MATRIX

PERFORMANCE RECUMBENT CYCLE
SERVICE MANUAL

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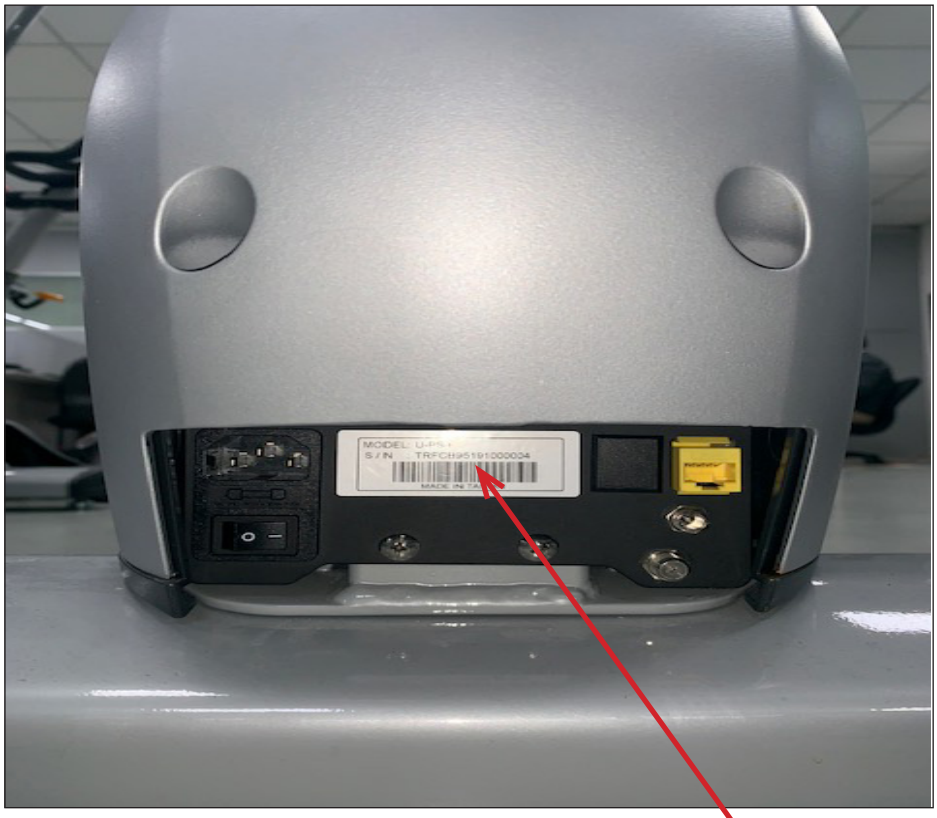
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CHAPTER 1: SERIAL NUMBER LOCATION

1.1 SERIAL NUMBER LOCATION



FRAME SERIAL NUMBER LOCATION

CHAPTER 2: IMPORTANT SAFETY INSTRUCTIONS

2.1 READ AND SAVE THESE INSTRUCTIONS

SAVE THESE INSTRUCTIONS

When using Matrix Cycles, basic precautions should always be followed, including the following: Read all instructions before using this equipment. It is the responsibility of the owner to ensure that all users of this equipment are adequately informed of all warnings and precautions.

This equipment is intended for commercial use. To ensure your safety and protect the equipment, read all instructions before operating.

DANGER!

TO REDUCE THE RISK OF ELECTRICAL SHOCK:

Always unplug the equipment from the electrical outlet immediately after using, before cleaning, performing maintenance and putting on or taking off parts.

CAUTION!

CONSULT A PHYSICIAN BEFORE USING THIS EQUIPMENT. READ OWNER'S MANUAL BEFORE USE.

It is essential that this equipment is used only indoors, in a climate controlled room. If this equipment has been exposed to colder temperatures or high moisture climates, it is strongly recommended that the equipment is warmed up to room temperature before first time use.

WARNING!

TO REDUCE THE RISK OF BURNS, FIRE, ELECTRICAL SHOCK OR INJURY TO PERSONS:

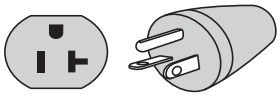
- Use this exercise cycle for its intended purpose as described in this manual. Do not use attachments that have not been recommended by the manufacturer.
- Never operate the exercise cycle if it is not working properly, or if it has been damaged. Contact Customer Tech Support or the authorized dealers for examination and repair.
- Do not use the exercise cycle without proper footwear. NEVER operate the exercise cycle with bare feet.
- Do not wear any clothing that might catch on any moving parts of this exercise cycle.
- Keep hands and feet clear at all times from moving parts to avoid injury. Never turn the pedal cranks by hand.
- Do not dismount the exercise cycle until the pedals are at a complete STOP.
- Do not attempt to ride the exercise cycle in a standing position.
- Do not insert any object, hands or feet into any openings, or expose hands, arms or feet to the drive mechanism or other potentially moving part of the exercise cycle.
- Do not use any equipment that is damaged or has worn or broken parts. Use only replacement parts supplied by Customer Tech Support or the authorized dealers.
- Do not operate where aerosol (spray) products are being used or when oxygen is being administered.
- Close supervision is necessary when used near children.
- This equipment is not intended for use by persons with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the equipment by a person responsible for their safety.
- Ensure that adjustment levers (seat and handlebar fore-and-aft) are properly secured and do not interfere with range of motion during exercise.
- Incorrect or excessive exercise may result in serious injury or death. If you experience any kind of pain, including but not limited to chest pains, nausea, dizziness, or shortness of breath, stop exercising immediately and consult your physician before continuing.
- Do not jump on the unit.
- At no time should more than one person be on unit while in operation.
- This unit should not be used by persons weighing more than specified in the OWNER'S MANUAL SPECIFICATIONS SECTION. Failure to comply will void the warranty.
- Keep power cord away from heated surfaces. Do not carry this unit by its supply cord or use the cord as a handle.
- Do not use other attachments that are not recommended by the manufacturer. Attachments may cause injury.
- Use the unit only as described in the unit guide and owner's manual.
- Disconnect all power before servicing or moving the equipment. To clean, wipe surfaces down with soap and slightly damp cloth only; never use solvents. (See MAINTENANCE)
- At NO time should pets or children under the age of 14 be closer to the unit than 10 feet.
- At NO time should children under the age of 14 use the unit.
- Children over the age of 14 should not use the unit without adult supervision.
- Never operate the unit if it has a damaged cord or plug, if it is not working properly, if it has been dropped or damaged, or immersed in water. Return the unit to a service center for examination and repair.
- To disconnect, turn all controls to the off position, then remove plug from outlet.
- Do not remove the console covers unless instructed by Customer Tech Support. Service should only be done by an authorized service technician.
- Heart rate monitoring systems may be inaccurate.

