSE without using the UP and DOWN keys to select a character. Press ENTER to save a message and go to the next of the 25 screens. The only method of accessing previous screens is to enter the User Setup again and move through all the parameters. Pressing ENTER for any message that is empty or invalid will tell the system that message number is the ending message and the scrolling will stop with the previously set message. Pressing ENTER on the 25th screen, the program will advance to the next parameter (Hour Meter) since that is the end of the available memory.

   To edit an existing message, access the appropriate screen by pressing ENTER. When at the appropriate screen, press PAUSE to move the cursor to the right and START to shift the cursor to the left. Use UP and DOWN keys to change the next character. Press ENTER to save a message and go to the next screen. Pressing SCAN while editing a message will clear an existing message.

6. Hour Meter: Displays the elapsed run time in days, hours, and minutes. Days are shown on the upper display. Hours and minutes are shown in the TIME window.

7. Mets: Toggles between Mets On and Mets Off. Use the UP or DOWN keys to select the appropriate function.

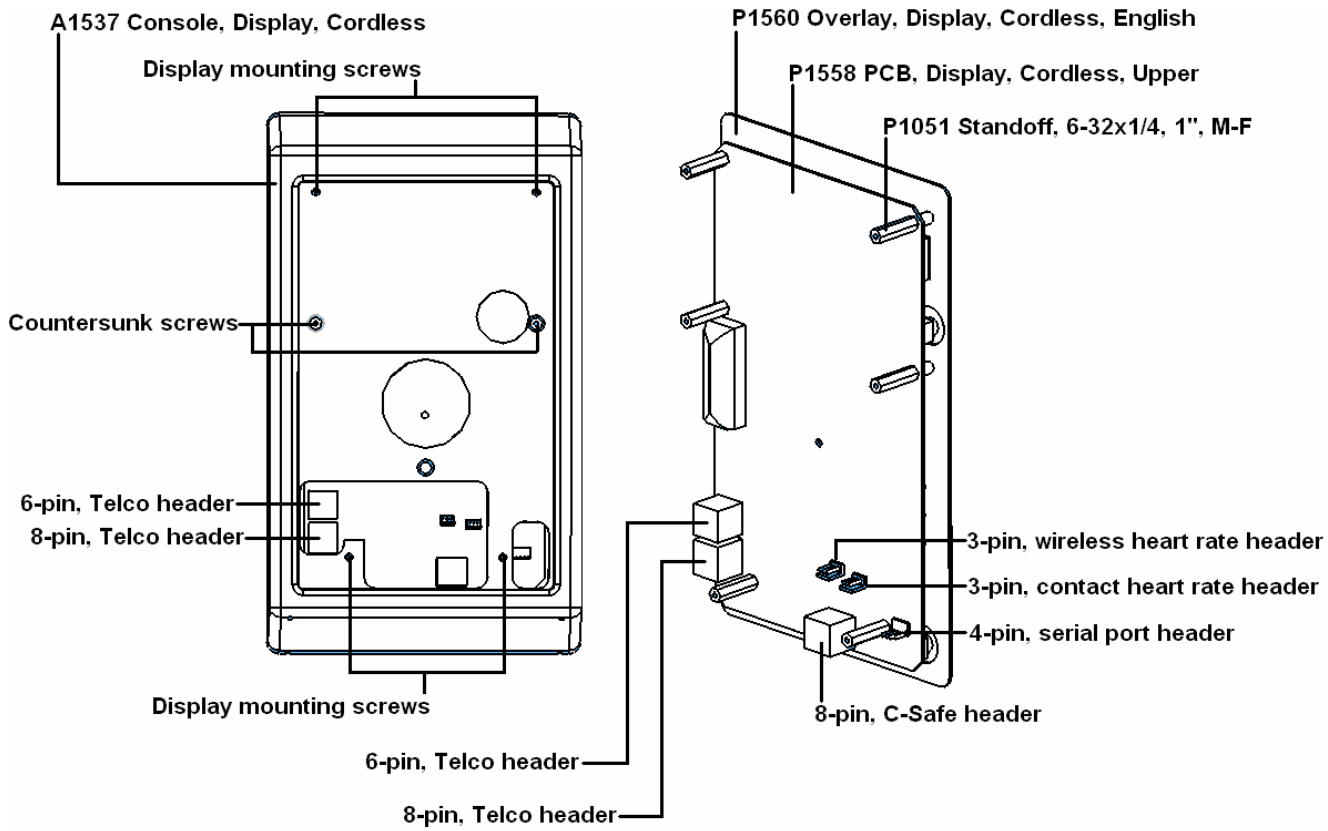
8. Watts Multiplier: Displays the variable at which watts are multiplied. This is only for certified ergometer calibration.

9. Key: Toggles between Key On and Key Off. With the key turned on, the machine will only work when a FITKEY is inserted. Use the UP or DOWN keys to select the appropriate function.

Press ENTER to update and exit User Setup.

V. Adjustments and Parts Replacement

A. Upper PCB (Display) Replacement (Use this procedure for ISO1004R's thru serial number 510-005402.)

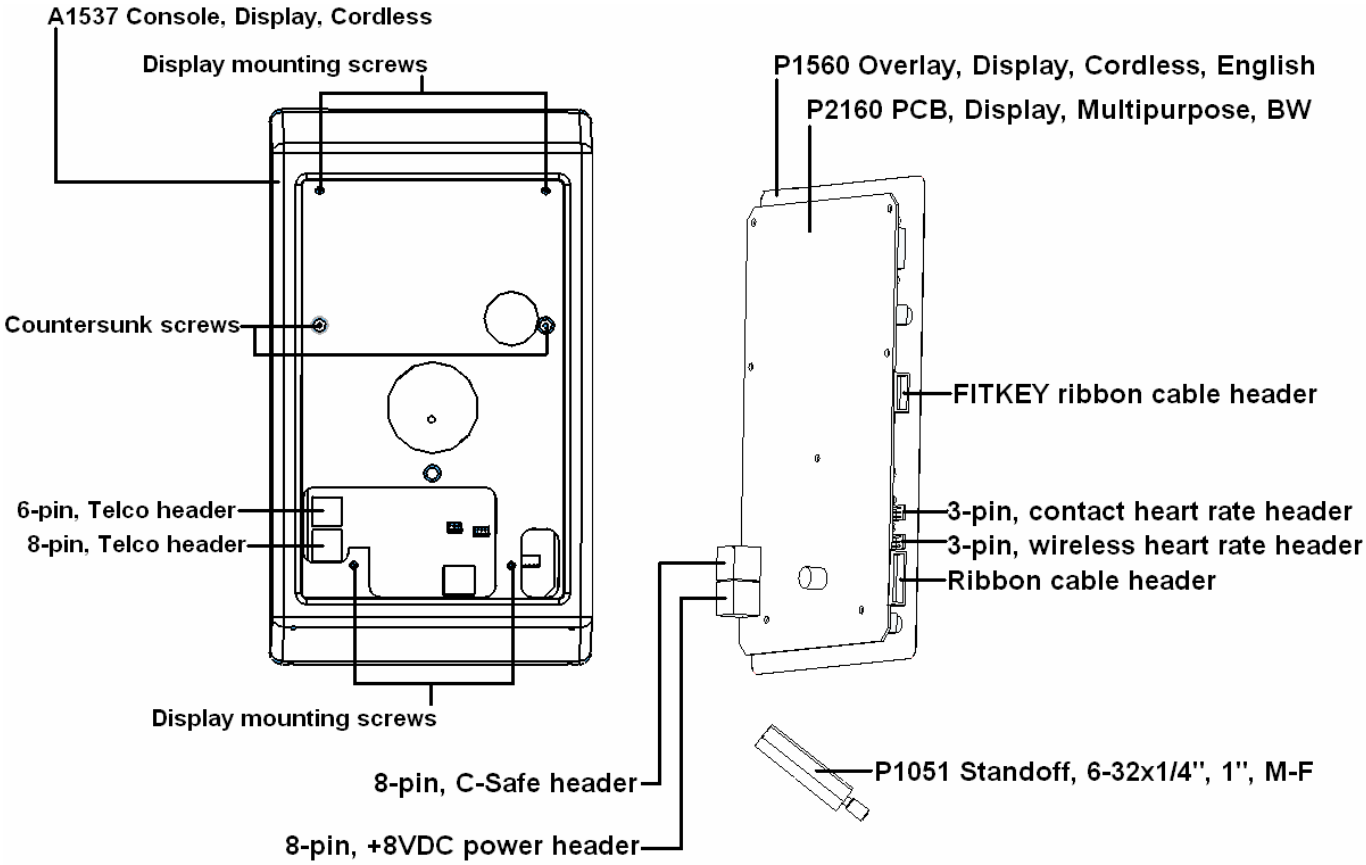


1. Using a Philips screwdriver, remove the four (4) display mounting screws on the back of the display mounting plate.
2. Disconnect all cables running to the upper PCB and remove the upper console assembly from the unit. ***Make sure the cables do not fall into the neck of the unit.***
3. Remove the two (2) outer countersunk screws in the back of the plastic console using a Philips screwdriver. This will free the upper PCB and overlay from the plastic console. ***Do not touch any components on the upper PCB. Touching components could cause static damage.*** If the heart rate PCB is still plugged into the upper PCB, unplug it now.
4. Remove the six (6) standoffs from the upper PCB. This may require the use of a 5/16" nut driver or socket. The upper PCB will separate from the overlay.
5. Install the new upper PCB and replace standoffs. If your unit had two (2) plastic standoffs, these need to be placed back at the bottom of the new upper PCB.

6. Plug the heart rate PCB back into the upper PCB. It plugs into the centermost, 3-pin Molex header.
7. Reinsert the upper PCB assembly into the front of the console.
8. Reinstall the two (2) outer countersunk screws in the back of the plastic console.
9. Reconnect all cables to the upper PCB.
    - The contact heart rate PCB has a cable coming up from the neck of the unit. This plugs into the outermost, 3-pin Molex header next to the wireless heart rate PCB header.
    - When looking at the back of the upper PCB, the Telco cables plug in along the left edge. The 6-pin plugs into the top plug and the 8-pin plugs into the bottom plug.
    - If your unit has Cardio Key, the cable plugs into the serial port, which is the 4-pin Molex header lower right corner.
    - If your unit has Broadcast Vision, Cardio Theater, etc., the cable connects to the 8-pin header located at the bottom center of the upper PCB.
10. Place the display assembly back onto the mounting plate and install the four (4) display mounting screws.
11. The model of machine must be defined. (Rotate the pedals to power up the upper display to perform this next procedure.) When the display lights up, see if "**ELLIPTICAL**" appears in the top window. If so, use the UP arrow until the correct setting is displayed for your unit. The correct setting for your unit is "**RECUMBENT**". Press ENTER to save. If no unit type appears in the top window upon power up, the display has probably been preset at the factory. To verify this, hold the SCAN and ENTER buttons at the same time until a language type appears, then release. With either "ENGLISH" or "GERMAN" displayed, press ENTER to display the unit type. If the unit type is correct, press ENTER seven times to exit the mode. If the correct unit type is not displayed, press ENTER seven times to exit the mode, then follow step 12 to correct.
12. Press SCAN, SELECT, and PAUSE for five to six seconds to clear the E-Prom on the upper PCB. "**ELLIPTICAL**" will appear in the top window. Use the UP or DOWN arrow keys until the correct unit setting is displayed. Once the correct setting appears in the top window, press ENTER to save and exit.

    Cardio Key/ Broadcast or Cardio Theatre Set Up: If you have Cardio Key, Broadcast Theatre, or Cardio Theatre, press SCAN and ENTER at the same time until a language type appears. Press ENTER five times until "**CARDIO KEY**" or "**CSAFE COMM**" appear in the top window. Use the UP or DOWN arrow to toggle between settings. The setting for Cardio Key is "**CARDIO KEY**". The correct setting for Broadcast or Cardio Theatre is "**CSAFE COMM**". Press ENTER three times to exit the mode.

B. Upper PCB (Display) Replacement (Use this procedure for ISO1004R's with serial numbers 510-005403 thru 510-005444.)

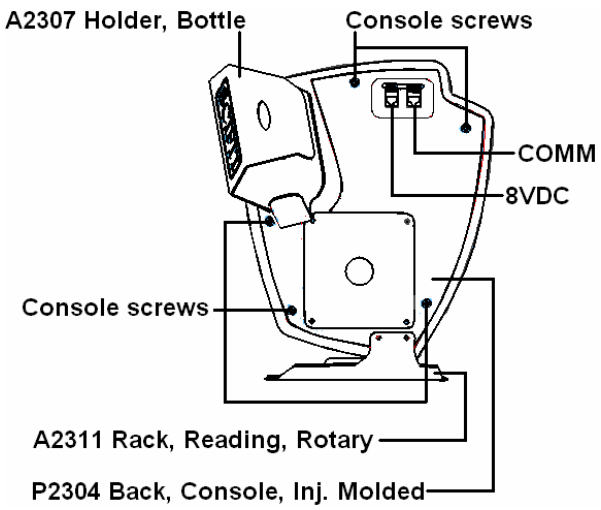


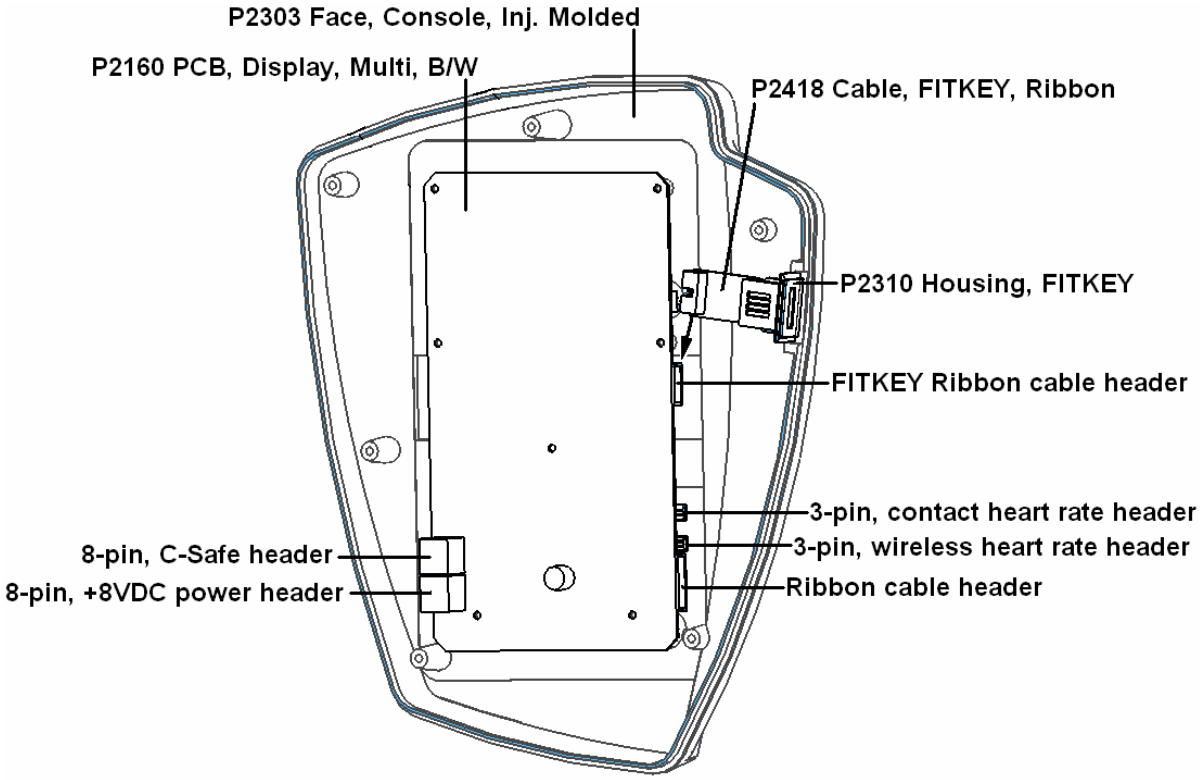
1. Using a Philips screwdriver, remove the four (4) display mounting screws on the back of the display mounting plate.
2. Disconnect all cables running to the upper PCB and remove the upper console assembly from the unit. ***Make sure the cables do not fall into the neck of the unit.***
3. Remove the two (2) outer countersunk screws in the back of the plastic console, using a Philips screwdriver. This will free the upper PCB and overlay from the plastic console. ***Do not touch any components on the upper PCB. Touching components could cause static damage.*** If the wireless heart rate PCB is still plugged into the upper PCB, unplug it.
4. Remove the six (6) standoffs from the upper PCB. This may require the use of a 5/16" nut driver or socket. The upper PCB will separate from the overlay.
5. Install the new upper PCB and replace standoffs.
6. Reconnect all cables to the upper PCB (as shown above).
    - Plug the wireless heart rate PCB back into the upper PCB. It plugs into the bottom 3-pin header on the right side of the upper PCB.

- The contact heart rate PCB has a cable coming up from the neck of the unit. This plugs into the top, 3-pin header on the right side of the upper PCB, above the wireless heart rate header.
- The ribbon cable plugs into the bottom ribbon cable header on the right side of the upper PCB.
- If your unit has Broadcast Vision, Cardio Theater, etc., the cable connects to the 8-pin, +8VDC power header. When looking at the upper PCB from the front, this header is located on the lower right backside corner of the upper PCB (as shown above).

7. Reinsert the upper PCB assembly into the front of the console.
8. Reinstall the two (2) outer countersunk screws in the back of the plastic console.
9. Place the display assembly back onto the mounting plate and install the four (4) display mounting screws.
10. The model of machine must be defined. (Rotate the pedals to power up the upper display to perform this next procedure.) When the display lights up, see if **"UNDEFINED"** appears in the top window. If so, use the UP arrow until the correct setting is displayed for your unit. The correct setting for your unit is **"RECUMBENT"** or **"ISO1000R"**. If no unit type appears in the top window upon power up, the display has probably been preset at the factory. To verify this, hold the SCAN, SELECT, and PAUSE for three seconds until **"FACTORY SETTINGS"** appears, then release. ***Do not continue to hold keys once this appears.*** Press ENTER once. If **"RECUMBENT"** or **"ISO1000R"** appears in the top window, press ENTER eight (8) times until **"UPDATING"** appears. If **"RECUMBENT"** or **"ISO1000R"** doesn't appear in the top window, press and hold SELECT and the UP or DOWN arrow simultaneously until **"RECUMBENT"** or **"ISO1000R"** does appear.
11. Verify operations of the unit by using different programs.

C. Upper PCB (Display) Replacement (Use this procedure for ISO1004R's with serial number 510-005445 thru 510-005578.)



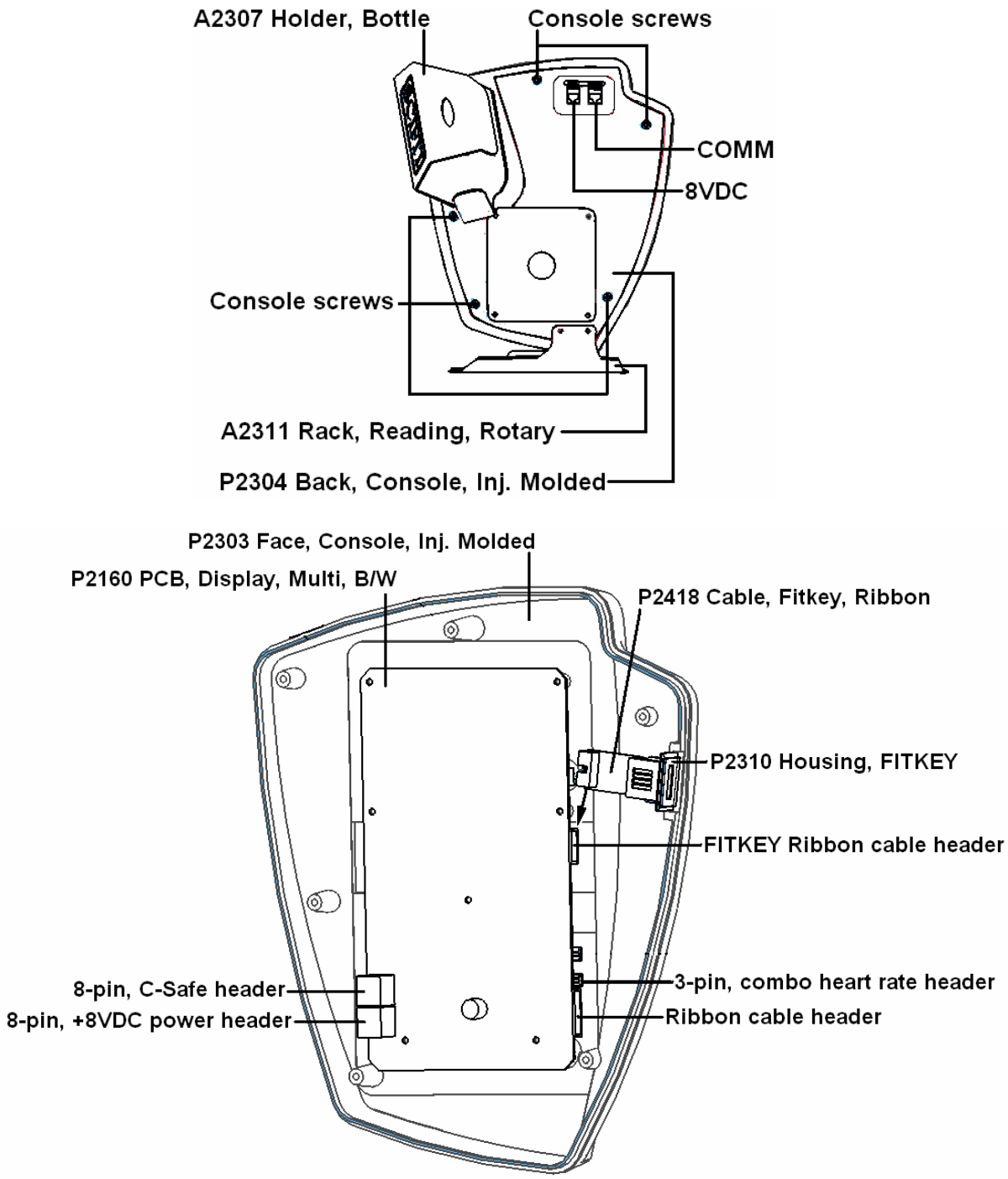


1. Remove the five (5) console screws in the console back (P2304), using a Philips screwdriver.
2. Disconnect all cables running to the upper PCB (P2160) and remove console face (P2303) from the unit. ***Make sure the cables do not fall into the neck of the unit.***
3. Remove the six (6) screws holding the upper PCB to the console face. This will free the upper PCB and overlay from the plastic console. ***Do not***

touch any components on the upper PCB. Touching components could cause static damage.