2.2 ELECTRICAL REQUIREMENTS

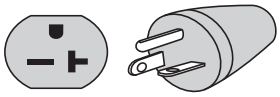
DEDICATED CIRCUIT AND ELECTRICAL INFO

A “Dedicated Circuit” means that each outlet you plug into should not have anything else running on that same circuit. The easiest way to verify this is to locate the main circuit breaker box, and turn off the breaker(s) one at a time. Once a breaker has been turned off, the only thing that should not have power to it are the units in question. No lamps, vending machines, fans, sound systems, or any other item should lose power when you perform this test.

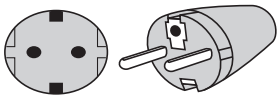
Non-looped (isolated) neutral/grounding means that each circuit must have an individual neutral/ground connection coming from it, and terminating at an approved earth ground. You cannot “jumper” a single neutral/ground from one circuit to the next.



110 NEMA 5-20P PLUG
(N.A.)



220 NEMA 6-20P PLUG
(N.A.)



EURO PLUG (EUROPE)

North American and European power cord plugs shown. Depending on your country, the plug type may vary.

ELECTRICAL REQUIREMENTS

For your safety and to ensure good unit performance, the ground on this circuit must be non-looped (isolated). Please refer to NEC article 210-21 and 210-23. Any alterations to the standard power cord provided could void all warranties of this product.

Units with LED and Premium LED consoles are designed to be self powered and do not require an external power supply source to operate. Without an external power supply, the console’s start-up time may be delayed. Add-on TV’s and other console accessories require an external power supply. An external power supply will ensure power is provided to the console at all times and is required when add-on accessories are used.

For units with an integrated TV (Touch), the TV power requirements are included in the unit. An RG6 quad shield coaxial cable with ‘F Type’ compression fittings on each end will need to be connected to the cardio unit and the video source. Additional power requirements are not needed for the add-on digital TV.

110 V UNITS

110 V units require the use of a 100-125 V, 60 Hz and a 15 A “Dedicated Circuit”, with a non-looped (isolated) neutral/ground for power. This outlet should be a NEMA 5-15R and have the same configuration as the plug. No adapter should be used with this product. These cycles can be daisy-chained together with up to 4 units per 15 A dedicated circuit. Matrix daisy-chain cord adapters are sold separately.

220 V UNITS

220 V units require the use of a 216-250 V, 50 Hz and a 15 A “Dedicated Circuit”, with a non-looped (isolated) neutral/ground for power. This outlet should be a NEMA 6-15R and have the same configuration as the plug. No adapter should be used with this product. These cycles can be daisy-chained together with up to 4 units per dedicated 15 A circuit. Matrix daisy-chain cord adapters are sold separately.

GROUNDING INSTRUCTIONS

The unit must be grounded. If it should malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. The unit is equipped with a cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances. If the user does not follow these grounding instructions, the user could void the Matrix limited warranty.

ADDITIONAL ELECTRICAL INFO

In addition to the dedicated circuit requirement, the proper gauge wire must be used from the circuit breaker box, to each outlet that will have the maximum number of units running off of it. If the distance from the circuit breaker box to each outlet, is 100 ft (30.5 m) or less, then 12 gauge wire should be used. For distances greater than 100 ft (30.5 m) from the circuit breaker box to the outlet, a 10 gauge wire should be used.

ENERGY SAVING / LOW-POWER MODE

All units are configured with the ability to enter into an energy saving / low-power mode when the unit has not been in use for a specified period of time. Additional time may be required to fully reactivate this unit once it has entered the low-power mode. This energy saving feature may be enabled or disabled from within the ‘Manager Mode’ or ‘Engineering Mode.’

ADD-ON DIGITAL TV

Add-on digital TV’s require additional power and must use an external power supply. An RG6 coaxial cable with ‘F Type’ compression fittings will need to be connected between the video source and each add-on digital TV unit.

CHAPTER 3: PREVENTATIVE MAINTENANCE

3.1 RECOMMENDED CLEANING TIPS

MAINTENANCE

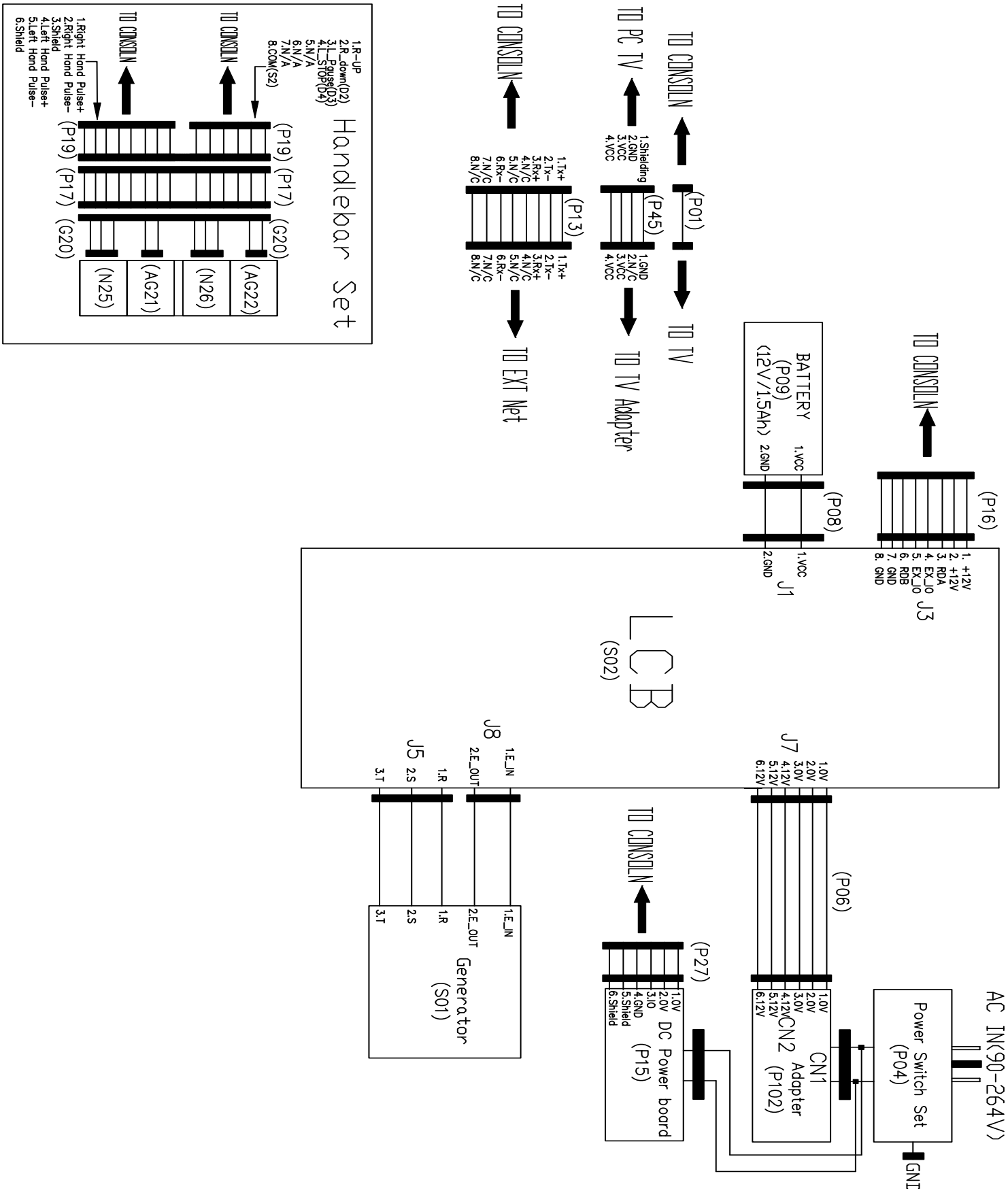
1. Any and all part removal or replacement must be performed by a qualified service technician.
2. DO NOT use any equipment that is damaged and or has worn or broken parts. Use only replacement parts supplied by your country's local MATRIX dealer.
3. MAINTAIN LABELS AND NAMEPLATES: Do not remove labels for any reason. They contain important information. If unreadable or missing, contact your MATRIX dealer for a replacement.
4. MAINTAIN ALL EQUIPMENT: Preventative maintenance is the key to smooth operating equipment as well as keeping your liability to a minimum. Equipment needs to be inspected at regular intervals.
5. Ensure that any person(s) making adjustments or performing maintenance or repair of any kind is qualified to do so. MATRIX dealers will provide service and maintenance training at our corporate facility upon request.

WARNING

To remove power from the exercise cycle, the power cord must be disconnected from the wall outlet.

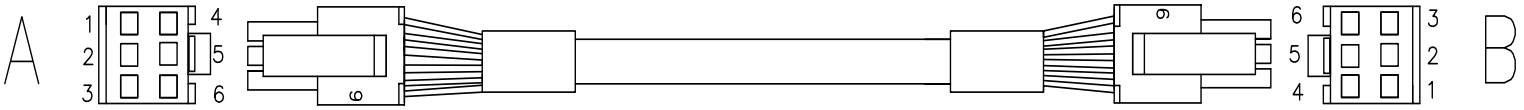
MAINTENANCE SCHEDULE	
ACTION	**FREQUENCY**
Unplug the unit. Clean entire machine using water and a mild soap or other Matrix approved solution (cleaning agents should be alcohol and ammonia free).	DAILY
Inspect the power cord. If the power cord is damaged, contact Customer Tech Support.	DAILY
Make sure the power cord is not underneath the unit or in any other area where it can become pinched or cut during storage or use.	DAILY
Clean underneath the cycle, following these steps: • Turn off the cycle. • Move the cycle to a remote location. • Wipe or vacuum any dust particles or other objects that may have accumulated underneath the cycle. • Return the cycle to its previous position.	WEEKLY
Inspect all assembly bolts and pedals on the machine for proper tightness.	MONTHLY
Clean any debris off of the seat guide rail.	MONTHLY