4. Install the new upper PCB.
5. Reinsert the six (6) screws through the upper PCB and into the console face. Tighten.
6. Reconnect all cables to the upper PCB.
    - Plug the wireless heart rate PCB back into the upper PCB. It plugs into the bottom 3-pin header on the right side of the upper PCB (as shown in the drawing).
    - The contact heart rate PCB has a cable coming up from the neck of the unit. This plugs into the top, 3-pin header on the right side of the upper PCB, above the wireless heart rate header (as shown in the drawing).
    - The ribbon cable plugs into the bottom ribbon cable header on the right side of the upper PCB (as shown in the drawing).
    - The FITKEY ribbon cable (P2418) plugs into the FITKEY ribbon cable header on the upper PCB. This header is located just above the contact heart rate header (as shown in the drawing).
    - There are two (2) gray Telco cables. The cable from the 8VDC jack affixed to the console back connects to the 8-pin, +8VDC power header on the upper PCB. The other cable from the COMM jack affixed to the console back connects to the 8-pin, C-Safe header.
7. Verify connections.
8. Match the console and face up to each other and install the five (5) console screws, using a Philips screwdriver.
9. The model of machine must be defined. (Rotate the pedals to power up the upper display to perform this next procedure.) When the display lights up, see if **"UNDEFINED"** appears in the top window. If so, use the UP arrow until the correct setting is displayed for your unit. The correct setting for your unit is **"RECUMBENT"** or **"ISO1000R"**. If no unit type appears in the top window upon power up, the display has probably been preset at the factory. To verify this, hold the SCAN, SELECT, and PAUSE for three seconds until **"FACTORY SETTINGS"** appears, then release. ***Do not continue to hold keys once this appears.*** Press ENTER once. If **"RECUMBENT"** or **"ISO1000R"** appears in the top window, press ENTER eight (8) times until **"UPDATING"** appears. If **"RECUMBENT"** or **"ISO1000R"** doesn't appear in the top window, press and hold SELECT and the UP or DOWN arrow simultaneously until **"RECUMBENT"** or **"ISO1000R"** does appear.
10. Verify operations of the unit by using different programs.

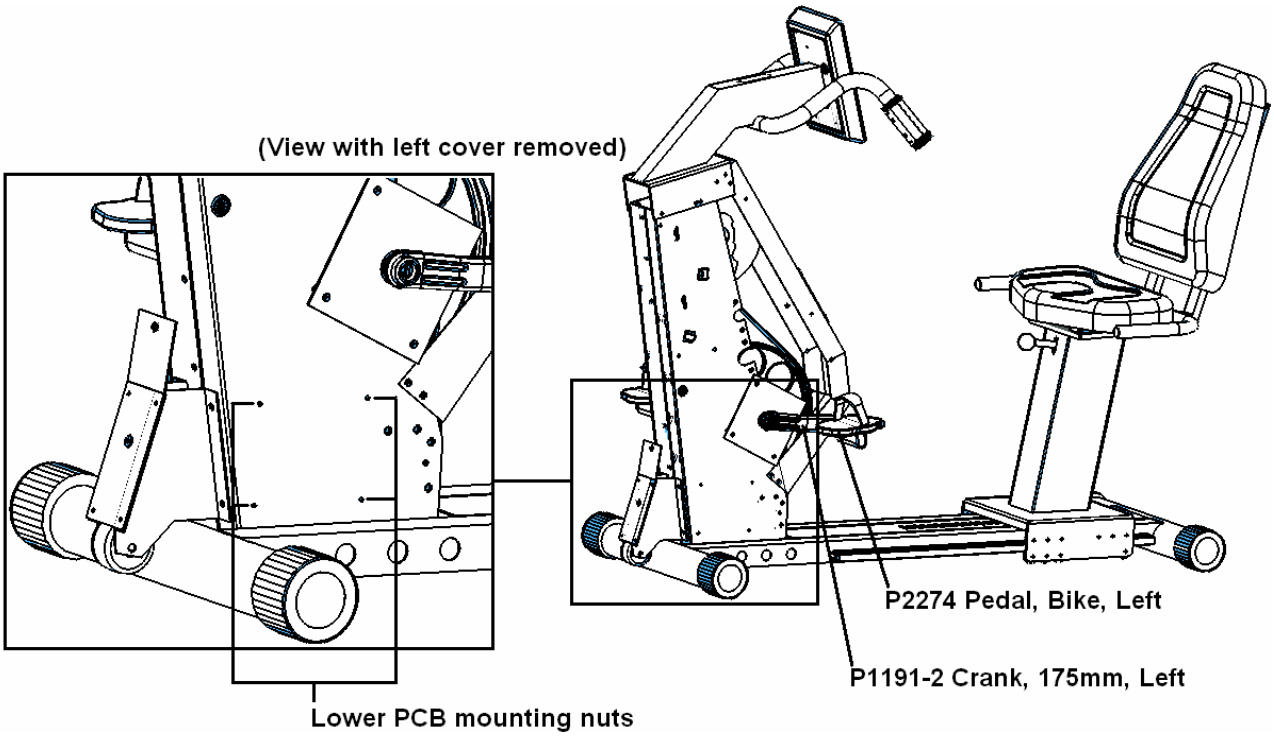
D. Upper PCB (Display) Replacement (Use this procedure for ISO1004R's with serial number 510-005779 and above.)



1. Remove the five (5) console screws in the console back (P2304), using a Philips screwdriver.

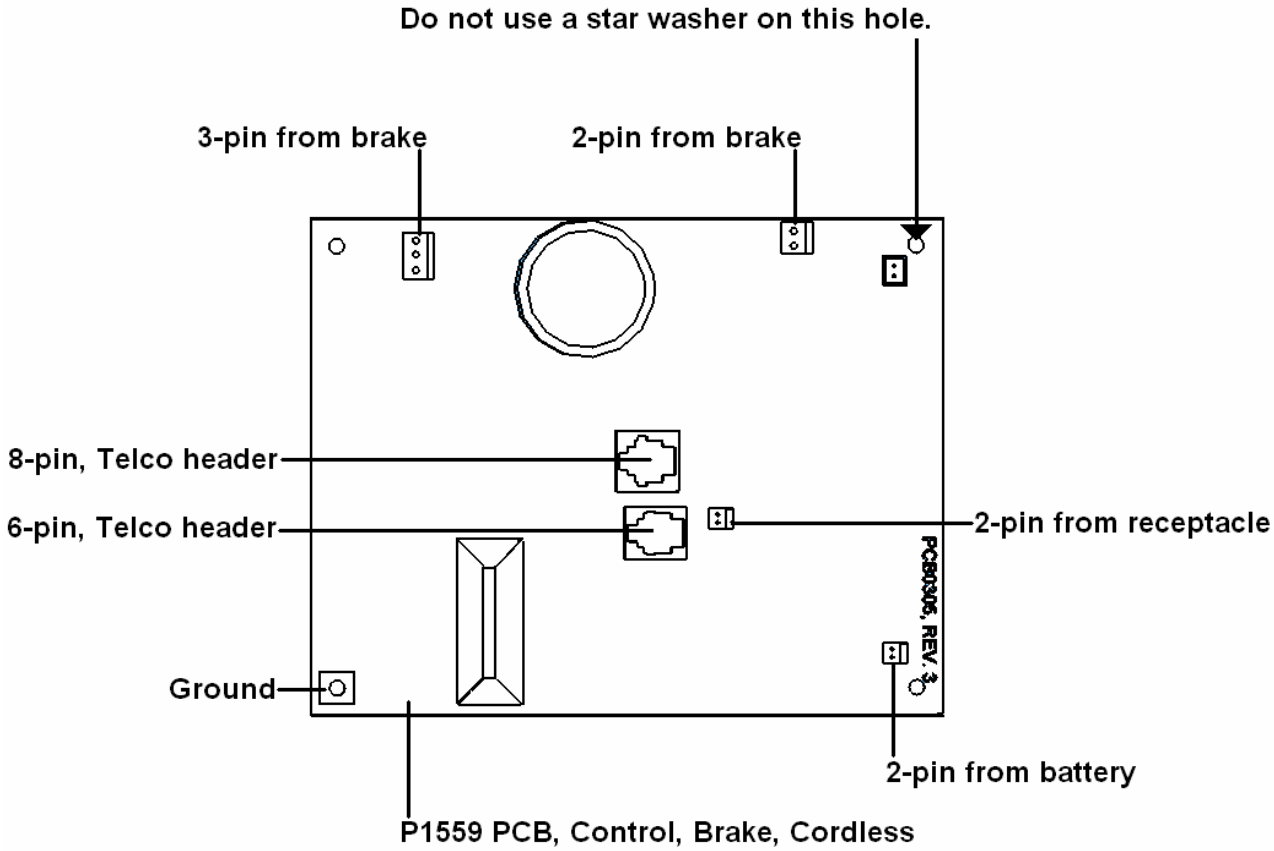
2. Disconnect all cables running to the upper PCB (P2160) and remove console face (P2303) from the unit. ***Make sure the cables do not fall into the neck of the unit.***
3. Remove the six (6) screws holding the upper PCB to the console face. This will free the upper PCB and overlay from the plastic console. ***Do not touch any components on the upper PCB. Touching components could cause static damage.***
4. Install the new upper PCB.
5. Reinsert the six (6) screws through the upper PCB and into the console face. Tighten.
6. Reconnect all cables to the upper PCB.
    - Plug the combo heart rate PCB back into the upper PCB. It plugs into the bottom 3-pin header on the right side of the upper PCB (as shown as wireless heart rate header in the drawing).
    - The ribbon cable plugs into the bottom ribbon cable header on the right side of the upper PCB (as shown in the drawing).
    - The FITKEY ribbon cable (P2418) plugs into the FITKEY ribbon cable header on the upper PCB. This header is located just above the contact heart rate header (as shown in the drawing).
    - There are two (2) gray Telco cables. The cable from the 8VDC jack affixed to the console back connects to the 8-pin, +8VDC power header on the upper PCB. The other cable from the COMM jack affixed to the console back connects to the 8-pin, C-Safe header.
7. Verify connections.
8. Match the console and face up to each other and install the five (5) console screws, using a Philips screwdriver.
9. The model of machine must be defined. (Rotate the pedals to power up the upper display to perform this next procedure.) When the display lights up, see if **"UNDEFINED"** appears in the top window. If so, use the UP arrow until the correct setting is displayed for your unit. The correct setting for your unit is **"RECUMBENT"** or **"ISO1000R"**. If no unit type appears in the top window upon power up, the display has probably been preset at the factory. To verify this, hold the SCAN, SELECT, and PAUSE for three seconds until **"FACTORY SETTINGS"** appears, then release. ***Do not continue to hold keys once this appears.*** Press ENTER once. If **"RECUMBENT"** or **"ISO1000R"** appear in the top window, press ENTER eight (8) times until **"UPDATING"** appears. If **"RECUMBENT"** or **"ISO1000R"** doesn't appear in the top window, press and hold SELECT and the UP or DOWN arrow simultaneously until **"RECUMBENT"** or **"ISO1000R"** does appear.
10. Verify operations of the unit by using different programs.

E. Lower PCB (Power Supply) Replacement (Use this procedure for ISO1004R's thru serial number 510-005402.)



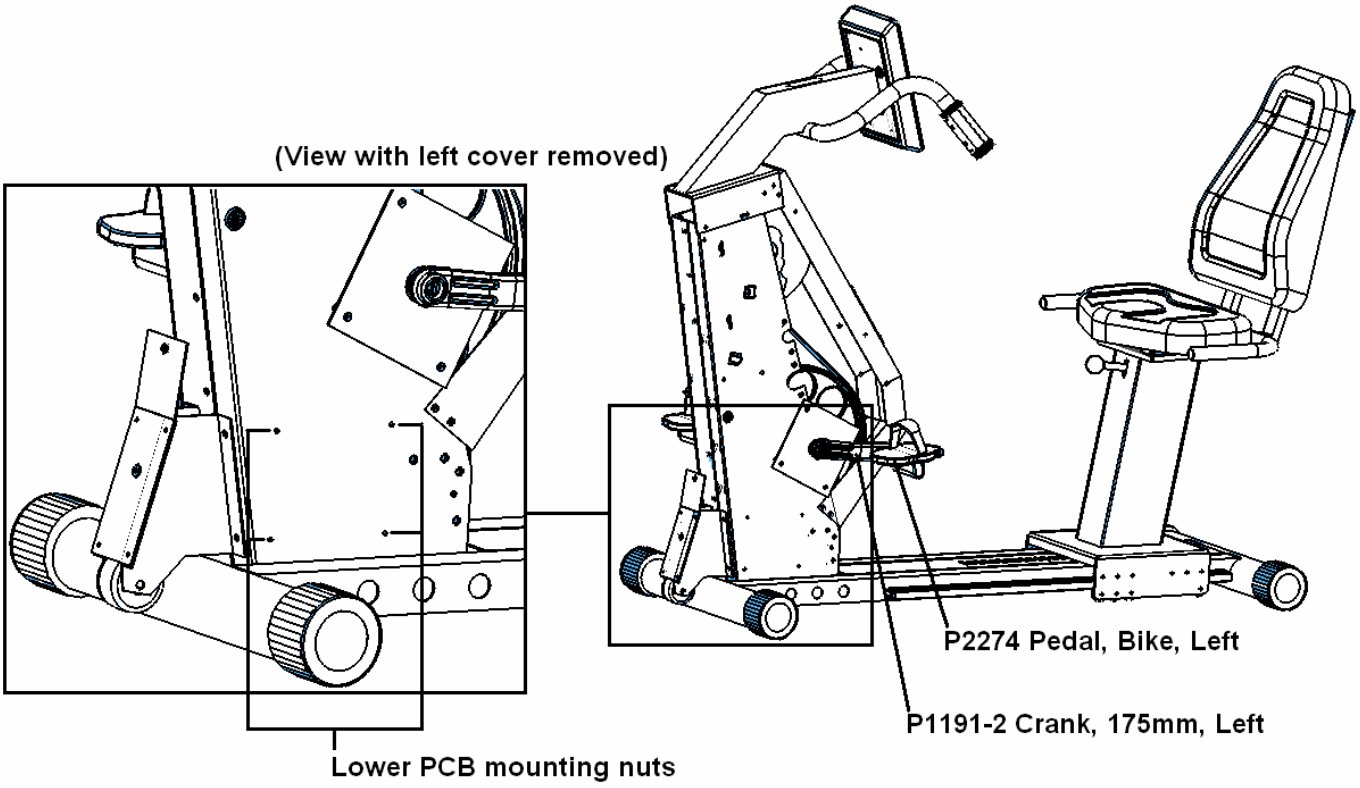
1. Remove the water bottle holder (P1092), if mounted to the cover, and left cover (S1729). A Philips screwdriver is used on the newer units, while a 1/8" Allen wrench is needed for the older units.
2. Put the left crank arm in the position shown above.
3. Slide the cover over the left crank arm (P1191-1) and left pedal (P2274) until it is completely free of the unit.
4. Remove the four (4) lower PCB mounting nuts, located on the left side of the monocoque (silver framework), using a 5/16" socket or wrench.
5. Lay the unit over on its left side.
6. Lift the lower PCB (P1559) up slightly and pull out the bottom of the unit. One zip-tie may need to be cut to give the wires enough slack to remove the lower PCB from the bottom of the unit. ***Make sure you are grounded when handling electronics. Do not touch any components on the lower PCB. Static damage can occur.***
7. Disconnect all wires running to the lower PCB.
8. Using a Philips screwdriver, transfer the standoffs from the old lower PCB to the new lower PCB. To remove a standoff, unscrew the Philips screw and star washer running through each corner of the lower PCB. One screw doesn't have a star washer. When putting the standoffs on the new lower PCB, it is important to install star washer on the same three (3) hole locations as the old one. Refer to lower PCB picture above to confirm. ***Warning: Installing a star washer on the hole that is not supposed to get one will short out the lower PCB.***

9. Reconnect all wires to the lower PCB. Confirm connections with the lower PCB picture below.



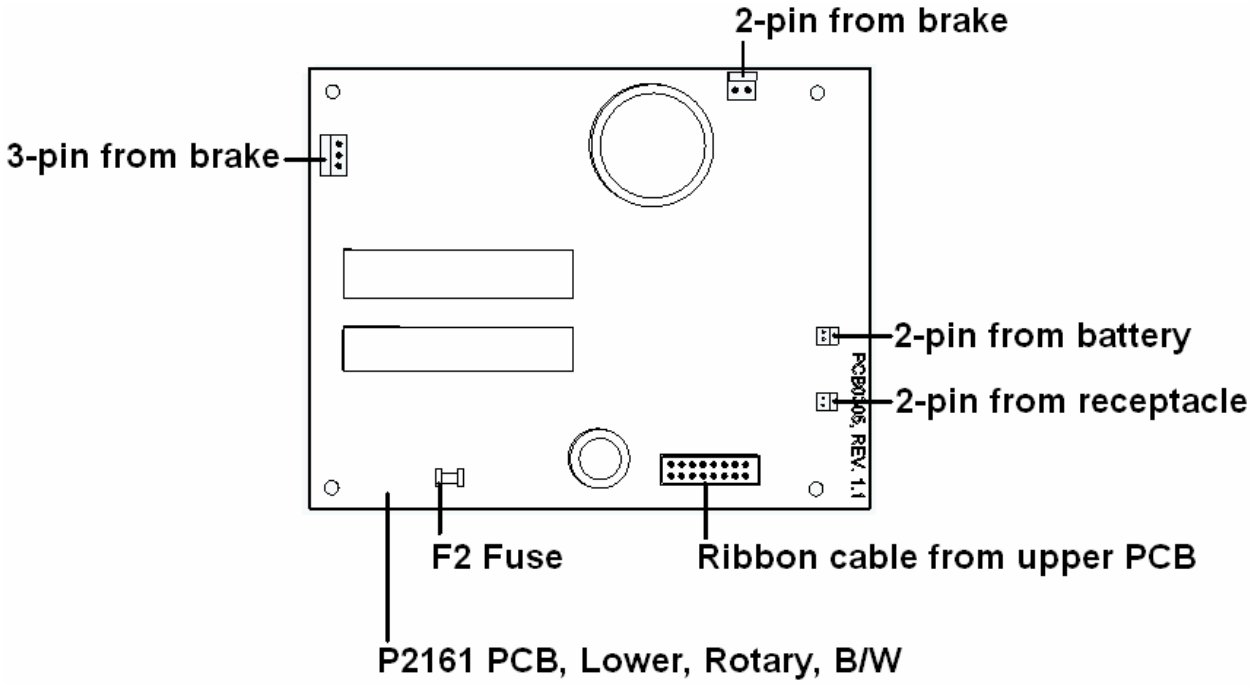
10. Install lower PCB back inside unit. Push the threaded ends of the standoffs through the mounting holes. Attach mounting nuts to each standoff and tighten.
11. Verify all connections on the lower PCB are secure.
12. Return unit to the upright position.
13. Rotate the crank arms to see if the upper display lights up. If display lights up, do an operations test. Go into different programs to verify unit is working correctly.
14. Reinstall cover.

F. Lower PCB (Power Supply) Replacement (Use this procedure for ISO1004R with serial numbers 510-005403 and above.)



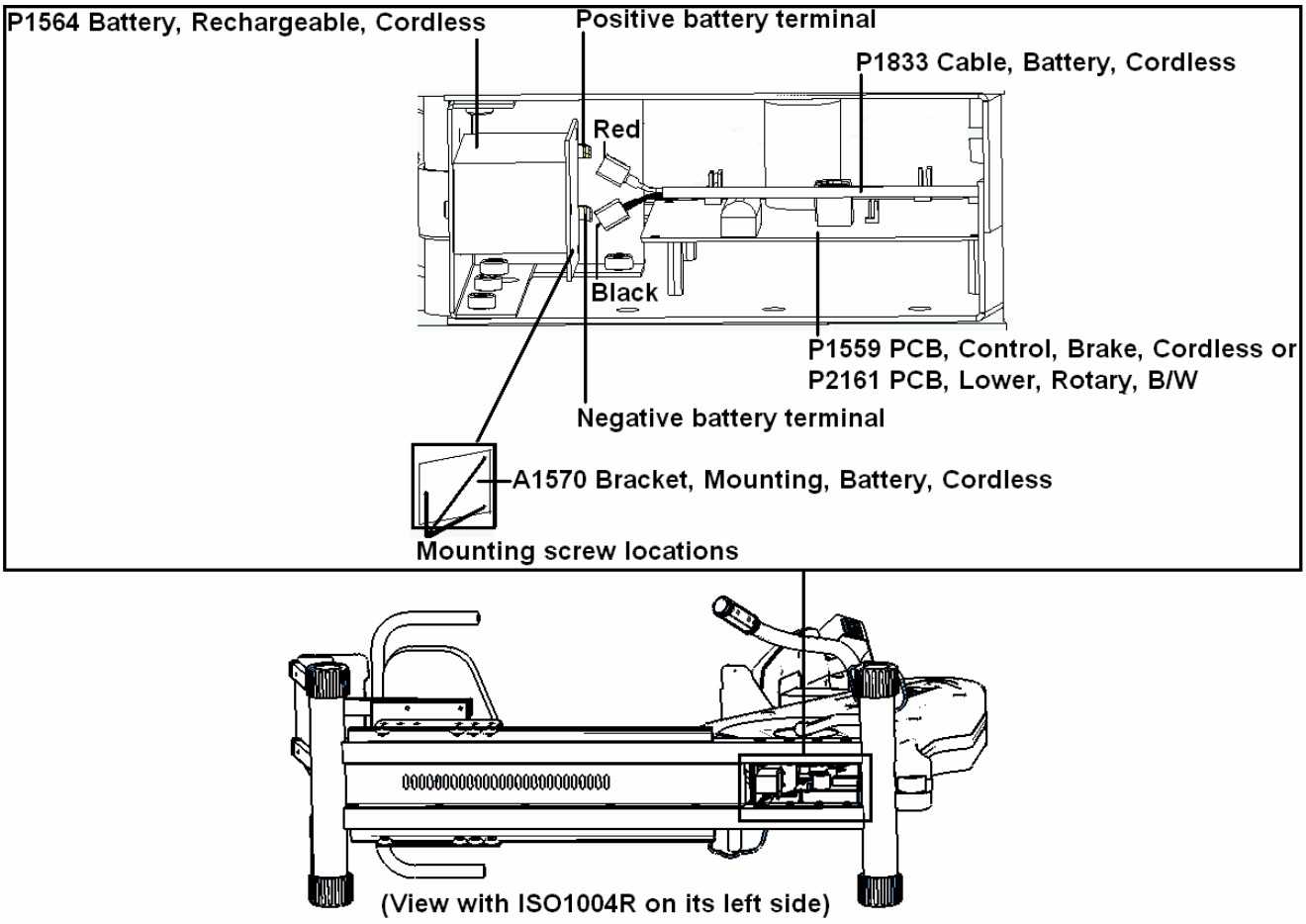
1. Remove the water bottle holder, if mounted to the covers, and left cover (S1729). A Philips screwdriver is used on the newer units, while a 1/8" Allen wrench is needed for the older units.
2. Put the left crank arm in the position shown above.
3. Slide the cover over the left crank arm (P1191-1) and left pedal (P2274) until it is completely free of the unit.
4. Remove the four (4) lower PCB mounting nuts, located on the left side of the monocoque (silver framework), using a 5/16" socket or wrench.
5. Lay the unit over on its left side.
6. Lift the lower PCB (P2161) up slightly and pull out the bottom of the unit. One zip-tie may need to be cut to give the wires enough slack to remove the lower PCB from the bottom of the unit. ***Make sure you are grounded when handling electronics. Do not touch any components on the lower PCB. Static damage can occur.***
7. Disconnect all wires running to the lower PCB.
8. Using a Philips screwdriver, transfer the standoffs from the old lower PCB to the new lower PCB. To remove a standoff, unscrew the Philips screw and star washer running through each corner of the lower PCB.

9. Reconnect all wires to the lower PCB. Confirm connections with the lower PCB picture below.



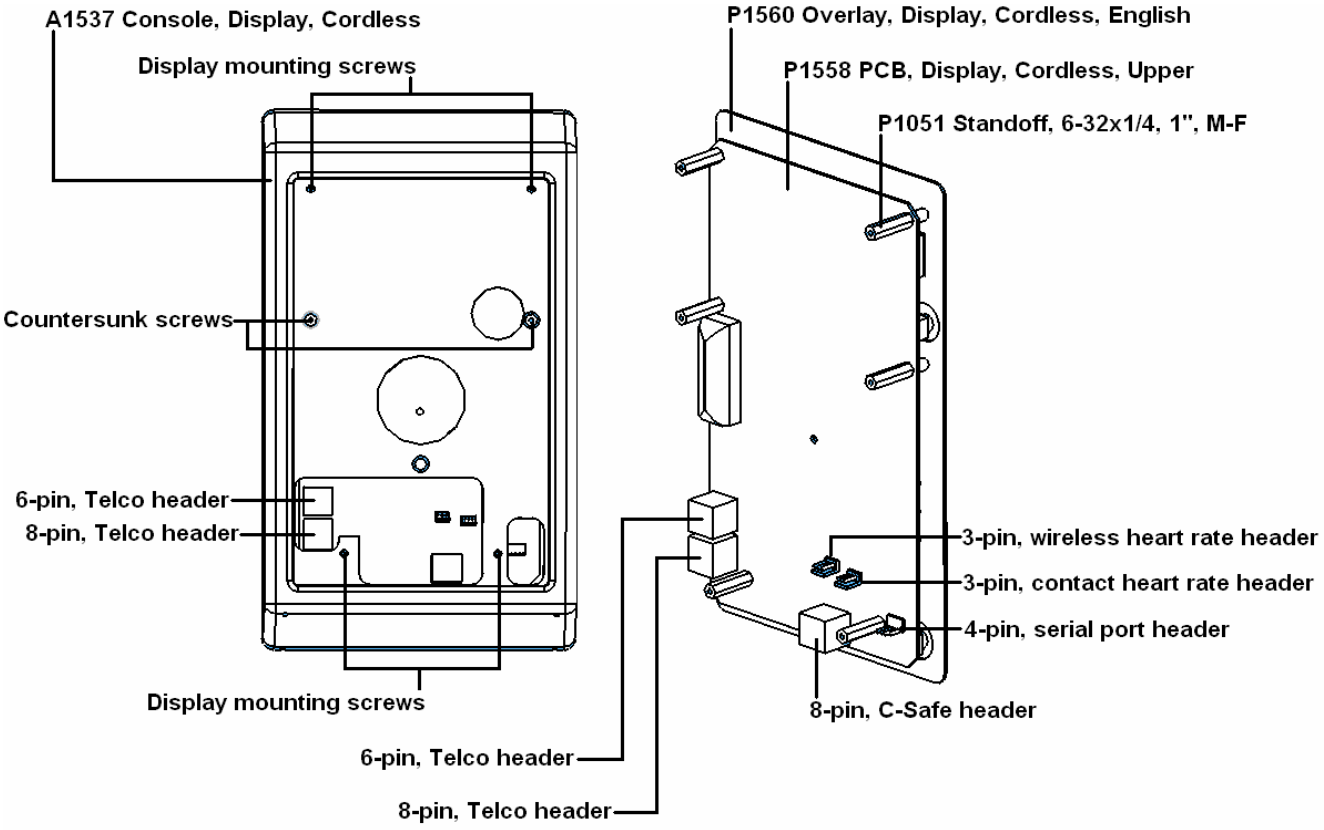
10. Install lower PCB back inside unit. Push the threaded ends of the standoffs through the mounting holes. Attach mounting nuts to each standoff and tighten.
11. Verify all connections on the lower PCB are secure.
12. Return unit to the upright position.
13. Rotate the crank arms to see if the upper display lights up. If display lights up, do an operations test. Use different programs to verify unit is working correctly.
14. Reinstall cover.

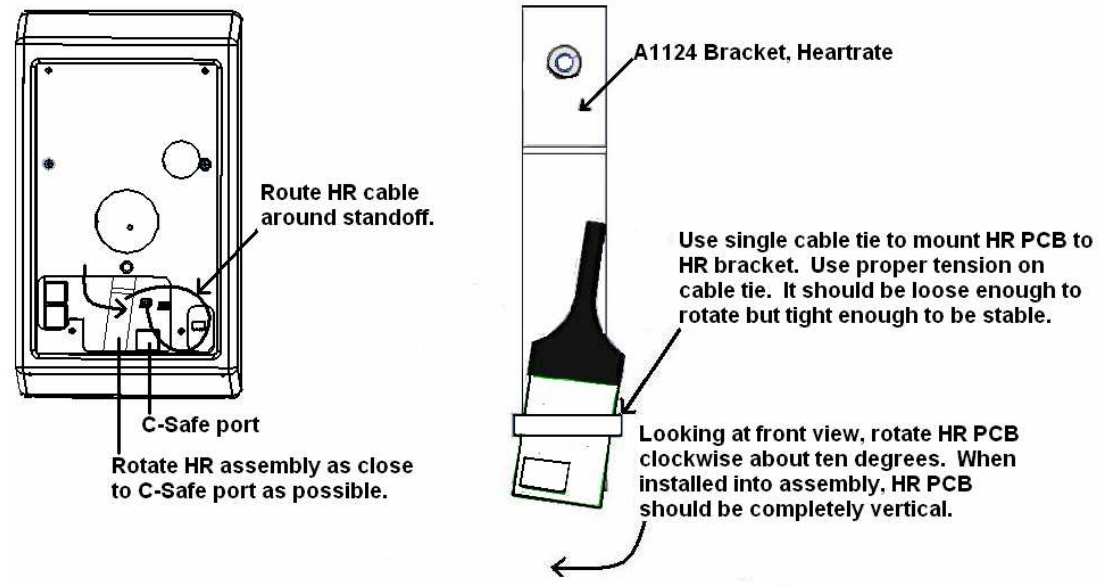
G. Battery Replacement



1. Lay the unit on its left side and locate the battery.
2. Remove the three (3) Philips screws running through the battery mounting bracket (A1570).
3. Pull the battery out the bottom of the unit.
4. Disconnect the two (2) wires connected to the battery.
5. Connect the two (2) wires to the new battery. The red wire connects to the positive terminal while the black wire connects to the negative terminal.
6. Install the new battery.
7. Install the battery mounting bracket.
8. Insert the three (3) screws through the battery mounting bracket and tighten down.
9. Verify connections and stand the unit upright.
10. Test unit operations.

H. Wireless Heart Rate PCB Replacement (Use this procedure for ISO1004R's with serial numbers thru 510-005402.)

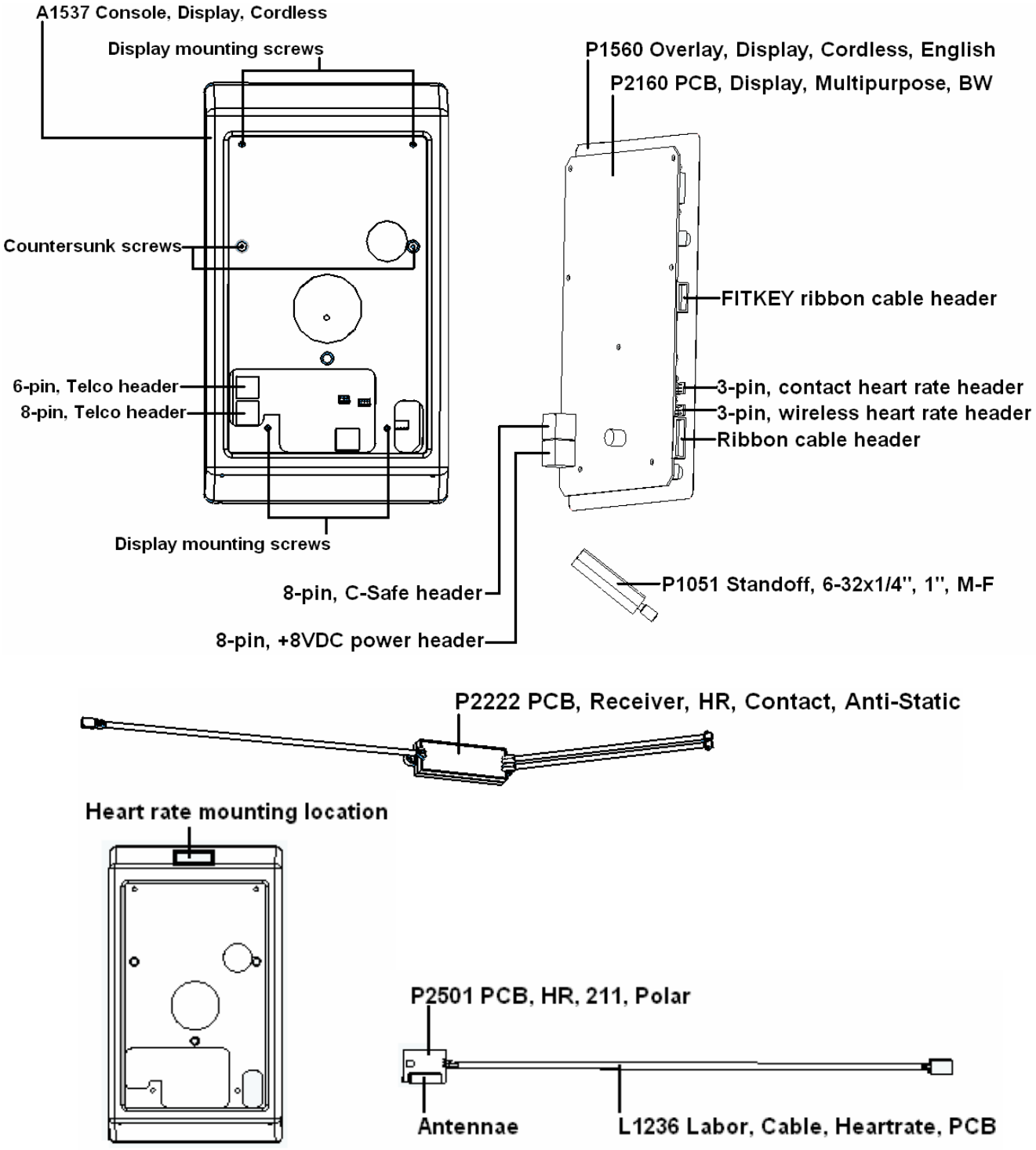




1. Using a Philips screwdriver, remove the four (4) display mounting screws on the back of the display mounting plate.

2. Disconnect all cables running to the upper PCB and remove the upper console assembly from the unit. ***Make sure the cables do not fall into the neck of the unit.***
3. Remove the two (2) outer countersunk screws in the back of the plastic console using a Philips screwdriver. This will free the upper PCB and overlay from the plastic console. ***Do not touch any components on the upper PCB. Touching components could cause static damage.*** If the wireless heart rate PCB is still plugged into the upper PCB, unplug it now.
4. Using a Philips screwdriver, remove the center, countersunk screw that mounts the wireless heart rate bracket.
5. Cut the zip-tie holding the wireless heart rate PCB to the bracket.
6. Mount the new wireless heart rate PCB onto the bracket (as shown in the picture at the top of the page).
7. Reinstall the wireless heart rate assembly back into the console but do not tighten in screw all the way down. When looking at the console from the front, rotate the wireless heart rate PCB clockwise, about ten (10) degrees. When properly installed, the wireless heart rate PCB should be completely vertical. Tighten the screw to lock in place.
8. Reinstall the upper display assembly. When looking at the console assembly from the backside, loop the wireless heart rate cable around the lower right standoff. Plug the wireless heart rate PCB back into the upper PCB. It plugs into the centermost, 3-pin Molex header.
9. Reinstall the two (2), outer countersunk screws in the back of the plastic console.
10. Reconnect all cables to the upper PCB.
    - The contact heart rate PCB has a cable coming up from the neck of the unit. This plugs into the outermost, 3-pin Molex header next to the wireless heart rate PCB header.
    - When looking at the back of the upper PCB, the Telco cables plug in along the left edge. The 6-pin plugs into the top plug and the 8-pin plugs into the bottom plug.
    - If your unit has Cardio Key, the cable plugs into the serial port, which is the 4-pin Molex header lower right corner.
    - If your unit has Broadcast Vision, Cardio Theater, etc., the cable connects to the 8-pin header located at the bottom center of the upper PCB.
11. Place the display assembly back onto the mounting plate and install the four (4) display screws.

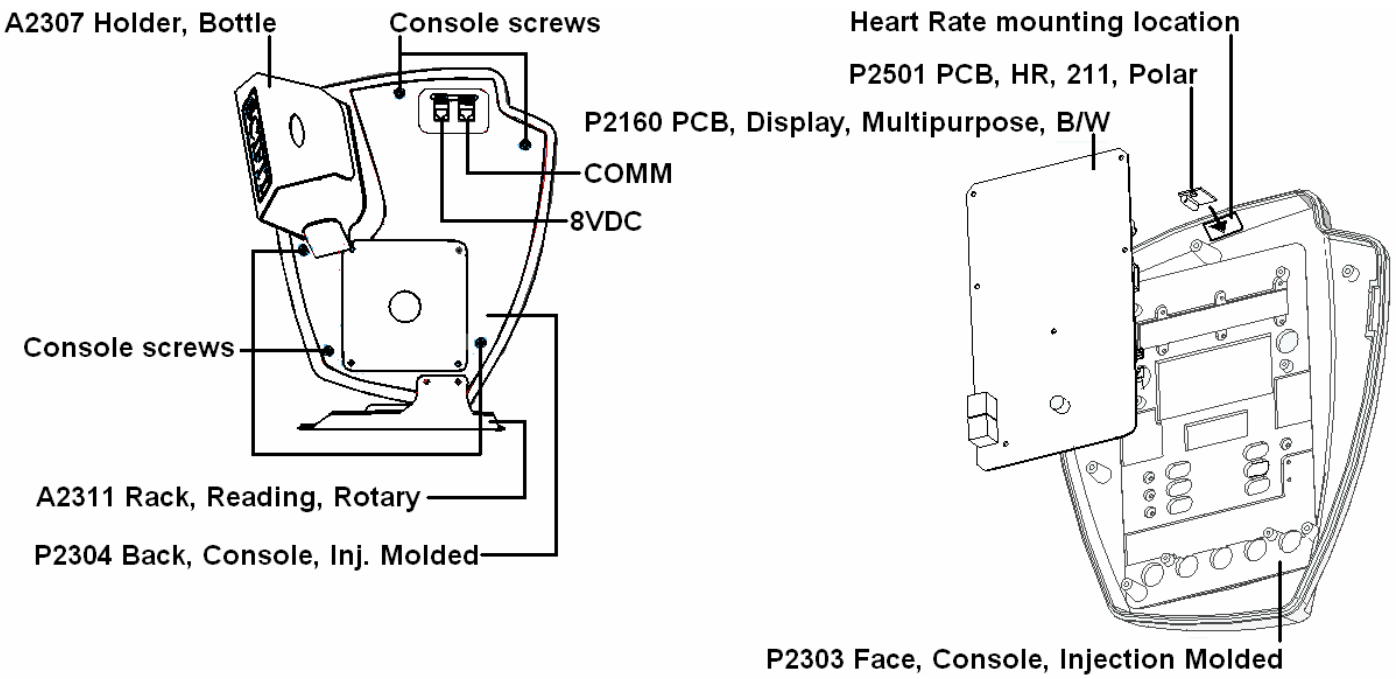
I. Wireless Heart Rate PCB Replacement (Use this procedure for ISO1004R's with serial numbers 510-005403 thru 510-005444.)

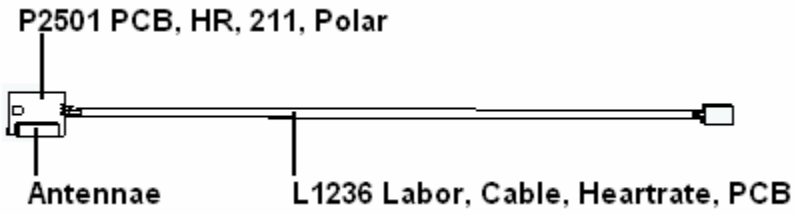


1. Using a Philips screwdriver, remove the four (4) display mounting screws on the back of the display mounting plate.

2. Disconnect all cables running to the upper PCB (P2160) and remove the upper console assembly from the unit. ***Make sure the cables do not fall into the neck of the unit.***
3. Remove the two (2) outer countersunk screws in the back of the plastic console, using a Philips screwdriver. This will free the upper PCB and overlay (P1560) from the plastic console. ***Do not touch any components on the upper PCB. Touching components could cause static damage.*** If the wireless heart rate PCB (P2501) is still plugged into the upper PCB, unplug it.
4. Locate the wireless heart rate PCB mounting location.
5. Peel the old wireless heart rate PCB from the console.
6. Clean the wireless heart rate PCB mounting location.
7. Apply adhesive to the back of the wireless heart rate PCB.
8. Mount the wireless heart rate PCB.
9. Reconnect all cables to the upper PCB (as shown at the top of this procedure).
    - Plug the wireless heart rate PCB back into the upper PCB. It plugs into the bottom 3-pin header on the right side of the upper PCB (as shown above).
    - The contact heart rate PCB has a cable coming up from the neck of the unit. This plugs into the top, 3-pin header on the right side of the upper PCB, above the wireless heart rate header.
    - The ribbon cable plugs into the bottom ribbon cable header on the right side of the upper PCB.
    - If your unit has Broadcast Vision, Cardio Theater, etc., the cable connects to the 8-pin, +8VDC power header. When looking at the upper PCB from the front, this header is located on the lower right backside corner of the upper PCB (as shown above).
10. Reinsert the upper PCB assembly into the front of the console.
12. Reinstall the two (2) outer countersunk screws in the back of the plastic console.
13. Place the display assembly back onto the mounting plate and install the four (4) display mounting screws.

J. Wireless Heart Rate PCB Replacement (Use this procedure for ISO1004R's with serial numbers 510-005445 thru 510-005578.)

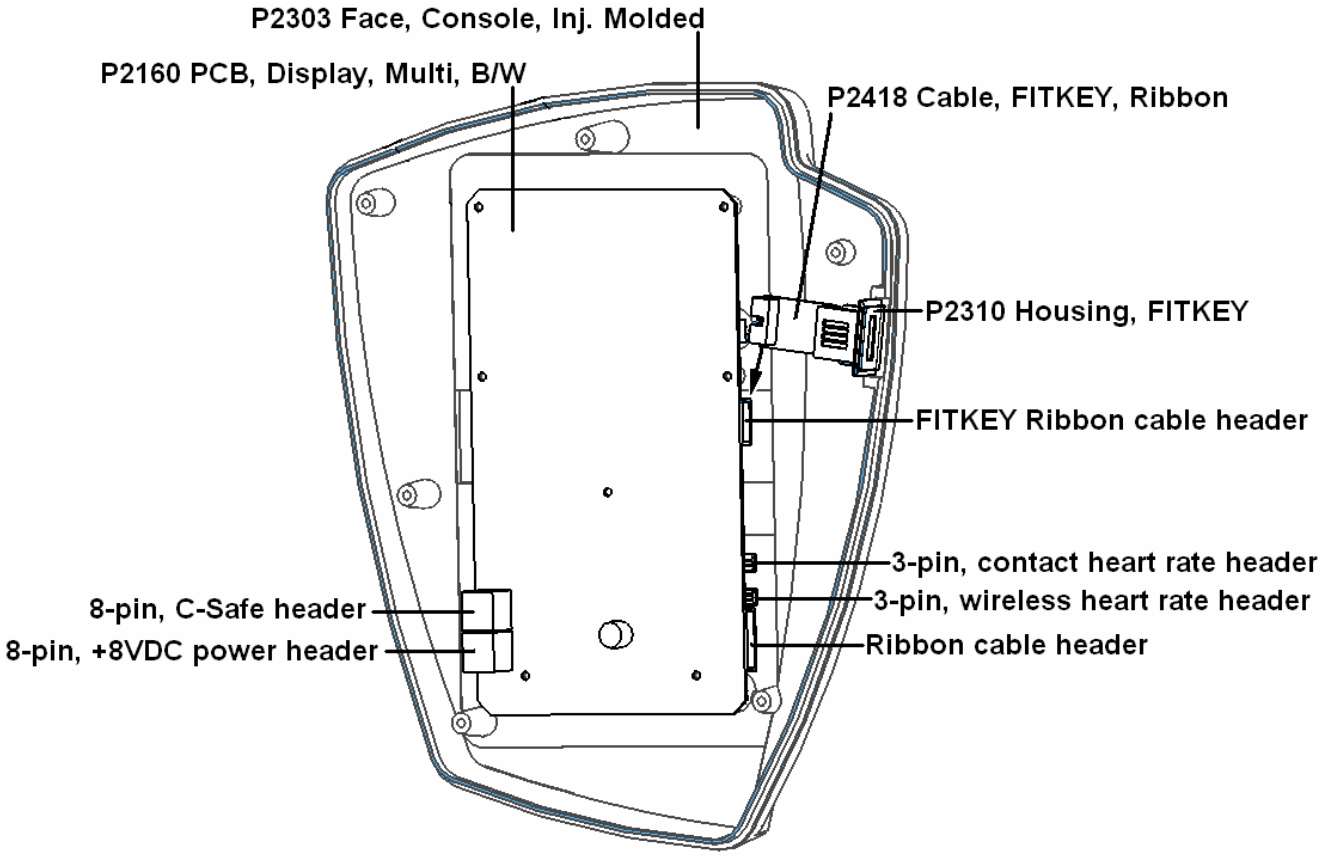




1. Remove the five (5) console screws in the console back (P2304), using a Philips screwdriver.
2. Disconnect all cables running to the upper PCB (P2160) and remove console face (P2303) from the unit. ***Make sure the cables do not fall into the neck of the unit.***
3. Locate the wireless heart rate mounting location.
4. Peel the old wireless heart rate PCB (P2501) from the console face.
5. Clean the wireless heart rate mounting location.
6. Apply adhesive to the back of the wireless heart rate PCB.
7. Mount the wireless heart rate PCB.
8. Reconnect all cables to the upper PCB (as shown below).
    - Plug the wireless heart rate PCB back into the upper PCB. It plugs into the bottom 3-pin header on the right side of the upper PCB (as shown in the drawing).
    - The contact heart rate PCB has a cable coming up from the neck of the unit. This plugs into the top, 3-pin header on the right side of

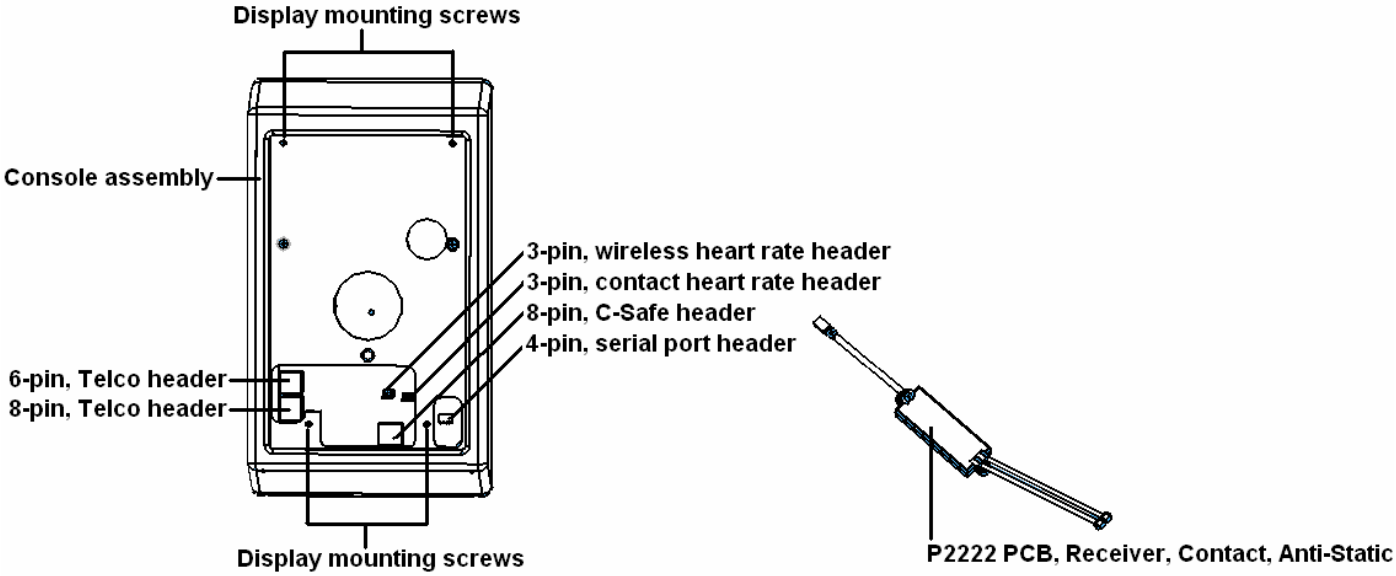
the upper PCB, above the wireless heart rate header (as shown in the drawing).