4.1 ELECTRICAL DIAGRAMS



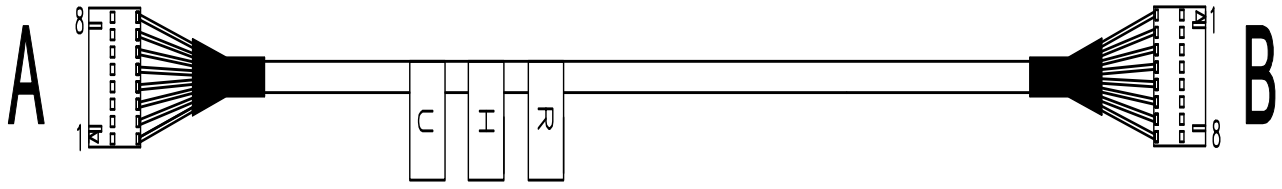
4.1 ELECTRICAL DIAGRAMS - CONTINUED

MCB POWER WIRE



A.HOLE	B.HOLE	FUNCTION
1	1	0V
2	2	0V
3	3	0V
4	4	12V
5	5	12V
6	6	12V

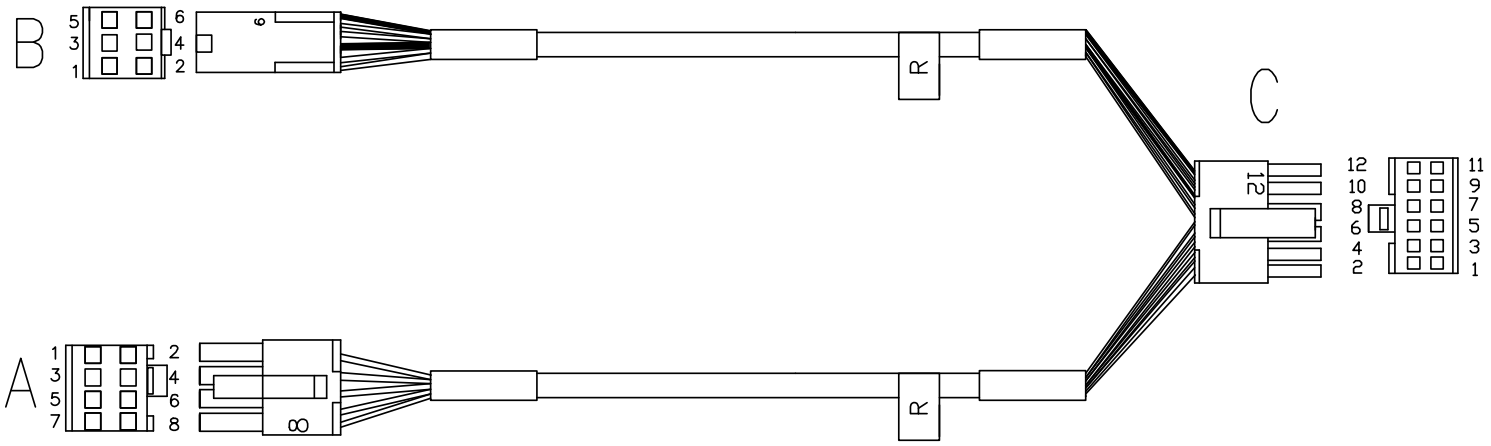
DIGITAL COMMUNICATION WIRE



A.HOLE	B.HOLE	線徑定義	FUNCTION	COLOR
1	1	1P	12V	紅
2	2	4P	12V	
3	3	2P	RDA	
4	4	3P	NA	
5	5		NA	
6	6	2P	RDB	
7	7	1P	GND	
8	8	4P	GND	黑