- The ribbon cable plugs into the bottom ribbon cable header on the right side of the upper PCB (as shown in the drawing).
- The FITKEY ribbon cable (P2418) plugs into the FITKEY ribbon cable header on the upper PCB. This header is located just above the contact heart rate header (as shown in the drawing).
- There are two (2) gray Telco cables. The cable from the 8VDC jack affixed to the console back connects to the 8-pin, +8VDC power header on the upper PCB. The other cable from the COMM jack affixed to the console back connects to the 8-pin, C-Safe communications header.



9. Verify connections.
10. Match the console and face up to each other and install the five (5) console screws, using a Philips screwdriver.
11. Test operation of the unit and wireless heart rate.

K. Contact Heart Rate PCB Replacement (Use this procedure for all ISO1004R's thru serial number 510-005402.)

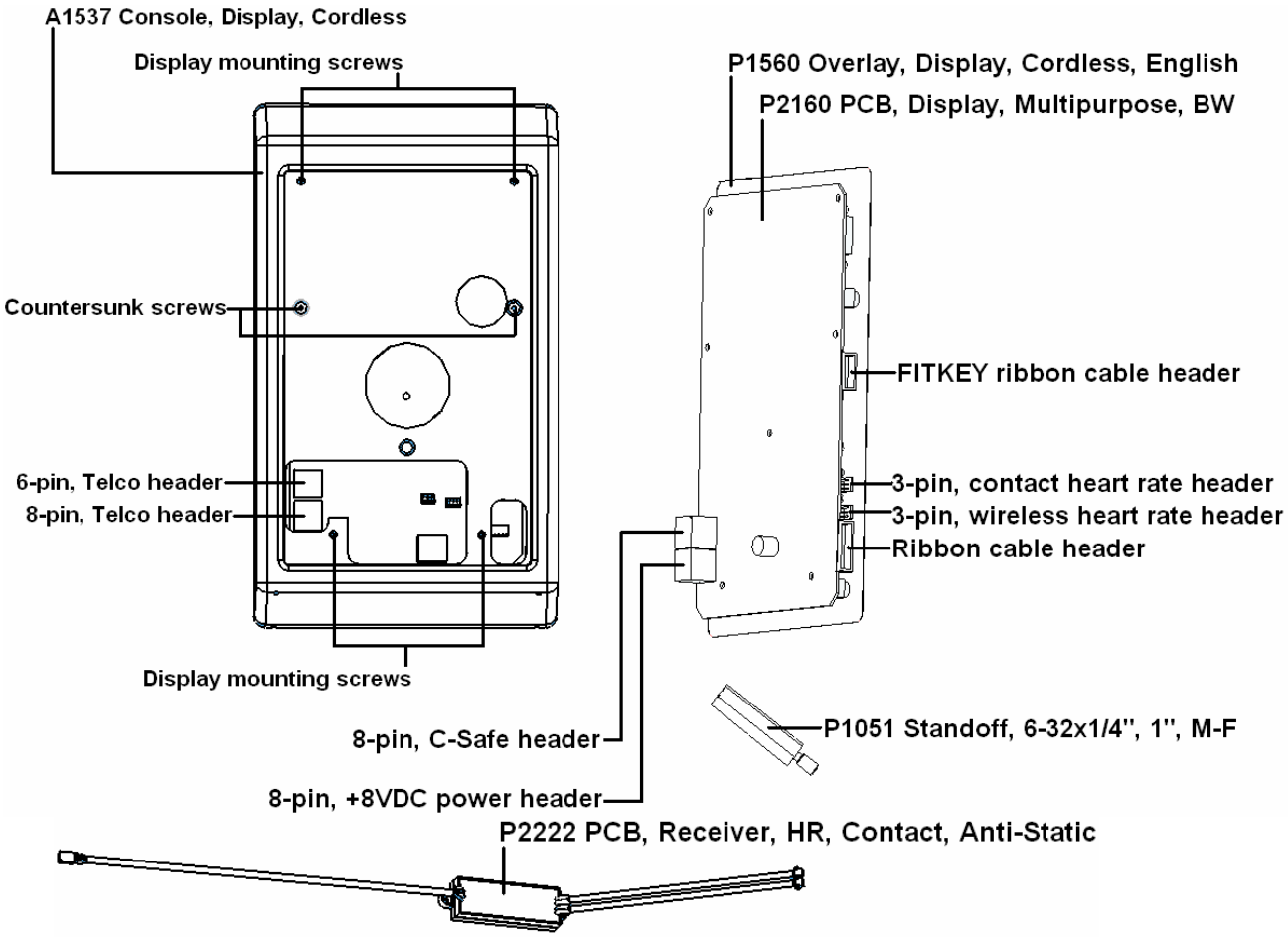


1. Using a Philips screwdriver, remove the four (4) display mounting screws on the back of the display mounting plate.
2. Disconnect all cables running from the neck of the unit to the upper PCB and remove the upper console assembly from the unit. ***Make sure the cables do not fall into the neck of the unit.***
3. Pop the grommet out of the hole leading down into the neck of the unit.
4. Pull the small, round, black or gray-jacketed cable that connects to the contact heart rate PCB (P2222) up through the hole in the neck until you see two (2) connection points.
5. Disconnect each connection by pressing down on the raised tabs and pulling the cables apart. ***Do not let the cables fall down into the neck of the unit.***
6. Install the new contact heart rate PCB. Line up the connectors. The hook on the contact heart rate PCB cable header should line up with the raised tab on the other cable. Push the connections together until they snap in place.
7. Remove the anti-static foam from the old contact heart rate PCB and install on the new one.
8. Reinsert the contact heart rate PCB into the neck of the unit.
9. Run the cables through the center of the grommet. Reinstall the grommet into the hole of the neck.
10. Reconnect all cables to the upper PCB.
    - The contact heart rate PCB has a cable coming up from the neck of the unit. This plugs into the outermost, 3-pin Molex header next to where the wireless heart rate PCB plugs into.

- When looking at the back of the upper PCB, the Telco cables plug in along the left edge. The 6-pin plugs into the top plug and the 8-pin plugs into the bottom plug.
- If your unit has Cardio Key, the cable plugs into the serial port, which is the 4-pin Molex header lower right corner.
- If your unit has Broadcast Vision, Cardio Theater, etc., the cable connects to the 8-pin header located at the bottom center of the upper PCB.

11. Place the console assembly back onto the mounting plate and install the four (4) display mounting screws.

L. Contact Heart Rate PCB Replacement (Use this procedure for ISO1004R's with serial numbers 510-005403 thru 510-005444.)

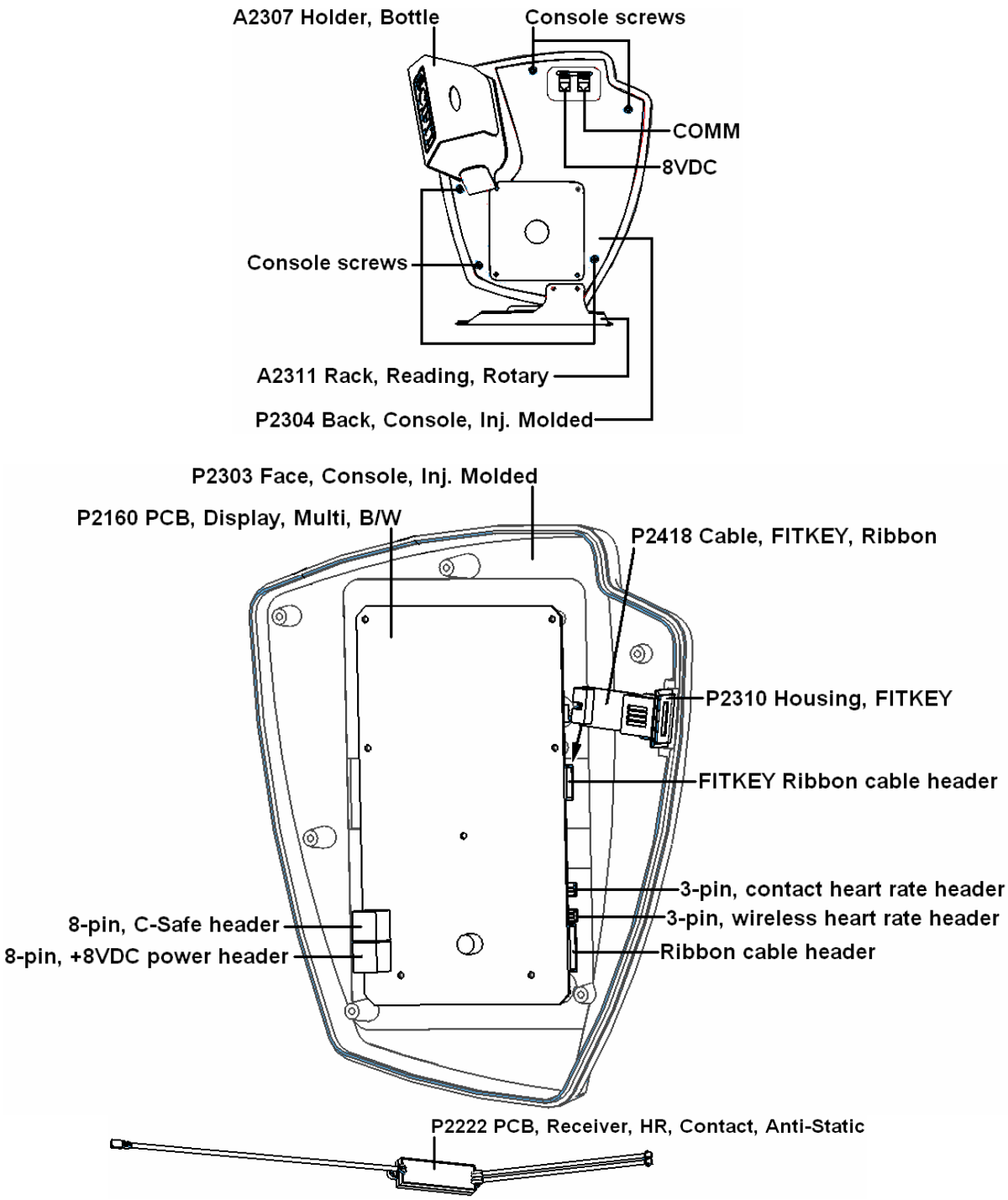


1. Using a Philips screwdriver, remove the four (4) display mounting screws on the back of the display mounting plate.
2. Remove the two (2) outer countersunk screws in the back of the plastic console (A1537), using a Philips screwdriver. This will free the upper PCB (P2160) and overlay (P1560) from the plastic console. ***Do not touch any***

components on the upper PCB. Touching components could cause static damage.

3. Disconnect all cables running to the upper PCB and remove the upper console assembly from the unit. ***Make sure the cables do not fall into the neck of the unit.***
4. Pop the grommet out of the hole leading down into the neck of the unit.
5. Pull the small, round, black or gray-jacketed cable that connects to the contact heart rate PCB (P2222) up through the hole in the neck until you see two (2) connection points.
6. Disconnect each connection by pressing down on the raised tabs and pulling the cables apart. ***Do not let the cables fall down into the neck of the unit.***
7. Install the new contact heart rate PCB. Line up the connectors. The hook on the contact heart rate PCB cable header should line up with the raised tab on the other cable. Push the connections together until they snap in place.
8. Remove the anti-static foam from the old contact heart rate PCB and install on the new one.
9. Reinsert the contact heart rate PCB into the neck of the unit.
10. Run the cables through the center of the grommet.
11. Reinstall the grommet into the hole of the neck.
12. Reinsert cables through the hole in the back of the console.
13. Reconnect all cables to the upper PCB (as shown at top of this procedure).
    - Plug the wireless heart rate PCB back into the upper PCB. It plugs into the bottom 3-pin header on the right side of the upper PCB (as shown above).
    - The contact heart rate PCB has a cable coming up from the neck of the unit. This plugs into the top, 3-pin header on the right side of the upper PCB, above the wireless heart rate header.
    - The ribbon cable plugs into the bottom ribbon cable header on the right side of the upper PCB.
    - If your unit has Broadcast Vision, Cardio Theater, etc., the cable connects to the 8-pin, +8VDC power header. When looking at the upper PCB from the front, this header is located on the lower right backside corner of the upper PCB (as shown above).
14. Reinsert the upper PCB assembly into the front of the console.
15. Reinstall the two (2) outer countersunk screws in the back of the plastic console.
16. Place the display assembly back onto the mounting plate and install the four (4) display mounting screws.
17. Verify operations of the contact heart rate by using different programs except Heart Rate Control program. The Heart Rate Control program requires the use of a wireless chest strap.

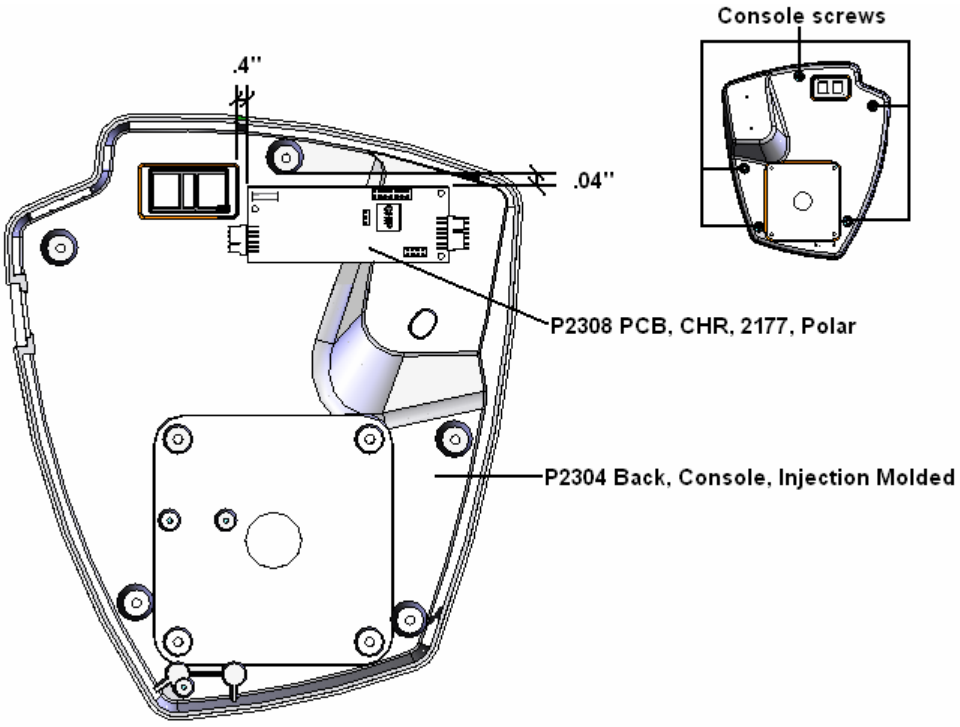
M. Contact Heart Rate PCB Replacement (Use this procedure for ISO1004R's with serial numbers 510-005445 thru 510-005578.)



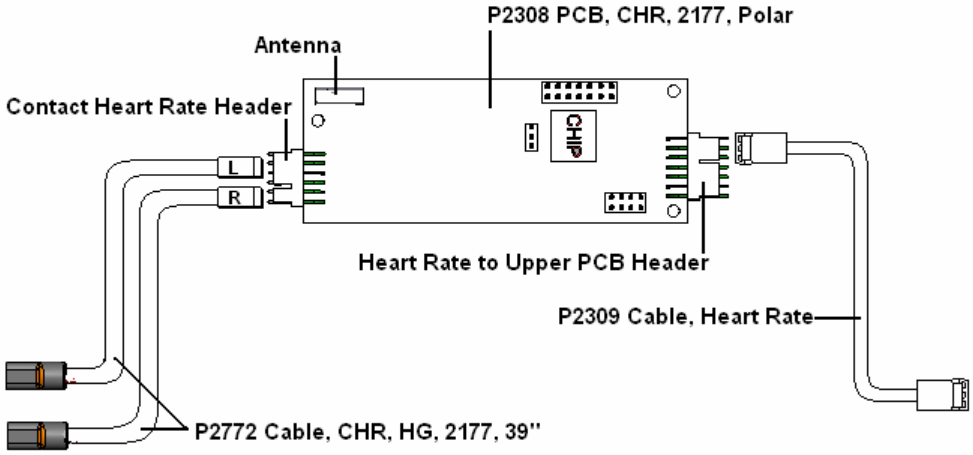
1. Remove the five (5) console screws in the console back (P2304), using a Philips screwdriver.
2. Disconnect all cables running to the upper PCB (P2160) and remove console face (P2303) from the unit. ***Make sure the cables do not fall into the neck of the unit.***

3. Remove the four (4) display mounting screws to remove the console back from the mounting plate. ***Make sure the cables do not fall into the neck of the unit.***
4. Pop the grommet out of the hole leading down into the neck of the unit.
5. Pull the small, round, black or gray-jacketed cable that connects to the contact heart rate PCB (P2222) up through the hole in the neck until you see two (2) connection points.
6. Disconnect each connection by pressing down on the raised tabs and pulling the cables apart. ***Do not let the cables fall down into the neck of the unit.***
7. Install the new contact heart rate PCB. Line up the connectors. The hook on the contact heart rate PCB cable header should line up with the raised tab on the other cable. Push the connections together until they snap in place.
8. Remove the anti-static foam from the old contact heart rate PCB and install on the new one.
9. Reinsert the contact heart rate PCB into the neck of the unit.
10. Run the cables through the center of the grommet. Reinstall the grommet into the hole of the neck.
11. Run cables through the hole in the console back.
12. Remount the console back by reinstalling the four (4) display mounting screws.
13. Reconnect all cables to the upper PCB (as shown at the top of procedure).
    - Plug the wireless heart rate PCB back into the upper PCB. It plugs into the bottom 3-pin header on the right side of the upper PCB (as shown in the drawing).
    - The contact heart rate PCB has a cable coming up from the neck of the unit. This plugs into the top, 3-pin header on the right side of the upper PCB, above the wireless heart rate header (as shown in the drawing).
    - The ribbon cable plugs into the bottom ribbon cable header on the right side of the upper PCB (as shown in the drawing).
    - The FITKEY ribbon cable (P2418) plugs into the FITKEY ribbon cable header on the upper PCB. This header is located just above the contact heart rate header (as shown in the drawing).
    - There are two (2) gray Telco cables. The cable from the 8VDC jack affixed to the console back connects to the 8-pin, +8VDC power header on the upper PCB. The other cable from the COMM jack affixed to the console back connects to the 8-pin, C-Safe communications header.
14. Verify connections.
15. Match the console and face up to each other and install the five (5) console screws, using a Philips screwdriver.
16. Verify operations of the contact heart rate by using different programs except the Heart Rate Control program. The Heart Rate Control program requires the use of a wireless chest strap.

N. Combo Heart Rate PCB Replacement (Use this procedure for ISO1004R's with serial numbers 510-005579 and above.)



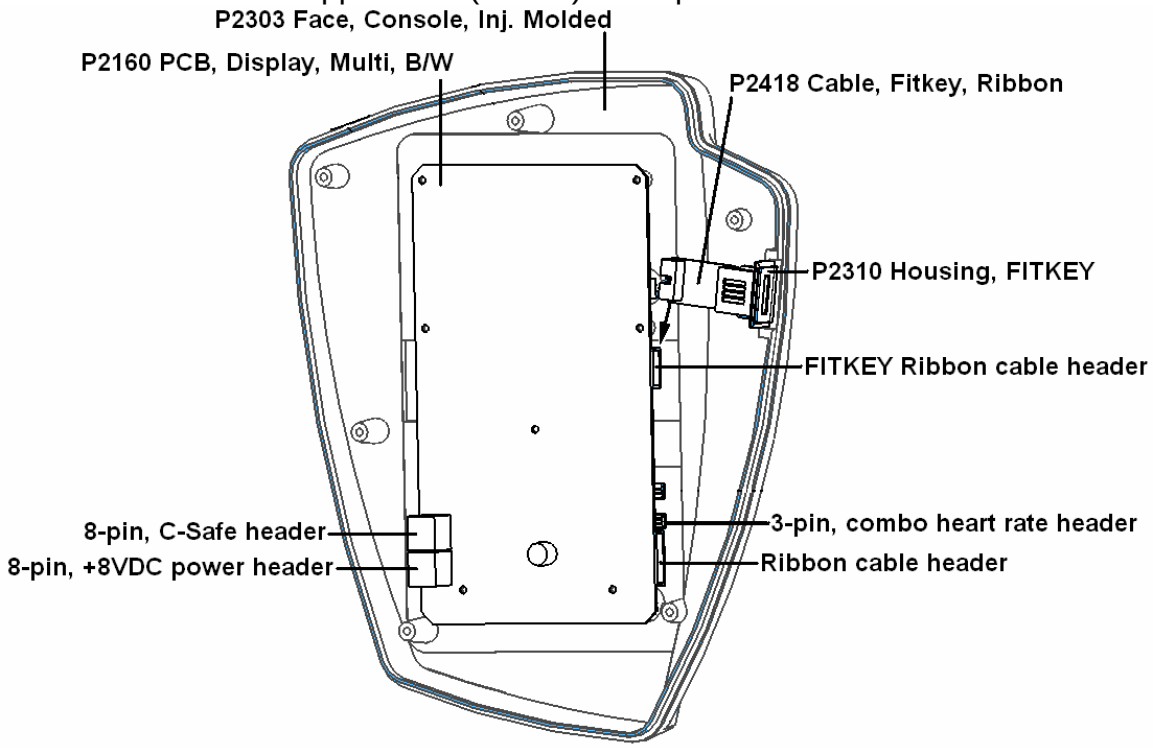
(Combo Heart Rate PCB Placement)



(Combo Heart Rate Cable Connections)

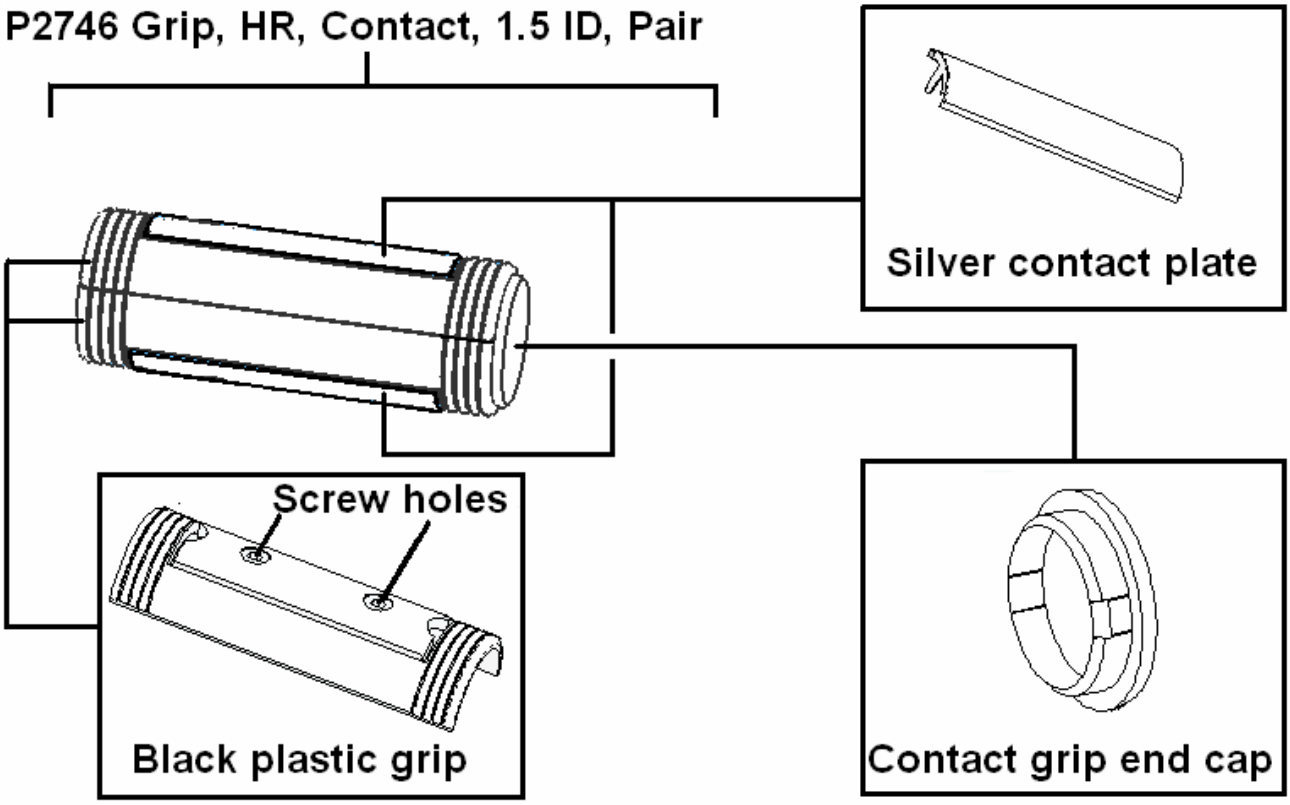
1. Remove the five (5) console screws in the console back (P2304), using a Philips screwdriver.
2. Disconnect all cables running to the upper PCB (P2160) and remove console face (P2303) from the unit. ***Make sure the cables do not fall into the neck of the unit.***
3. Disconnect the three (3) cables connected to combo heart rate PCB (P2308). ***Do not remove cable tie holding the wires in place.***
4. Remove old combo heart rate PCB. This is held on by hook-and-loop tape (Velcro).