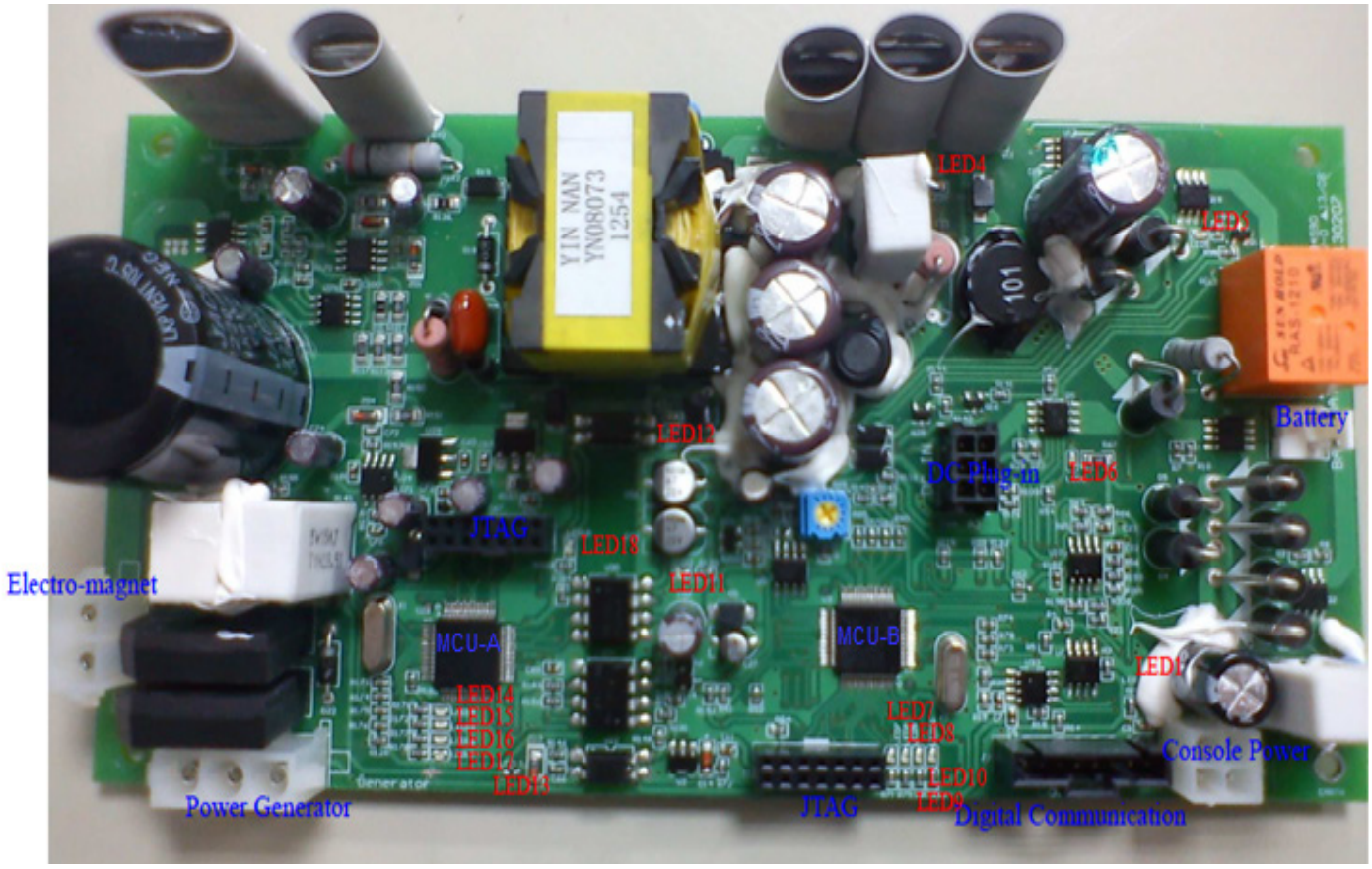
4.1 ELECTRICAL DIAGRAMS - CONTINUED

PULSE EXTENDED WIRE



A.HOLE	B.HOLE	C.HOLE	FUNCTION
1		7	R_UP(D1)
2		8	R_down(D2)
8		9	COM(S2)
3		10	L_Pause(D3)
4		11	L_STOP(D4)
8		12	COM(S2)
	1	1	RT-PRI
	2	2	RT-SEC
	3	3	Shield+熱縮套管
	4	4	LT-PRI
	5	5	LT-SEC
	6	6	Shield+熱縮套管

4.2 LCB LED INDICATORS



========== LED Status==========

LED1: Console power supply (Light: LCB give the power for console)

LED4: Boost Controller

LED5: Battery Charge Control (Light: Battery just charge)

LED6: Battery connection reversed protection (Light: Reverse)

LED7: MCU-B LCB Working Status (Flash: Working)

LED8: Resistance Offset (Off: Normal)

LED9: MCU A <—> B Communication (Flash: Working)

LED10: UCB <—> LCB Communication (Flash: Working)

LED11: 5V (For LCB MCU power)

LED12: 12V (For LCB power)

LED13: RPM

LED14: MCU-A LCB Working Status (Flash: Working)

LED15: MCU-A Error (Light: LCB get error)

LED16: MCU A <—> B Communication (Flash: Working)

LED18: Electromagnet PWM

4.3 ERROR CODE LIST

03XX: UCB ERRORS –SEE THE APPLICABLE CONSOLE SERVICE MANUAL FOR MORE INFORMATION
04XX: COMMUNICATION ERRORS

CODE	CLASS	DESCRIPTION	SOLUTION
0440	B	Timeout receive packet	a. Enter the Engineer mode disable B Level Error, bypass CLASS A and B error code. b. Check the connection of the console cable at both ends and perform continuity test. c. Replace MCB.
0441	B	When UCB implements a command, but the LCB/MCB cannot execute the command	Enter the Engineer mode disable B Level Error, bypass CLASS A and B error code.
0442	B	The received command code from the console is correct and is supported, but the data sent/ transferred is wrong	Enter the Engineer mode disable B Level Error, bypass CLASS A and B error code.
04A0	C	MCB does not have communication response from UCB	Delta MCB only: a. If the display is giving an 04A0 error, LED DSP2 (RS485) should be off. Recycle power.. b. Check the connection of the console cable at both ends and perform continuity test. c. Swap console with known good if connections are good. Replace the console. d. Replace the MCB.
04B0	C	UCB does not have communication response from MCB	Delta MCB only: a. If the display is giving an 04A0 error, LED DSP2 (RS485) should be off. Recycle power.. b. Check the connection of the console cable at both ends and perform continuity test. c. Swap MCB with known good if connections are good. Replace the MCB. d. Replace the console.
04B1	C	IO board does not have communication response	Replace UCB.

ERROR CODE 04A0 / 0440

1) SYMPTOM:

04A0 – UCB communication disconnected.
0440 – Timeout receive packet (LCB can not receive any data for 50 seconds).

2) SOLUTION:

If the display is giving a 04A0 error, check the LCB LED10 status.

- LED10 blinking: Turn off power and after 3 seconds, turn on power again. If console also show the 04A0, re-install UCB software again. If this does not resolve the issue, replace the UCB.
- LED10 off: Check the connection of the digital communication wire at the UCB and LCB (Figures A). If the connection is good, replace the digital communication wire.
- If replacing the UCB and digital communication wire does not work, replace the LCB.

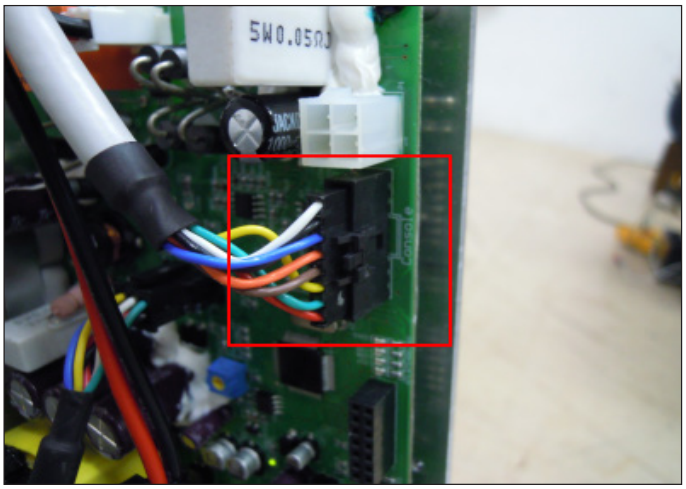


FIGURE A

ERROR CODE 04B0

1) SYMPTOM:

04B0 – LCB communication disconnected.

2) SOLUTION:

1) If the display is giving a 04B0 error, check the LCB LED10 status.
   - LED10 blinking: Turn off power and after 3 seconds, turn on power again. If the console shows the 04A0 error, skip to Step 2.
   - LED10 off: Check the connection of the digital communication wire at the UCB and LCB (Figure A & B). If the connection is good, replace the digital communication wire.
2) If LEDs 7 / 8 / 9 / 10 blinking together, this should be LCB software problem. Re-install LCB software. If this does not resolve the issue, replace the LCB.

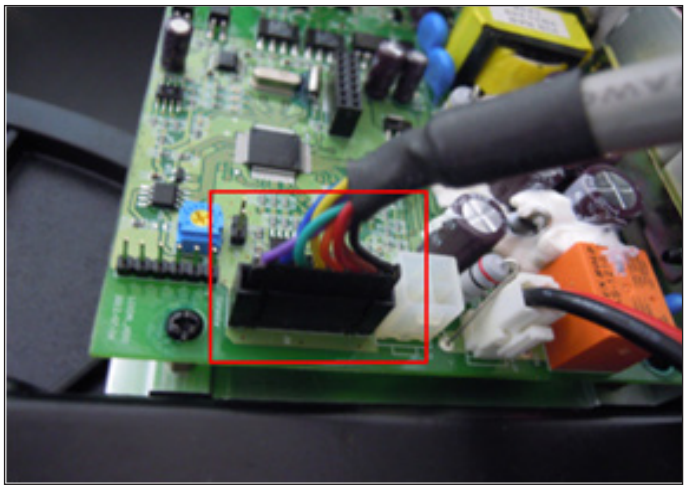


FIGURE A

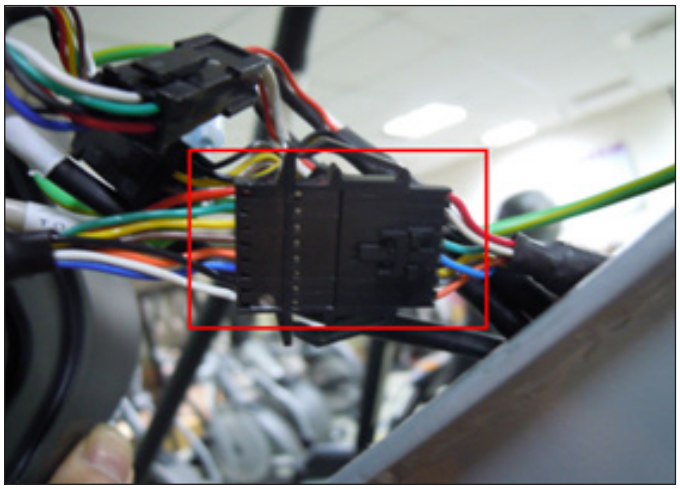


FIGURE B

ERROR CODE 0248

1) SYMPTOM:

0248 - Battery disconnection or fail. (When power is on, LCB battery voltage is less than 6 VAC).

2) SOLUTION:

1) Please check the battery wire connection between the battery and LCB (Figure A).
2) Check the battery voltage (Figure B), if it is less than 6 V, please plug in the power cord to charge battery for 1 hour. Replace the battery if it will not hold a charge.
3) If the battery voltage is more than 6 V, replace the LCB.

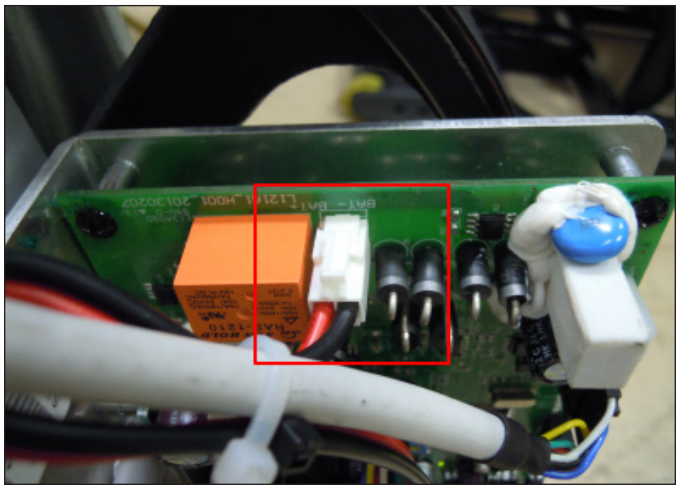


FIGURE A



FIGURE B

4.7 TROUBLESHOOTING - ERROR 0247

ERROR CODE 0247

1) SYMPTOM:
0247 - MCU fail.