5. Install new combo heart rate PCB in location shown in the drawing at the top of this procedure. ***Note: The placement is very critical. The antenna will not pick up a wireless transmitter if the placement is off.***
6. Plug the hand grip cables (P2772) into the new combo heart rate PCB. ***Note: The top pin is not used. The cable header with the "L" written on it plugs into the next two prongs of the contact heart rate header. The next pin is not used. The cable header with the "R" gets plugged into the bottom two prongs.***
7. Plug the heart rate cable (P2309) back into the combo heart rate PCB. ***Note: This plugs into the top three prongs of the heart rate to upper PCB header. The bottom four (4) prongs are not used.***
8. Plug the other end of the heart rate cable into the wireless heart rate header on the upper PCB (P2160). See picture below.



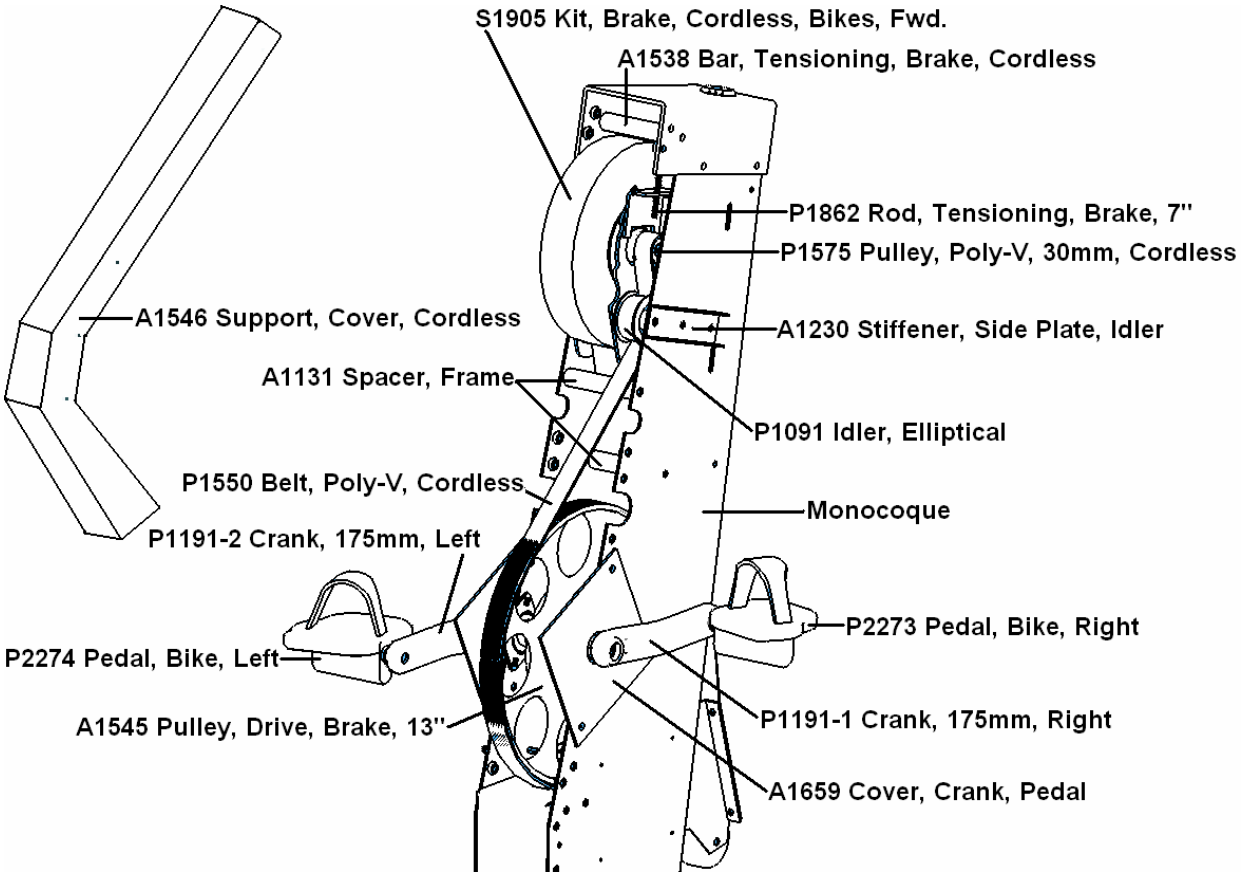
9. Reconnect all cables to the upper PCB.
    - The ribbon cable plugs into the bottom ribbon cable header on the right side of the upper PCB (as shown in the drawing).
    - The FITKEY ribbon cable (P2418) plugs into the FITKEY ribbon cable header on the upper PCB. This header is located just above the contact heart rate header (as shown in the drawing).
    - There are two (2) gray Telco cables. The cable from the 8VDC jack affixed to the console back connects to the 8-pin, +8VDC power header on the upper PCB. The other cable from the COMM jack affixed to the console back connects to the 8-pin, C-Safe communications header.
10. Test operation using the contact grips then a chest strap. ***Note: Contact Grips do not work in Heart Rate program.***

O. Contact Grip Replacement



1. Insert the head of a small flathead screwdriver between the black plastic grip and contact grip end cap. Pry the end cap off and set aside.
2. Insert the head of the screwdriver under the corner of each silver plate and pry away from the black plastic grip. ***Note: There are cables connected to each plate.***
3. Disconnect the contact grip cable from each silver contact plate. ***Do not let the cables fall inside the handlebars.***
4. Using a small Philips screwdriver, remove the two screws that run through the center of each black plastic grip. ***Do not lose the nuts that are on the opposite side of the black plastic grip as the screw heads.***
5. Remove the black plastic grips.
6. Position new black plastic grips and reinstall the screws and nuts in each. ***Be careful not to over-tighten the screws as this will cause the black plastic grip to break.***
7. Reconnect the contact grip cable to each silver contact plate.
8. Insert silver plate back into the channel in the black plastic grip. Make sure not to pinch the cables under the silver contact plate.
9. Install contact grip end cap.
10. Test the unit in different programs to verify operation. ***Do not use the Heart Rate program as it requires the use of a wireless chest strap.***

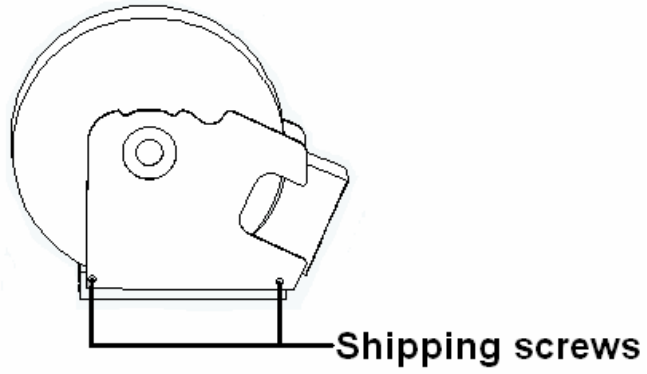
P. Brake Replacement



Removal

1. Remove covers and water bottle holder, if mounted to the covers. A Philips screwdriver is used to remove the covers on newer units. For older units, a 1/8" Allen wrench or socket is required.
2. Remove the cover support (A1546), using a ½" wrench or socket. Four (4) bolts are located at the top of the support and two (2) at the bottom. Older machine only had two (2) bolts located at the top.
3. Disconnect both cables connecting to the brake. One cable connection is located inside the monocoque and connects to the coil on the bottom of the brake. The other cable runs up the outside of the left side panel of the monocoque and connects to the brake.
4. Mark the position of the brake on the sides of the monocoque. Four (4) brake mounting bolts are located on the outside of the monocoque.
5. Loosen the four black 10mm bolts mounting the brake (S1905) to the monocoque.
6. Back the brake tension bolt (P1862) off, four (4) to five (5) turns to relieve belt tension. On newer machines, a 3/8" wrench is used. The older machines require a 5/32" Allen wrench.

7. Loosen the two (2) bolts that mount the tensioning bar for the brake (A1538) to finger-tight. The tensioning bar will later be used as a handle to remove the brake.
8. Remove the four (4) black 10mm bolts mounting the brake (S1905) to the monocoque. The brake will be supported by the two (2) tensioning bar bolts, which should be finger-tight from the previous step.
9. Remove the Poly-V belt from the brake pulley (P1575).
10. Make sure all wires to the brake are disconnected and out of the way.
11. While holding the tensioning bar firmly, remove the tensioning bar bolts. ***Warning: The brake weighs approximately 40 lbs.***
12. While holding the tensioning bar with one hand, cradle the bottom of the brake with the other hand. Pull the brake towards you, channeling the idler pulley through the obstructions on the side of the brake.



Installation

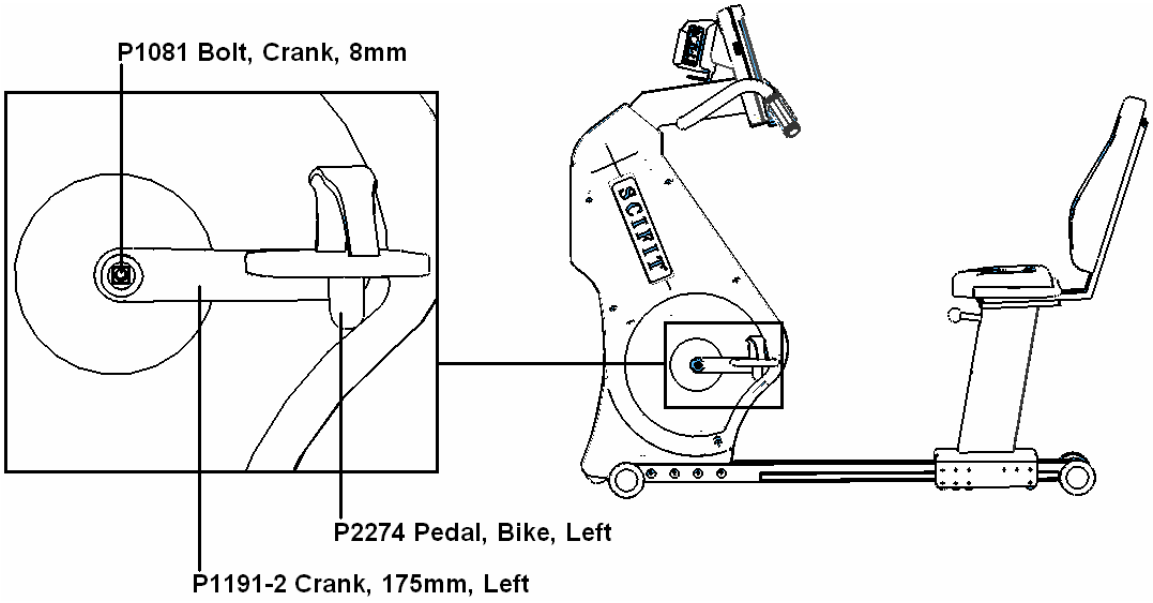
Installation is reversal of the removal procedure with the following exceptions:

1. Verify the Philips shipping screws have been removed from new brake.
2. Remove tension bolt and brake tensioning bar from the old brake and install on the new brake.
3. Before installation of the belt, return brake to original position marked on the sides of the monocoque. This action will preset the brake belt tension to its original setting. When the brake is at its original position, tighten the four (4) black 10mm bolts. Make sure all other bolts are tight and the cover brace is in place before the belt is installed on the brake pulley.
4. Place the belt onto the brake pulley. Loop the belt under the idler (P1091). Start the belt onto the back of the drive pulley (A1545). Move the crank arm in a forward motion to rotate the drive pulley, thus feeding the belt onto the drive pulley. ***Warning: Keep hands clear of the underside of the belt. Failure to do so could result in serious injury, including the loss of a finger. There will be approximately 110 lbs. of tension on the belt.*** If necessary, use a blunt object to push the belt when feeding it onto the drive pulley. Make sure the belt is in all grooves on the pulleys and is not rubbing on the side of the brake or idler. If it is rubbing, use a flat-head screwdriver to move the belt over on the drive pulley while rotating until the belt is centered.
5. Reattach wires to the brake.

Q. Idler Replacement

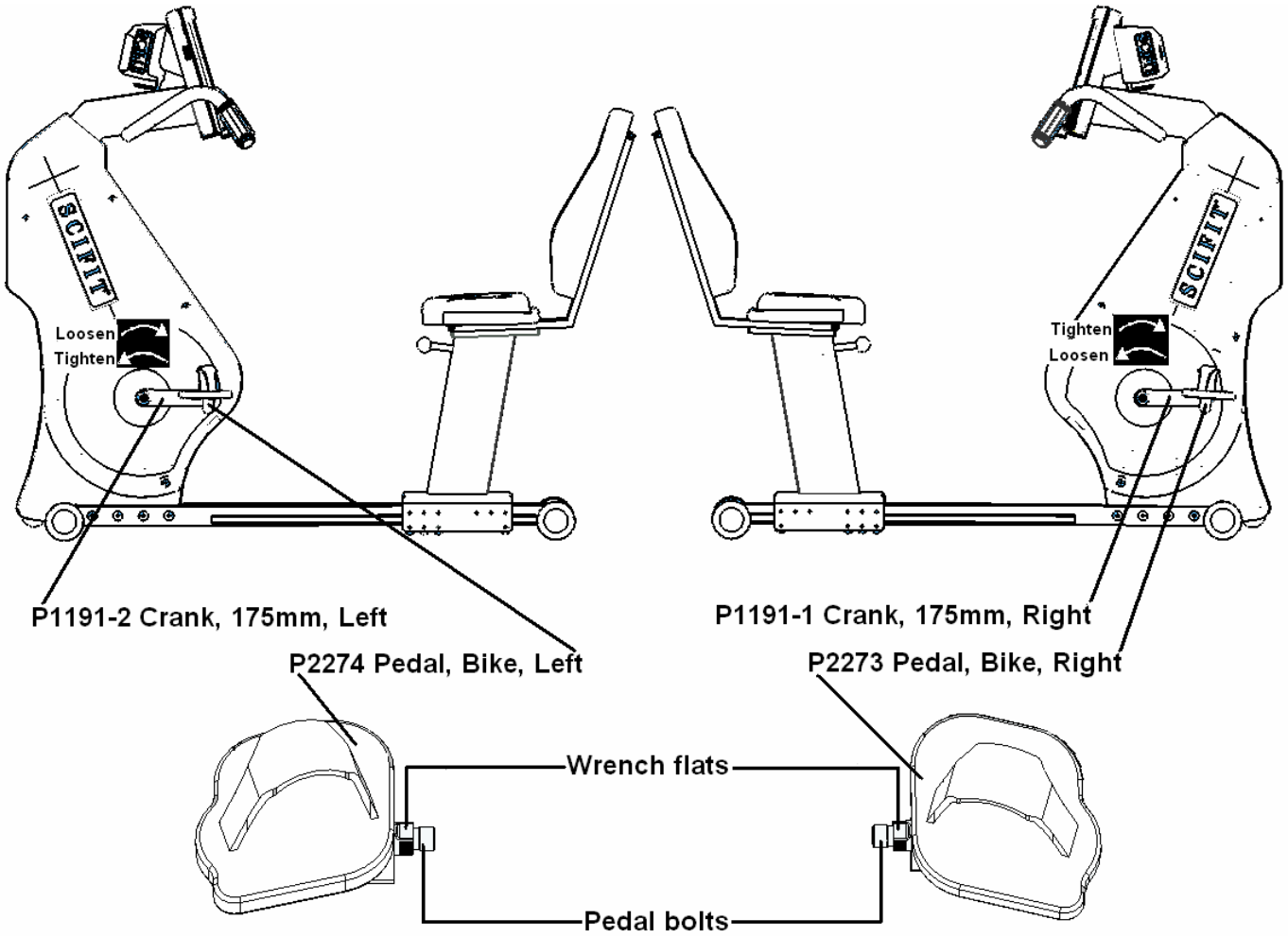
1. Remove the brake by following steps 1-12 of the removal section of the brake replacement procedure.
2. Using a 9/16” socket, remove the nut and lock washer holding the idler to the monocoque. This is located in the right outer side of the monocoque.
3. Remove the bolt that runs through the center of the idler.
4. Insert the bolt through the idler and back into mounting hole.
5. Install the lock washer and nut onto the idler mounting bolt. Tighten nut.
6. Reinstall the brake assembly by following steps 1-5 in the installation section of the brake replacement procedure.

R. Crank Removal / Replacement



1. Remove the crank bolt (P1081), using an 8mm Allen wrench.
2. Pull the crank arm (P1191-1 for right side or P1191-2 for the left side) off the end of the spindle crank shaft. In some instances, this may require the use of a crank puller.
3. To reinstall, place crank arm on the end of the spindle crank shaft. ***Make sure it is phased 180°from the opposite side crank arm.***
4. Place a drop of green loc-tite on the crank bolt threads and reinsert into the end of the spindle crank shaft.
5. Tighten crank bolt, using an 8mm Allen wrench.

S. Pedal Removal / Replacement



Removal of Left Pedal

1. While looking at the left pedal (P2274) from the left side view (shown above), place either a 15mm or 5/8" open end wrench on the wrench flats on the pedal bolt.
2. Turn the wrench clockwise until the threads on the pedal bolt disengage from the threads of the left crank arm (P1191-2).

Removal of Right Pedal

1. While looking at the right pedal (P2273) from the right side view (shown above), place either a 15mm or 5/8" open end wrench on the wrench flats on the pedal bolt.
2. Turn the wrench counterclockwise until the threads of the pedal bolt disengage from the threads of the right crank arm (P1191-1).

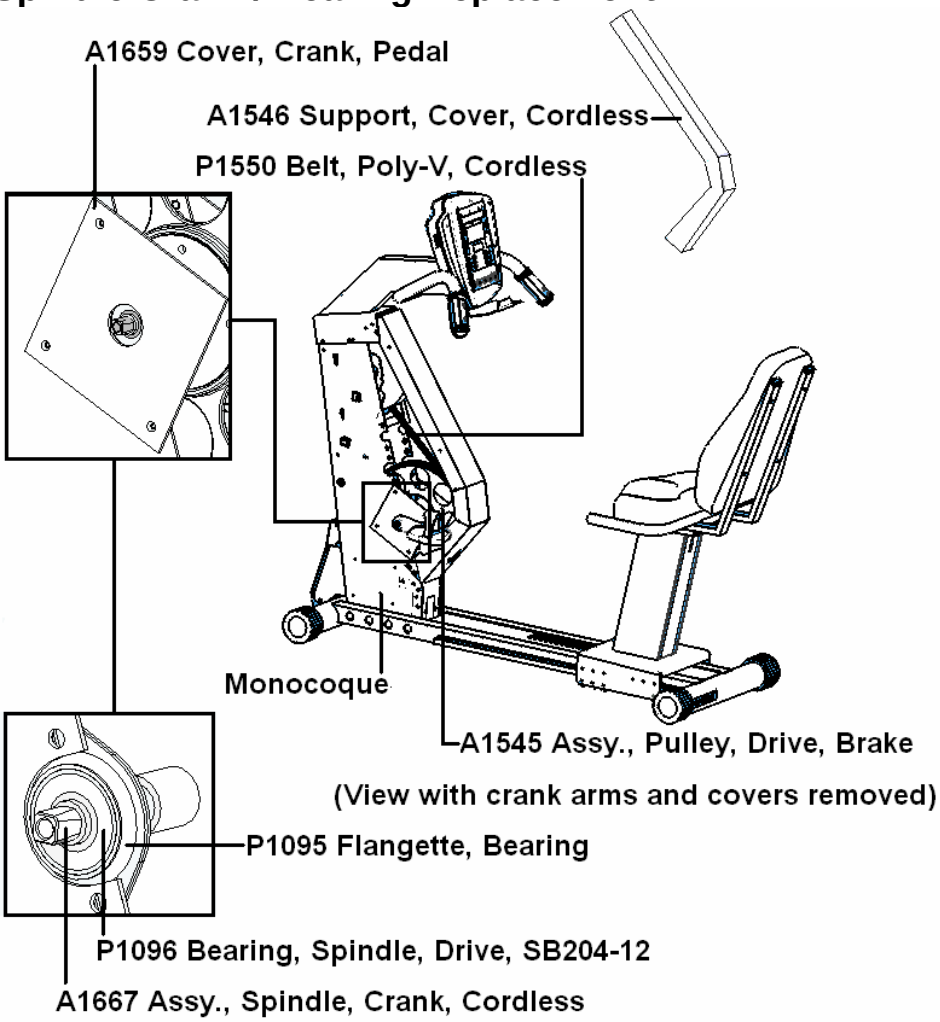
Installation of Left Pedal

1. While looking at the left pedal from the left side view (shown above), start the pedal bolt threads by rotating the pedal bolt counterclockwise, by hand, until you can't tighten any further.
2. Place either a 15mm or 5/8" open end wrench on the wrench flats on the pedal bolt and tighten.

Installation of Right Pedal

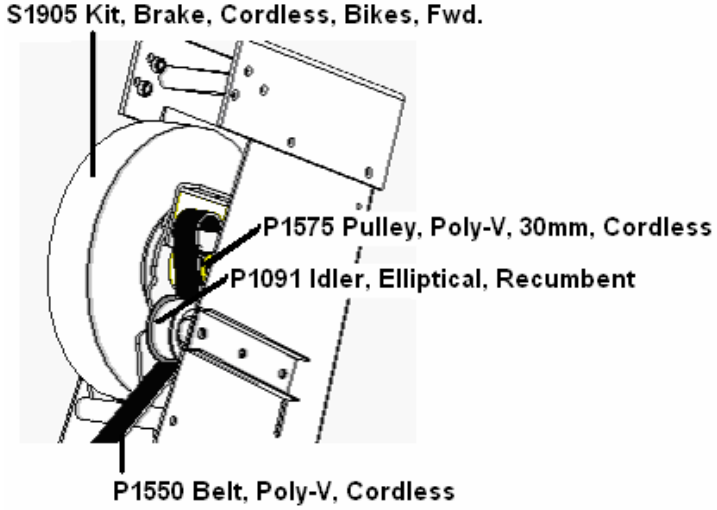
1. While looking at the right pedal from the right side view (shown above), start the pedal bolt threads by rotating the pedal bolt clockwise, by hand, until you can't tighten any further.
2. Place either a 15mm or 5/8" open end wrench on the wrench flats on the pedal bolt and tighten.

T. Spindle Crank / Bearing Replacement



1. Remove the crank arms, using the Crank Arm Removal / Replacement procedure.

2. Remove covers and water bottle holder, if mounted to the covers.
3. Remove pedal crank covers (A1659).
4. Mark the position of the flangettes (P1095) on the monocoque. Mark flangettes in at least two positions each.
5. Loosen the set screws on each bearing collar (P1096), using a 1/8" Allen wrench. There are two set screws on each bearing collar.
6. Move the crank spindle assembly (A1667) to the left until you can access the nuts on the backside of the flangettes mounted to the left side monocoque. This step may require the use of a plastic or rubber mallet. ***Do not use a metal hammer. This can flare the end of the shaft so bearings will not be able to be removed.***
7. Using a ½" wrench and socket, remove the nuts, washers, and bolts mounting the flangettes to the monocoque.
8. Unhook the poly-v belt from the brake drive pulley (A1545).
9. Slide the spindle assembly and brake drive pulley out of the machine.
10. Transfer the bearings and flangettes over to the new spindle assembly. ***Make sure the bearing collars are facing towards the inside of the machine.***
11. Install the new spindle assembly into the monocoque. The flangettes mount on the inside of the monocoque.
12. Run each bolt from the outside in, through the flangette mounting holes in the monocoque, both flangettes, followed by the lock washer, and hex nut. ***Do not tighten down.***
13. Line up the marks you made on the flangettes and monocoque, then tighten the bolts and nuts.

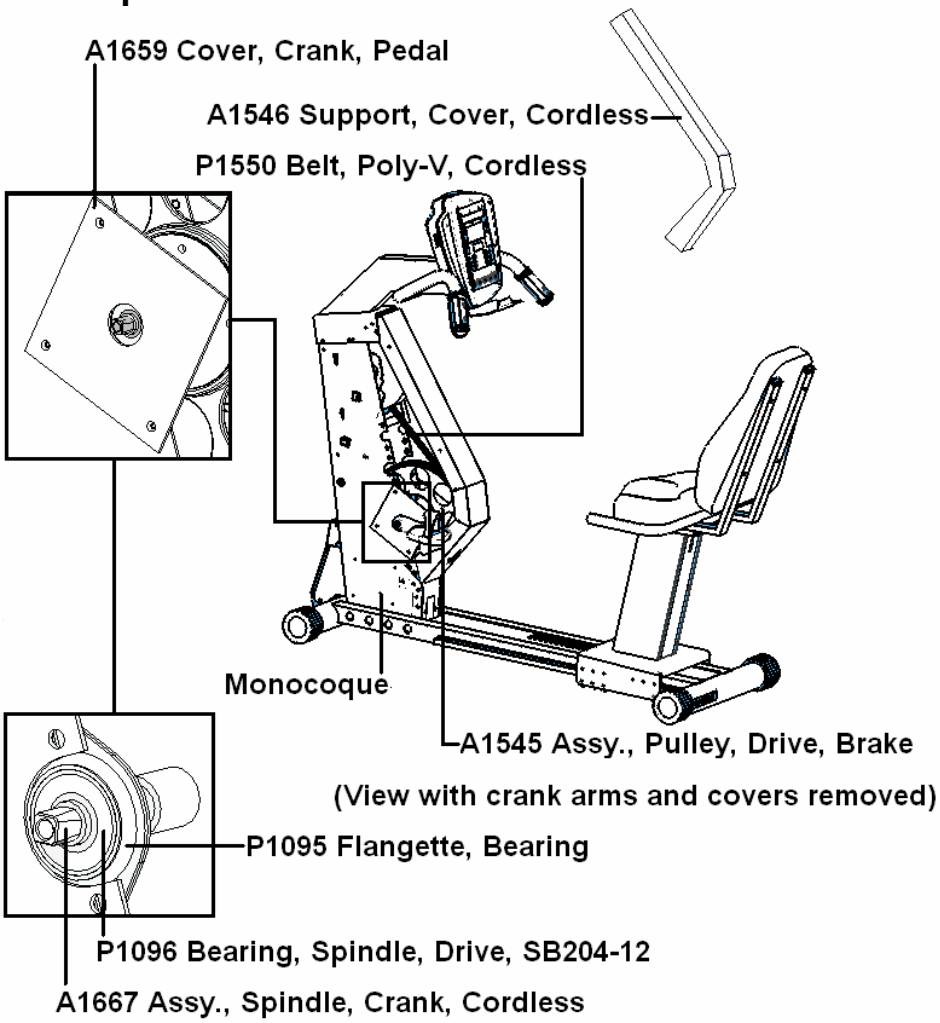


14. Place the belt onto the brake pulley. Loop the belt under the idler (P1091). Start the belt onto the back of the drive pulley (A1545). Move the crank arm in a forward motion to rotate the drive pulley, thus feeding the belt onto the drive pulley. ***Warning: Keep hands clear of the underside of the belt. Failure to do so could result in serious injury, including the loss of a finger. There will be approximately 110 lbs. of tension on the belt.*** If necessary, use a blunt object to push the belt

when feeding it onto the drive pulley. Make sure the belt is in all grooves on the pulleys and is not rubbing on the side of the brake or idler. Rotate the drive pulley until the pulleys are all lined up and the belt is centered on both pulleys and the idler.

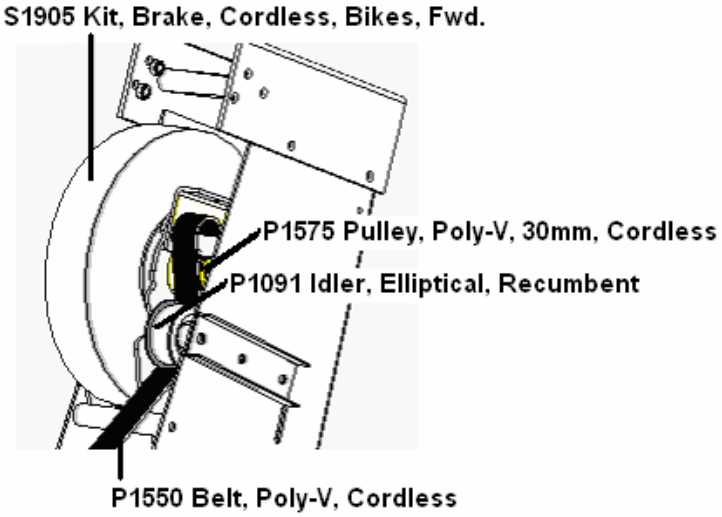
15. Tighten the set screws on both bearing collars.
16. Install pedal crank covers.
17. Install covers.
18. Reinstall the crank arms by reversing the Crank Arm Removal / Replacement procedure.

U. Belt Replacement



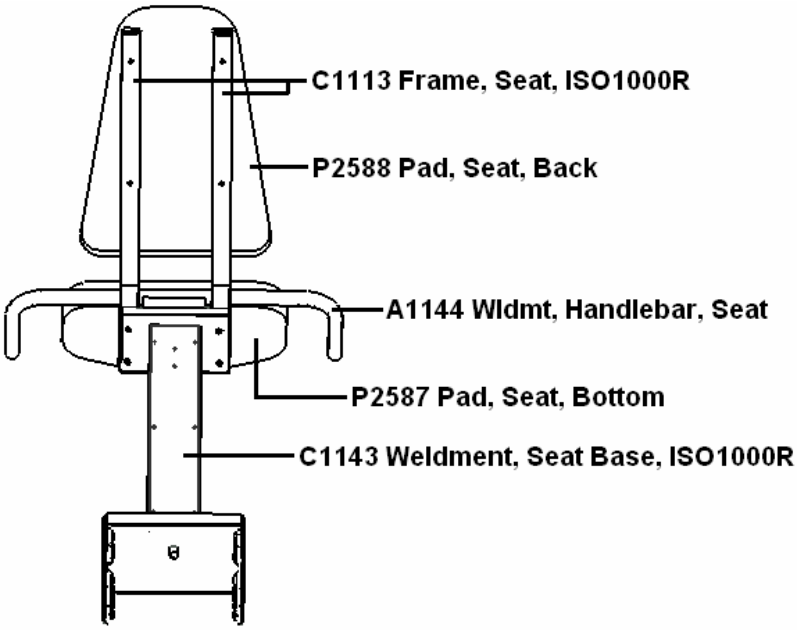
1. Remove covers and water bottle holder, if mounted to the covers. A Philips screwdriver is used to remove the covers on newer units. For older units, a 1/8" Allen wrench or socket is required.
2. Remove the cover support (A1546), using a ½" wrench or socket. Four (4) bolts are located at the top of the support and two (2) at the bottom. Older machine only had two (2) bolts located at the top.

3. Remove the pedal crank cover (A1659), using a Philips screwdriver. There are three screws mounting the pedal crank cover.
4. Mark the position of the flangettes (P1095) on the left side of the monocoque. Mark flangettes in at least two places.
5. Loosen the set screws on the left bearing collar (P1096), using a 1/8" Allen wrench. There are two set screws on the bearing collar.
6. Using a ½" wrench and socket, remove the nuts, washers, and bolts mounting the flangettes to the monocoque.
7. Slide the left side flangettes and bearing along the spindle crank assembly (A1667) toward the flywheel.
8. Unhook the poly-v belt (P1550) from the brake drive pulley (A1545) and remove from the machine.
9. Loop the new poly-v belt around the left end of the spindle crank assembly. Slide the belt through the gap between the spindle crank assembly and the monocoque.
10. Move the left side flangettes and bearing back into place. Reinsert the bolts, washers, and nuts but do not tighten. Line up the marks you made on the flangettes and monocoque, then tighten bolts and nuts.
11. Tighten the set screws on the left bearing collar.



12. Place the belt onto the brake pulley. Loop the belt under the idler (P1091) so that the smooth part of the belt makes contact with the idler. Start the belt onto the back of the drive pulley (A1545). Move the crank arm in a forward motion to rotate the drive pulley, thus feeding the belt onto the drive pulley. ***Warning: Keep hands clear of the underside of the belt. Failure to do so could result in serious injury, including the loss of a finger. There will be approximately 110 lbs. of tension on the belt.*** If necessary, use a blunt object to push the belt when feeding it onto the drive pulley. Make sure the belt is in all grooves on the pulleys and is not rubbing on the side of the brake or idler. Rotate the drive pulley until the belt is centered on both pulleys and the idler.
13. Test unit. If unit test fine, reinstall the covers and water bottle holder.

V. Seat Pad Replacement



(Back view)

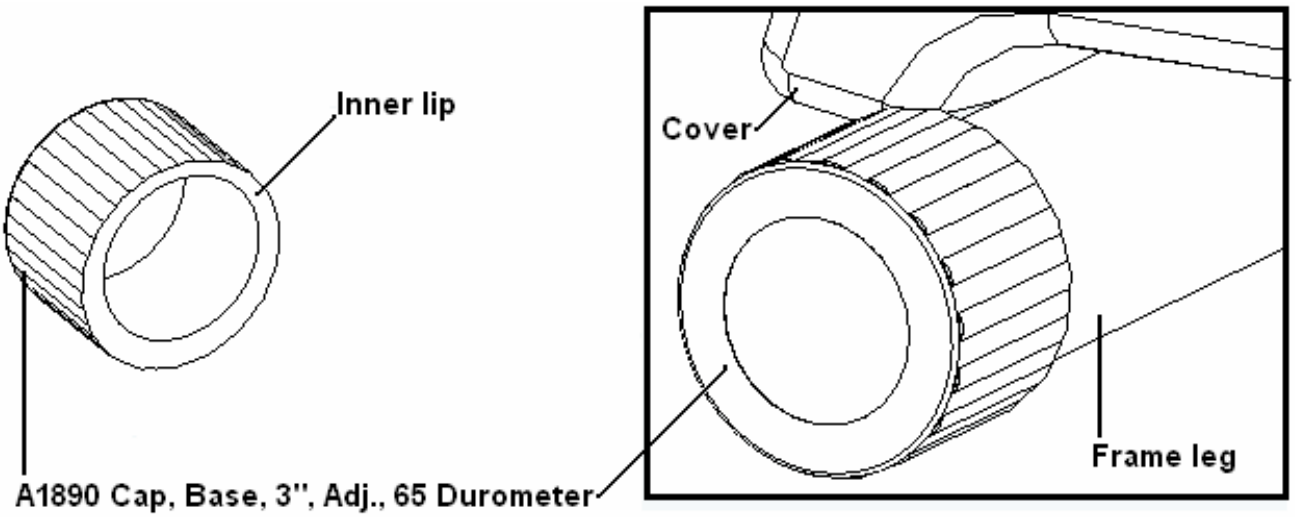
Seat Back Pad Replacement

1. Using a Philips screwdriver, remove the four (4) screws with washers running through the seat frames (C1113) and into the seat back (P2588). Older models you will need a 7/16" wrench or socket to remove the bolts with washers that were used instead of screws. The older seats used ¼"-20 bolts while the new seats use 5/16"-18 screws. The holes in the seat frames on the older models may need to be slightly opened up with a drill to install the new mounting hardware.
2. Remove old seat back pad and put new one in place.
3. Insert the four (4) Philips screws with washers through the seat frames and into the new seat back pad.
4. Tighten screws.

Seat Bottom Pad Replacement

1. Using a Philips screwdriver, remove the four (4) screws with washers running through the seat base (C1143) and into the seat bottom (P2587). Older models you will need a 7/16" wrench or socket to remove the bolts with washers that were used instead of screws. The older seats used ¼"-20 bolts while the new seats use 5/16"-18 screws. The holes in the seat frames on the older models may need to be slightly opened up with a drill to install the new mounting hardware.
2. Remove old seat bottom pad and put new one in place.
3. Insert the four (4) Philips screws with washers through the seat base and into the new seat bottom pad.
4. Tighten screws.

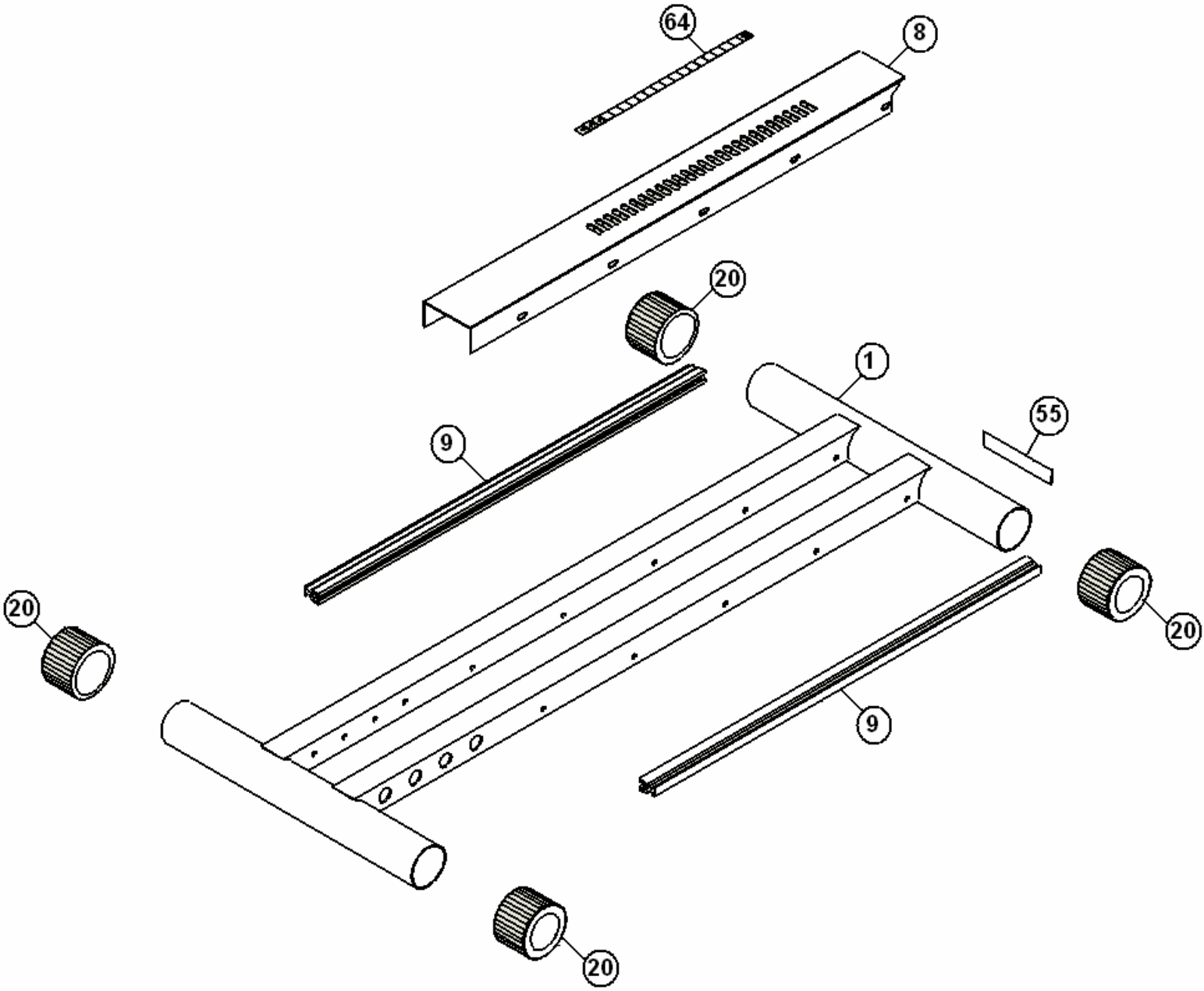
W. End Cap Replacement

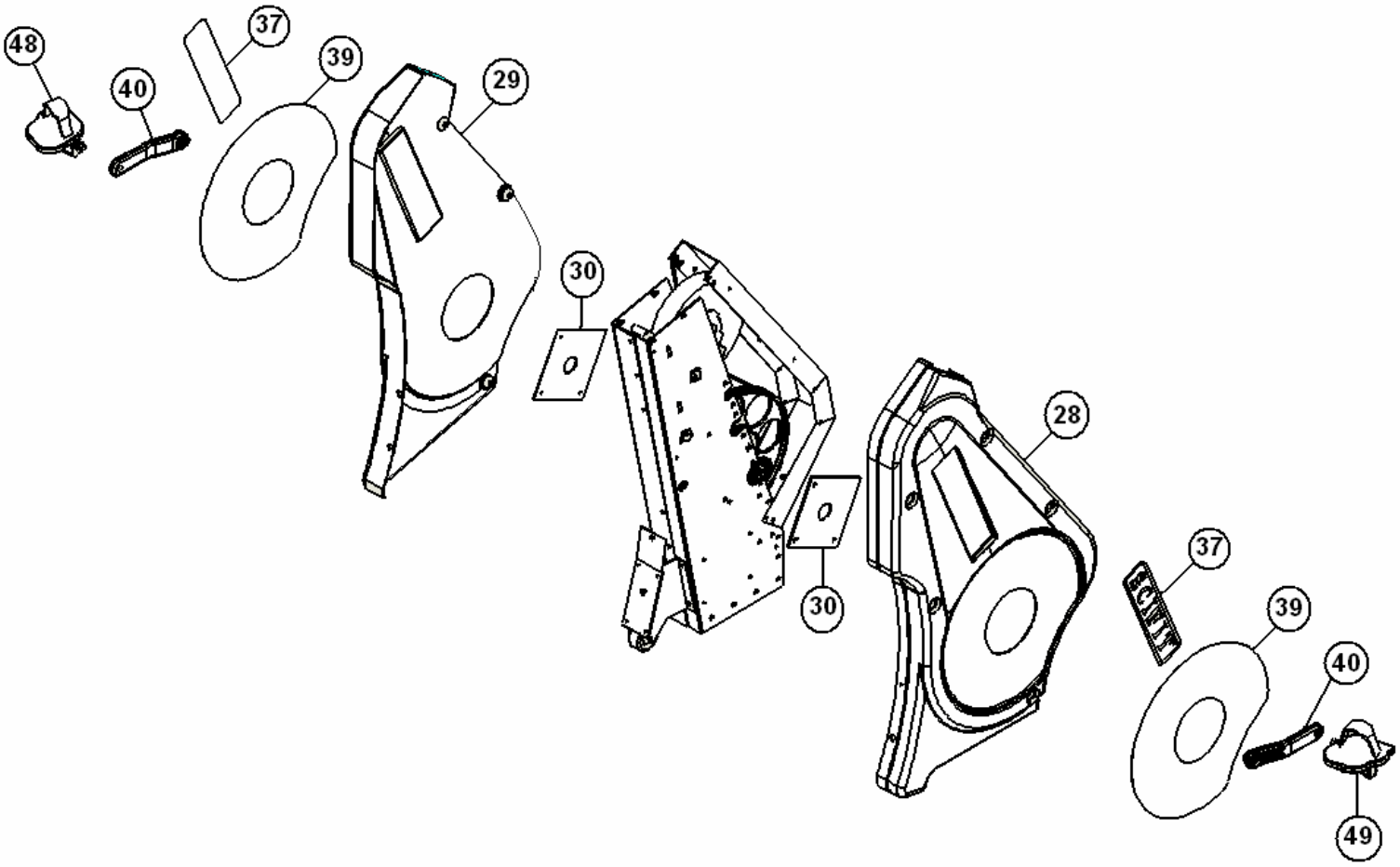


1. Position an object under the frame leg to elevate the end cap (A1890).
2. Pull the rubber end cap off the end of the frame leg. For older versions with plastic end caps, a plastic or rubber mallet may be needed to tap on the inner lip of the end cap until it comes off the frame leg.
3. Replace end cap or make necessary adjustment to the existing end cap.
4. The mounting hole in the end cap is offset to allow leveling the machine. On legs that do not always contact the floor, rotate the end cap so a thicker section of the cap is next to the floor. Do this until the machine is level.