2) SOLUTION:
1) Replace LCB.

4.8 TROUBLESHOOTING - ERROR 02B4 / 03A8 / 02AB / 0441

ERROR CODE 02B4 / 03A8 / 02AB / 0441

1) SYMPTOM:
02B4 – Resistance type error.
03A8 – Control settings on the console does not match the frame.
02AB – Machine Type Error.
0441 – Command received but LCB without the function (LCB no support this command).

2) SOLUTION:
1) Check the machine type is matched with frame from Service mode.
2) Check if the console is matched with the correct frame.
3) Replace the LCB.
4) Replace the UCB.

ERROR CODE 0149 / 01AF

1) SYMPTOM:

0149 – Electro-magnet over current.
01AF – Electro-magnet disconnected.

2) SOLUTION:

1) Check if the Electro-magnet is short circuited or open (Figure A).
   - If the resistance data shows a short / open ohms or is outside the range of 12.8 ~14.2 ohms, replace the Electro-magnet.
   - If the resistance data is in the range between 12.8 ~14.2 ohms, replace the LCB.

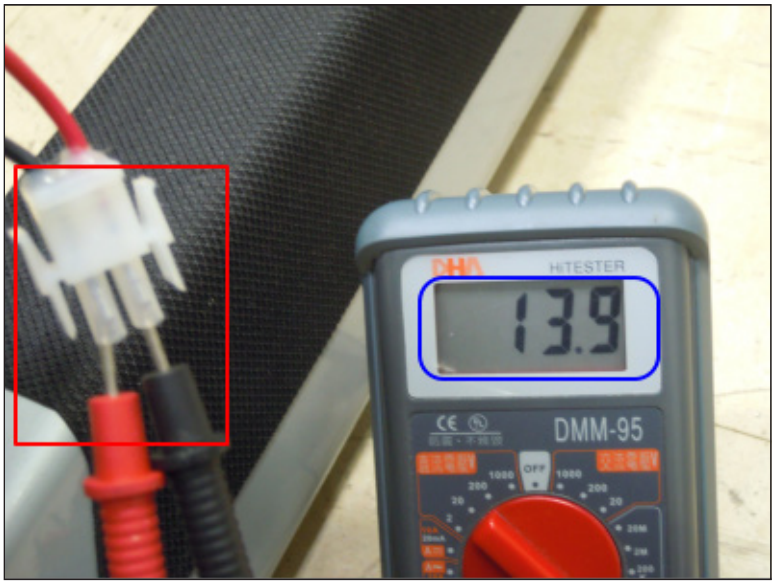


FIGURE A

4.10 TROUBLESHOOTING - ERROR 01B4

ERROR CODE 01B4

1) SYMPTOM:

01B4 – Battery connection reverse protection.

2) SOLUTION:

1) Check the battery wire connection between the battery and LCB (Figure A).
2) Check the battery voltage (Figure B).
   - If there is no data on voltage, replace the battery
   - If there is data on voltage, replace the LCB

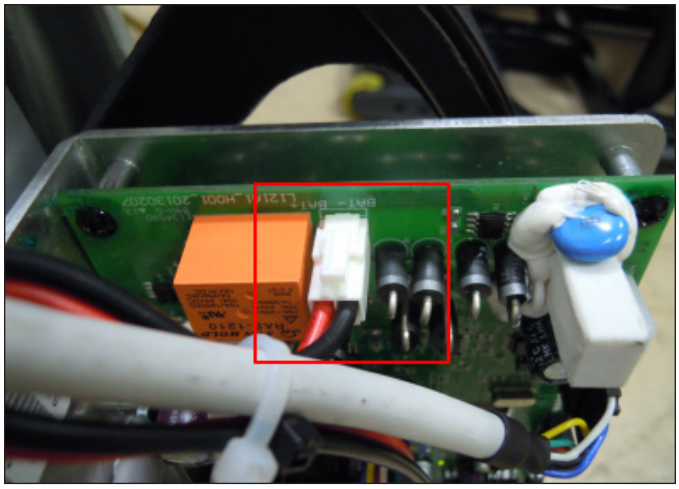


FIGURE A



FIGURE B

4.11 TROUBLESHOOTING - NO RESISTANCE ISSUES

NO RESISTANCE ISSUES

1) SYMPTOM:
No resistance.

2) SOLUTION:
1) Check the resistance wire connection between the ECB and LCB (Figure A).
2) Check if the resistance is open (Figure B).
   - If there is no data on resistance, replace the ECB.
   - If there is data on resistance, replace the LCB.