VI. Assembly Drawings and Parts List (Use Section A for serial number 510-005445 and above. Use Section B for serial number 510-005444 and below.)

A.

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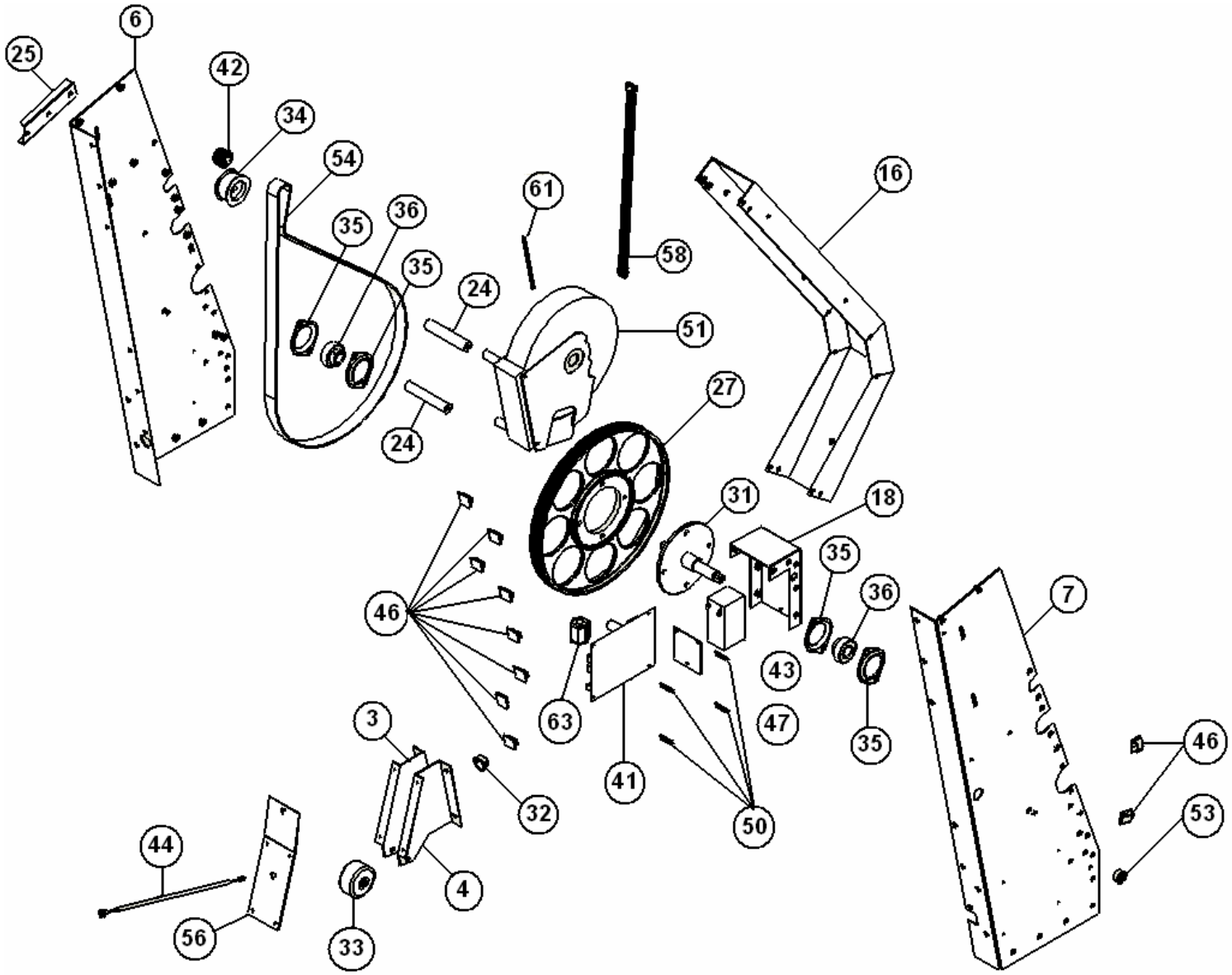
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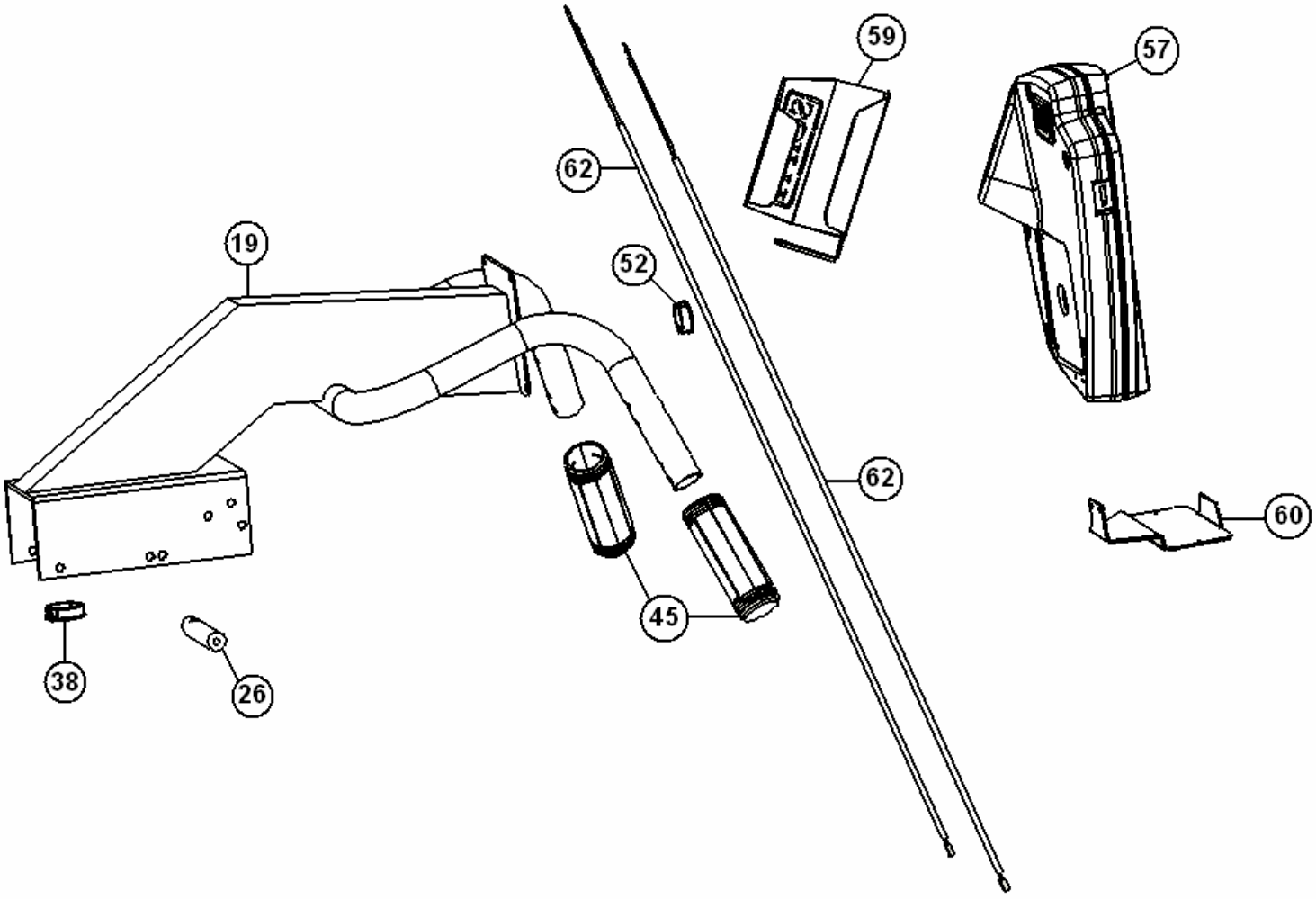
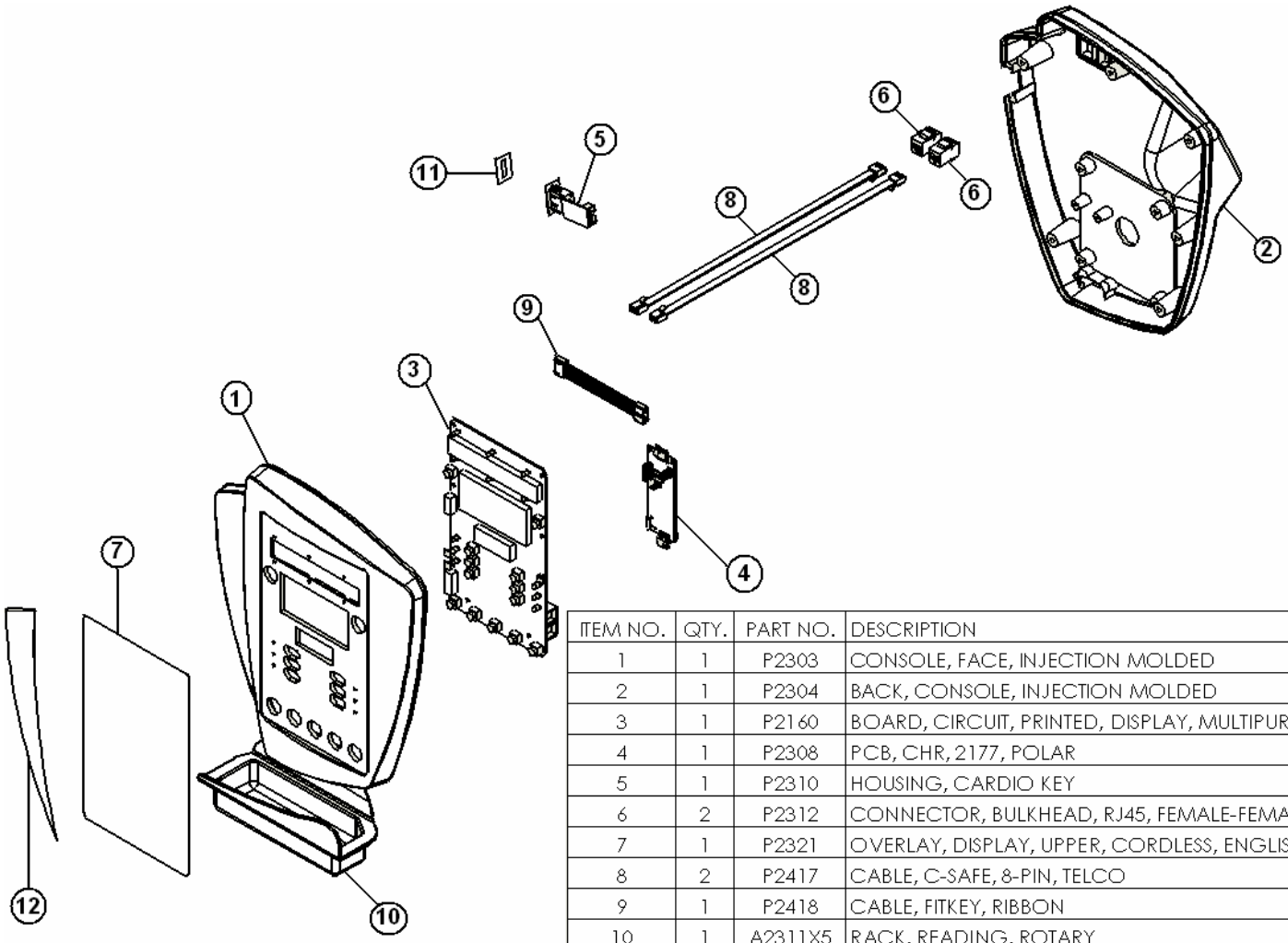
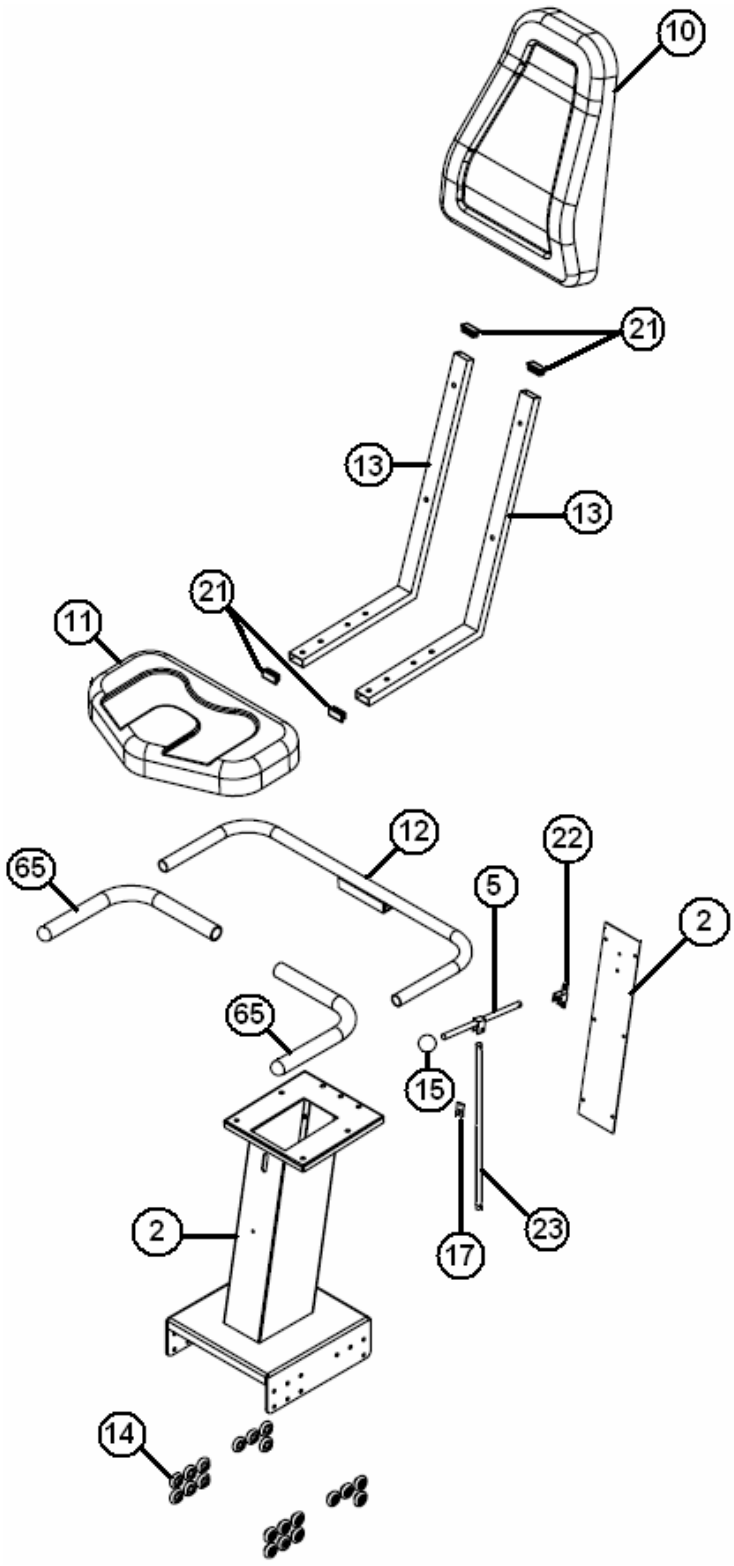


See Page 64 for a breakdown of Item #57

Item No. 57



ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	P2303	CONSOLE, FACE, INJECTION MOLDED
2	1	P2304	BACK, CONSOLE, INJECTION MOLDED
3	1	P2160	BOARD, CIRCUIT, PRINTED, DISPLAY, MULTIPURPOSE
4	1	P2308	PCB, CHR, 2177, POLAR
5	1	P2310	HOUSING, CARDIO KEY
6	2	P2312	CONNECTOR, BULKHEAD, RJ45, FEMALE-FEMALE
7	1	P2321	OVERLAY, DISPLAY, UPPER, CORDLESS, ENGLISH
8	2	P2417	CABLE, C-SAFE, 8-PIN, TELCO
9	1	P2418	CABLE, FITKEY, RIBBON
10	1	A2311X5	RACK, READING, ROTARY
11	1	P2718	DECAL, KEYSLOT, FITKEY
12	1	P2720	DECAL, LABEL, CONSOLE, FITKEY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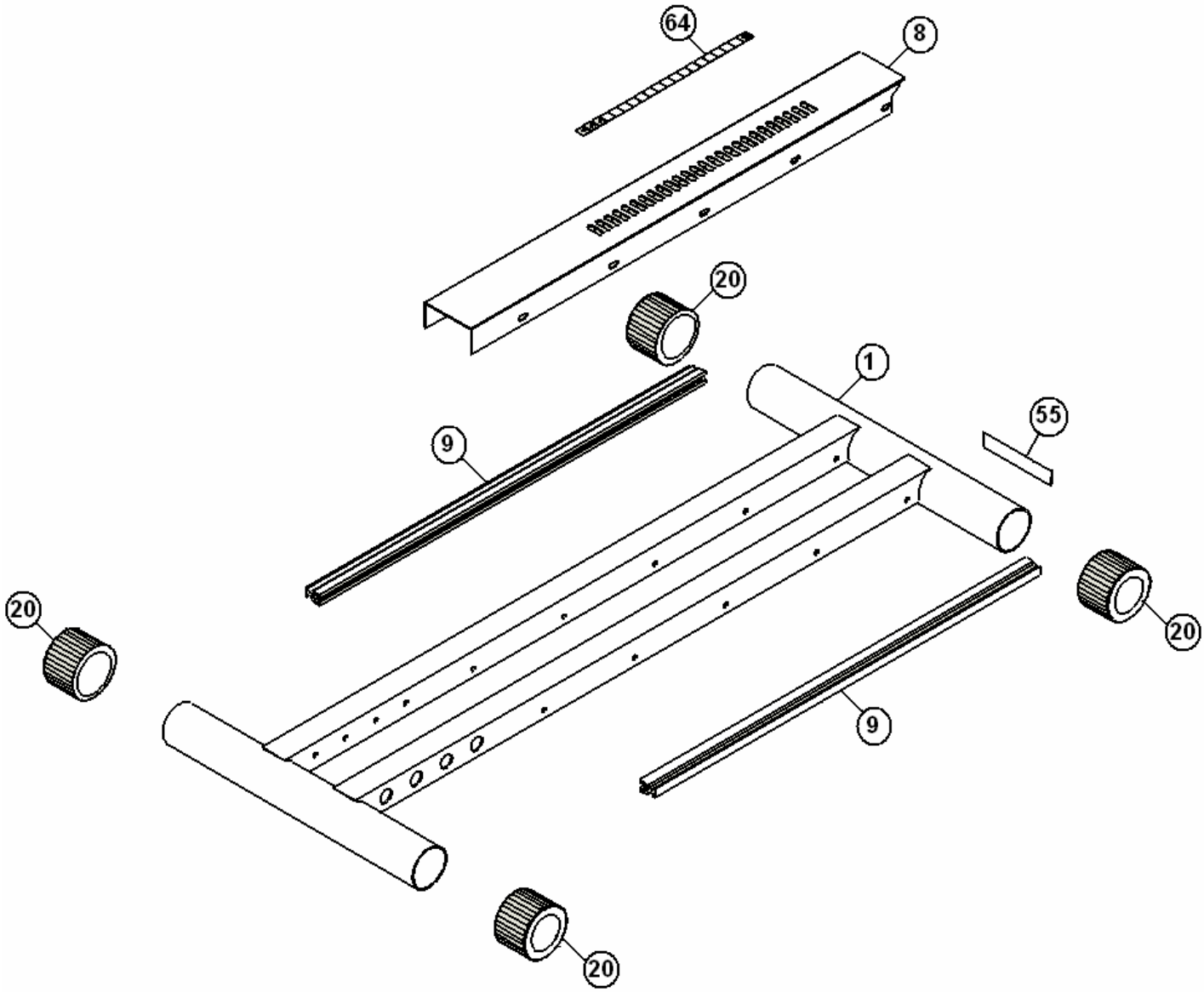
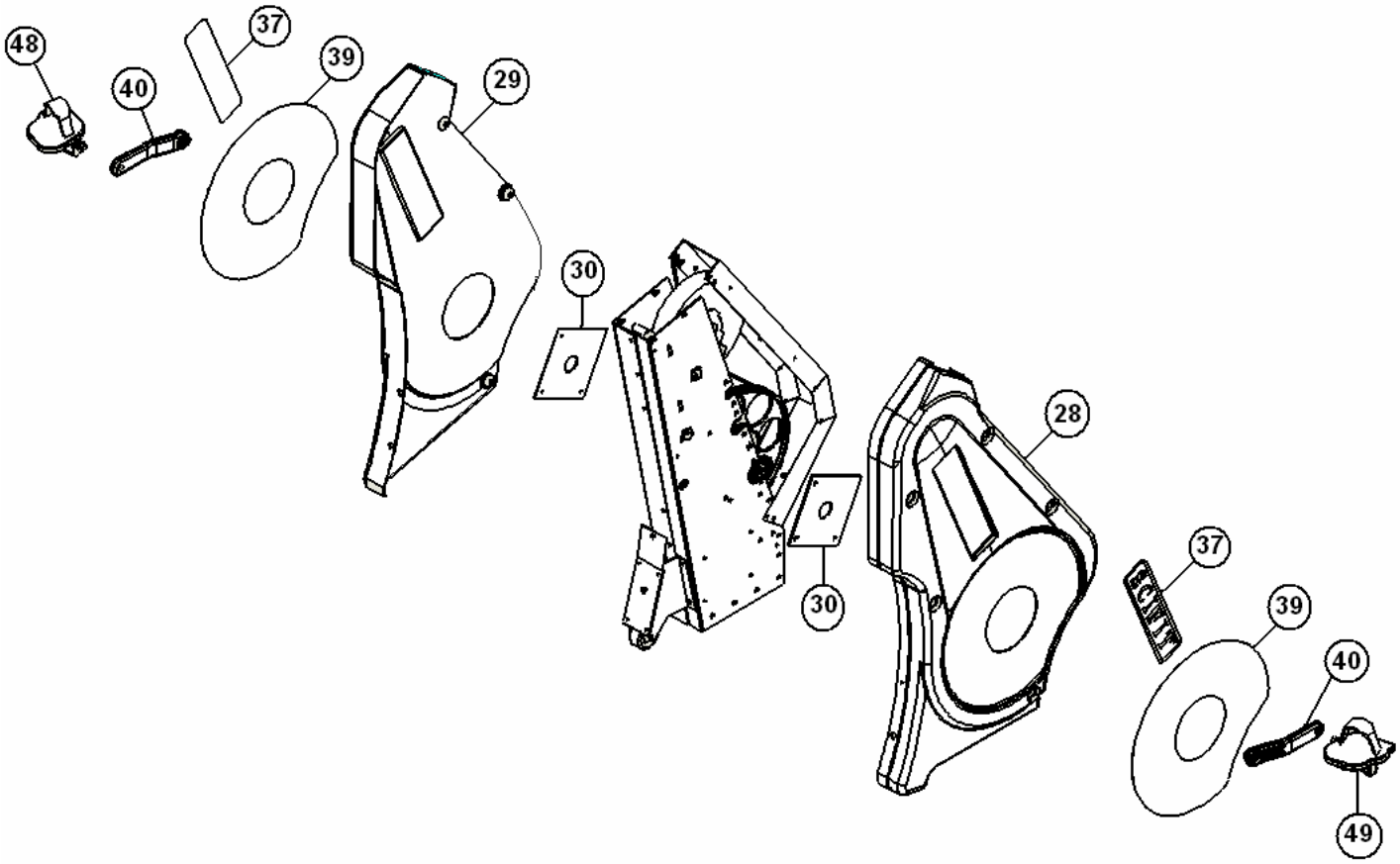
Item No.	Qty.	Part No.	Description
1	1	C1012	Weldment, Frame, Base, Recumbent
2	1	C1143	Weldment, Seat Base, ISO1000R
3	1	A1015	Bracket, Wheel, Left
4	1	A1016	Bracket, Wheel, Right
5	1	A1119	Lever, Adj., Position, Seat, Assy.
6	1	C1654	Plate, Side, Drivetrain, Right, Recumbent
7	1	C1653	Plate, Side, Drivetrain, Left, Recumbent
8	1	A1149	Track, Adj., SST, Recumbent
9	2	A1222	Extrusion, Rail, 34", Recumbent
10	1	P2588	Pad, Seat, Back
11	1	P2587	Pad, Seat, Bottom
12	1	A1144	Weldment, Handlebar, Seat
13	2	C1113	Frame, Seat, ISO1000R
14	20	P1038	Roller, Urethane, 1-1/4 Dia. X 3
15	1	P1125	Knob, 7/16-20, Round
16	1	A1546	Support, Cover, Cordless
17	1	A1120	Bracket, Spring
18	1	A1641	Stiffener, Frame, Cordless
19	1	A2407	Display, Handlebar, Contact HR
20	4	A1890	Cap, Base, 3", Adj., 65 Durometer
21	4	P2249	Cap, Frame, Seat
22	1	A1115	Bracket, Position, Adj., Lever
23	1	A1146	Rod, Lock, Recumbent
24	2	A1131	Spacer, Frame
25	1	A1230	Stiffener, Side Plate, Idler
26	1	A1538	Bar, Tensioning, Brake, Cordless
27	1	A1545	Pulley, Drive, Brake,13"
28	1	A1655	Cover, Side, Recumbent, Cordless, Left
29	1	A1656	Cover, Side, Recumbent, Cordless, Right
30	2	A1659	Cover, Crank, Pedal
31	1	A1667	Assy., Spindle, Crank, Cordless
32	1	P1060	Grommet, Hole, 1" Dia.
33	1	P1063	Wheel, Front
34	1	P1091	Idler, Recumbent
35	4	P1095	Flangette, Bearing
36	2	P1096	Bearing, Spindle, Drive, SB204-12
37	2	P1100	Decal, SCIFIT, 2.75 X 12, 1000
38	1	P1105	Grommet, Hole, 1-1/2" Dia.
39	2	P1106	Decal, Plate, Scuff
40	2	P1191	Crank, 175mm, Pair

Item No.	Qty.	Part No.	Description
41	1	P2161	PCB, Lower, Rotary, B/W
42	1	Part of S1905	Pulley, Poly-V, 30mm, Cordless
43	1	P1564	Battery, Rechargeable, Cordless
44	1	P1832	Cable, Receptacle, Power, Cordless
45	2	P2746	Grip, HR, Contact, 1.5ID, Pair
46	10	P1933	Clip, Cord, Adhesive Backed
47	1	A1570	Bracket, Mounting, Battery, Cordless
48	1	P2273	Pedal, Bike, Right
49	1	P2274	Pedal, Bike, Left
50	4	P1051	Standoff, 6-32 X 1/4, 1", M-F
51	1	S1905	Kit, Brake, Cordless, Bikes, Fwd.
52	1	P2122	Grommet, Hole, 1 1/4" Dia.
53	1	P1566	Grommet, Hole, Shutter, Cordless
54	1	P1550	Belt, Poly-V, Cordless
55	1	P1813	Decal, Model, ISO1000R
56	1	A1549	Plate, Entry, Power, Cordless
57	1	See Page 60	Console, Injection Molded, Assy.
58	1	P2419	Cable, P.S., Display, Ribbon
59	1	A2307	Holder, Bottle, Rotary
60	1	A2311	Rack, Reading, Rotary
61	1	P2520	Rod, Tensioning, Brake, 5.25"
62	2	P2772	Cable, CHR, HG, 2177, 39"
63	1	P1947	Suppressor, EMI, Fair-rite, UL/CE
64	1	P1983	Decal, Number, .75" Spacing, 1-20
65	2	P1183	Grip, 1” X 17.25”, Handlebar, Seat

B. Assembly Drawings and Part List (510-005000 thru 510-005444)

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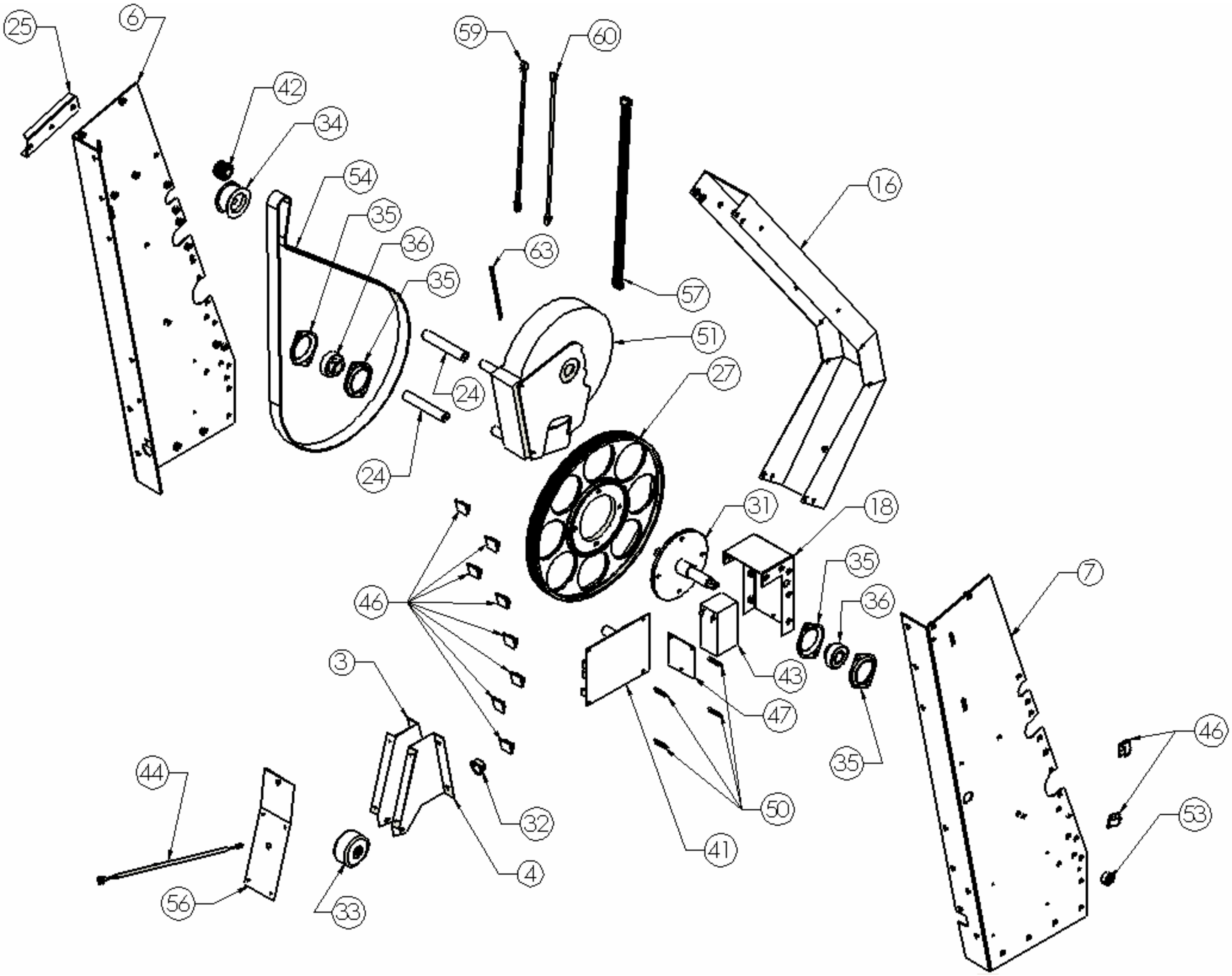
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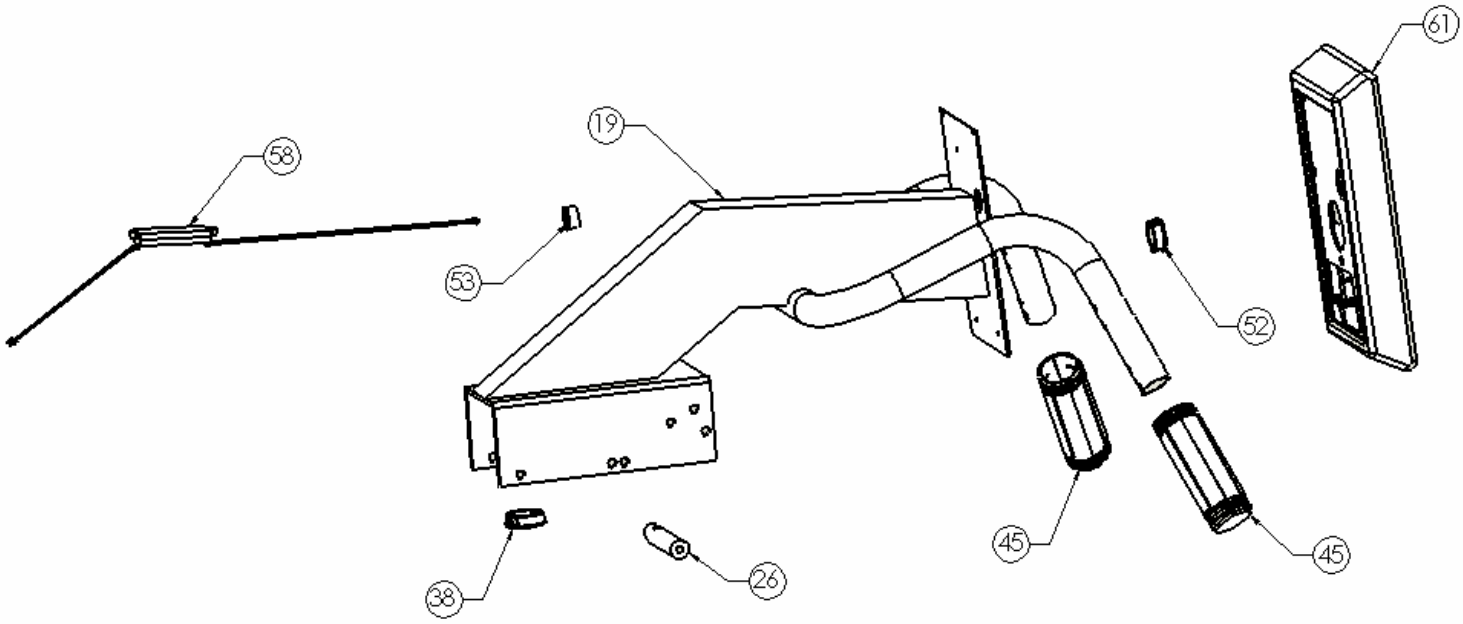
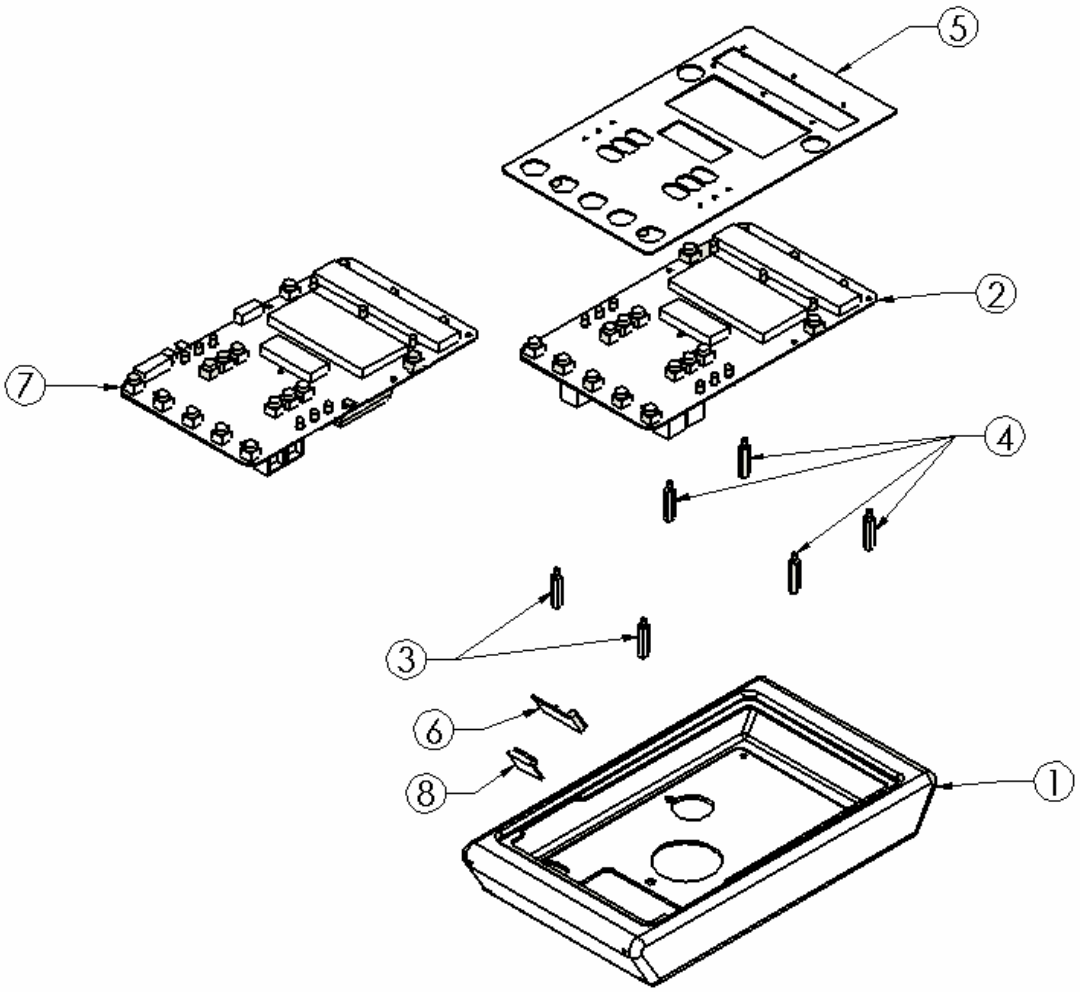


See Page 72 for breakdown of Item# 61

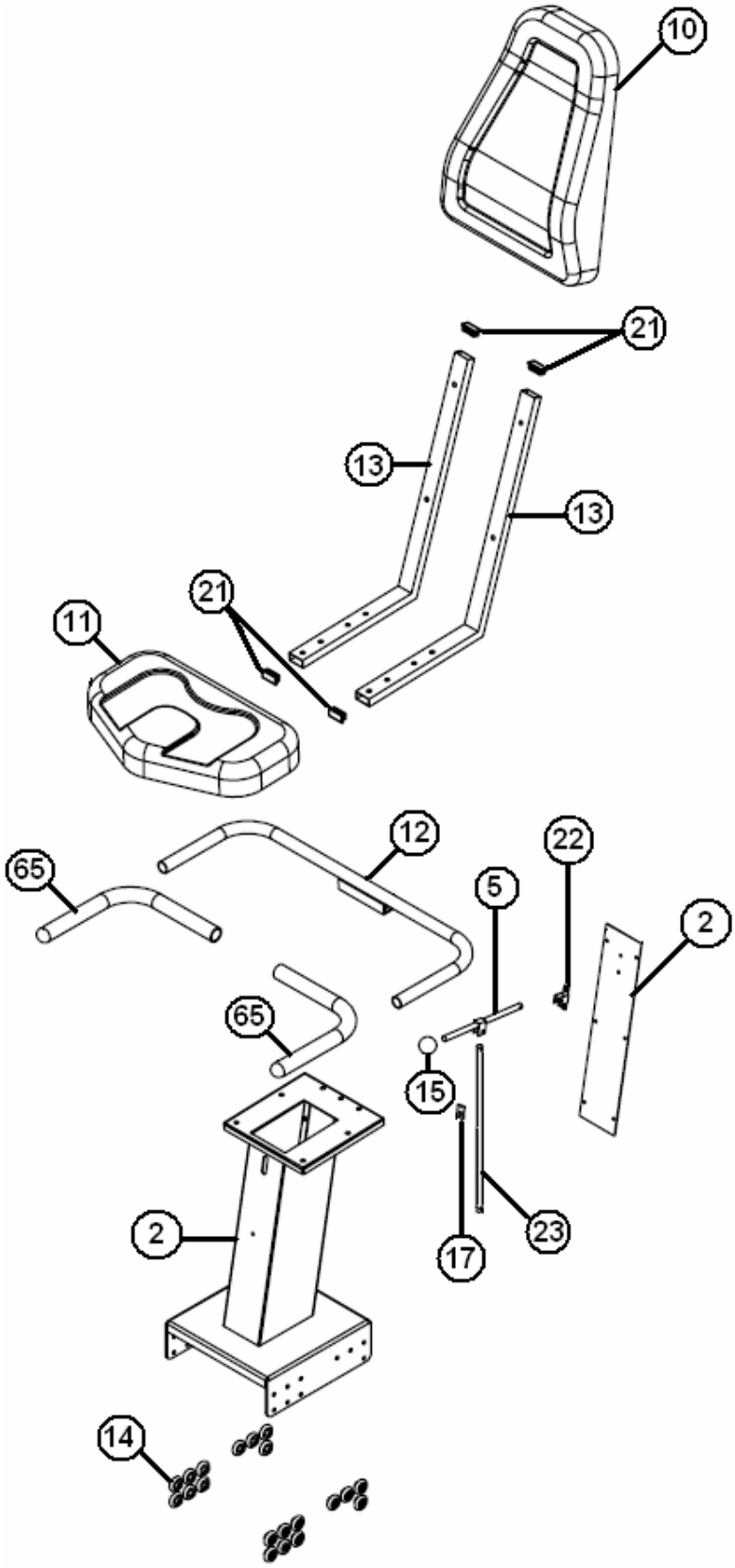
Item No. 61



Item No.	Qty.	Part No.	Description
1	1	A1537	Console, Display, Cordless
2	1	P1558	PCB, Display, Cordless, Upper
3	2	P1923	Standoff, 6-32 X 1", White Nylon, M-F, 1/4 Hex
4	4	P1051	Standoff, 6-32 X 1/4, 1", M-F, Zinc
5	1	P1560	Overlay, Display, Cordless, English, w/Panel
6	1	P2221	PCB, Rec., HR, Wireless, 208, Polar
7	1	P2160	PCB, Display, Rotary, B/W
8	1	P2501	PCB, HR, 211, Polar

Note:

1. **P1558 is used with ISO1004Rs with serial numbers 510-005000 thru 510-005402 and for units with CardioKey (not FITKEY).**
2. **P2160 is used with ISO1004Rs with serial numbers above 510-005403 and not equipped with CardioKey.**
3. **P2221 is used with P1558.**
4. **P2501 is used with P2160.**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Item No.	Qty.	Part No.	Description
1	1	C1012	Weldment, Frame, Base, Recumbent
2	1	C1143	Weldment, Seat Base, ISO1000R
3	1	A1015	Bracket, Wheel, Left
4	1	A1016	Bracket, Wheel, Right
5	1	A1119	Lever, Adj., Position, Seat, Assy.
6	1	C1654	Plate, Side, Drivetrain, Right, Recumbent
7	1	C1653	Plate, Side, Drivetrain, Left, Recumbent
8	1	A1149	Track, Adj., SST, Recumbent
9	2	A1222	Extrusion, Rail, 34", Recumbent
10	1	P2588	Pad, Seat, Back
11	1	P2587	Pad, Seat, Bottom
12	1	A1144	Weldment, Handlebar, Seat
13	2	C1113	Frame, Seat, ISO1000R
14	20	P1038	Roller, Urethane, 1-1/4 Dia. X 3
15	1	P1125	Knob, 7/16-20, Round
16	1	A1546	Support, Cover, Cordless
17	1	A1120	Bracket, Spring
18	1	A1641	Stiffener, Frame, Cordless
19	1	A1657	Weldment, Display, Handlebar, Contact HR, Recumbent
20	4	A1890	Cap, Base, 3", Adj., 65 Durometer
21	4	P2249	Cap, Frame, Seat
22	1	A1115	Bracket, Position, Adj., Lever
23	1	A1146	Rod, Lock, Recumbent
24	2	A1131	Spacer, Frame
25	1	A1230	Stiffener, Side Plate, Idler
26	1	A1538	Bar, Tensioning, Brake, Cordless
27	1	A1545	Pulley, Drive, Brake,13"
28	1	A1655	Cover, Side, Recumbent, Cordless, Left
29	1	A1656	Cover, Side, Recumbent, Cordless, Right
30	2	A1659	Cover, Crank, Pedal
31	1	A1667	Assy., Spindle, Crank, Cordless
32	1	P1060	Grommet, Hole, 1" Dia.
33	1	P1063	Wheel, Front
34	1	P1091	Idler, Recumbent
35	4	P1095	Flangette, Bearing
36	2	P1096	Bearing, Spindle, Drive, SB204-12
37	2	P1100	Decal, SCIFIT, 2.75 X 12, 1000
38	1	P1105	Grommet, Hole, 1-1/2" Dia.
39	2	P1106	Decal, Plate, Scuff
40	2	P1191	Crank, 175mm, Pair

Item No.	Qty.	Part No.	Description
41	1	P2161 or P1559	PCB, Lower, Rotary, B/W (Ser. No. 510-005403 and above) or PCB, Control, Brake, Cordless (Ser. No. 510-005000 thru 510-005402)
42	1	P1575	Pulley, Poly-V, 30mm, Cordless
43	1	P1564	Battery, Rechargeable, Cordless
44	1	P1832	Cable, Receptacle, Power, Cordless
45	2	P2746	Grip, HR, Contact, 1.5ID, Pair
46	10	P1933	Clip, Cord, Adhesive Backed
47	1	A1570	Bracket, Mounting, Battery, Cordless
48	1	P2273	Pedal, Bike, Right
49	1	P2274	Pedal, Bike, Left
50	4	P1051	Standoff, 6-32 X 1/4, 1", M-F
51	1	P1521	Brake, Cordless, Hybrid, w/ Roller Clutch
52	1	P2122	Grommet, Hole, 1 1/4" Dia.
53	1	P1566	Grommet, Hole, Shutter, Cordless
54	1	P1550	Belt, Poly-V, Cordless
55	1	P1813	Decal, Model, ISO1000R
56	1	A1549	Plate, Entry, Power, Cordless
57	1	P2419	Cable, P.S., Display, Ribbon (Ser. No. 510-005403 and above)
58	1	P2222	PCB, Receiver, HR, Contact, Anti-Static, DT
59	1	P1694	Cable, Telco, 8 conductor, Cordless (Ser. No. 510-005402 and below)
60	1	P1695	Cable, Telco, 6 conductor, Cordless (Ser. No. 510-005402 and below)
61	1	B2223	Display, Console, Cordless, Assy. (See P. 66)
62	2	P1092	Holder, Bottle, Water
63	1	P2520	Rod, Tensioning, Brake, 5.25"
64	1	P1983	Decal, Number, .75" Spacing, 1-20
65	2	P1183	Grip, 1” X 17.25”, Handlebar, Seat

Revised 05-26-05