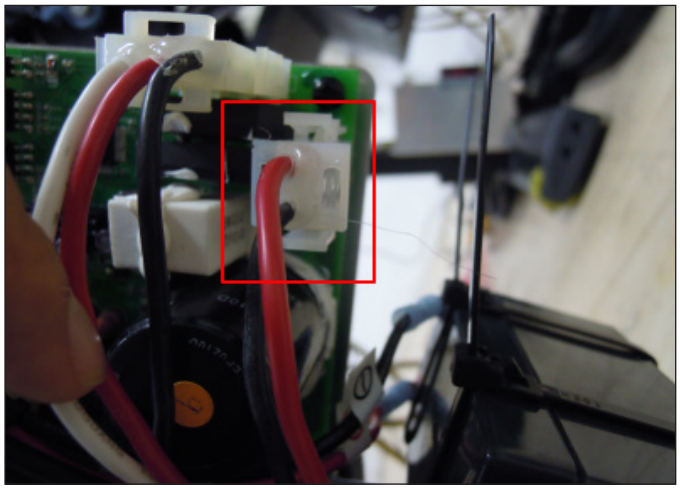


FIGURE A

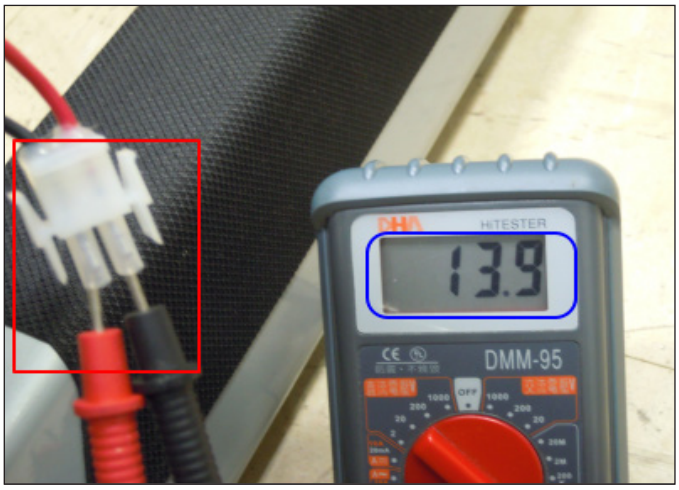


FIGURE B

4.12 TROUBLESHOOTING - NO POWER TO THE CONSOLE

POWER SWITCH IS ON, BUT THE CONSOLE HAS NO DISPLAY

POSSIBLE CAUSES:

1) The unit is not getting power from the outlet.
2) The LCB is not getting power from the power receptacle.
3 & 4) The LCB LEDs are lit, but there is no power to the console.

SOLUTION:

1) Verify power at the outlet. If the outlet is not outputting 120VAC, check the fitness room power.

2) Remove the front disk and check to see if LED1 is lit on the LCB (Figure A).
   a. If it is not lit, verify power at the outlet. if the outlet is not outputting 120V power, check the fitness room power.
   b. If LED9 is still not lit, check the incoming AC power to the LCB. If the incoming power is not correct, replace the power cord.
   c. Replace the LCB if all power components are OK and there are AC volts to the LCB.

3 & 4) Remove the front disk and check to see if LED1 is lit on the LCB.
   a. If LED9 is lit, check the connection of the console cable.
   b. If the console cable is connected properly, LED2 on the control board should be lit (Figure B). If it is not lit, check voltage on the console cable. Measure voltage across pins 1 and 3 of the cable, it should show around 12V. Replace the console cable if this reading is off.
   c. If LED2 on the control board is lit, but there is still no power to the console, replace the console.

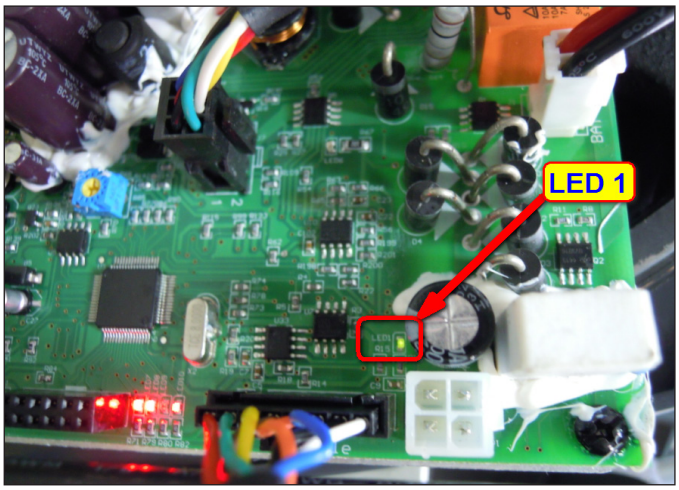


FIGURE A

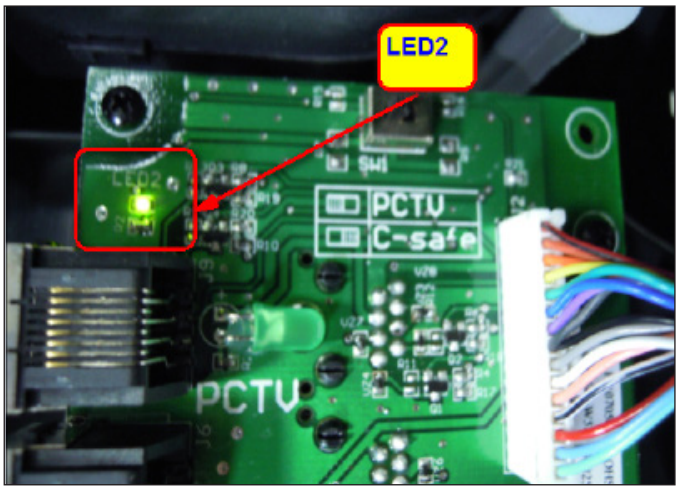


FIGURE B

5.1 HANDLEBAR REPLACEMENT

1) Remove the 4 screws holding the heart rate handlebar to the console mast being careful to support the handlebar (Figure A).
2) Carefully pull the wires from the console mast until the connectors are showing, and then disconnect the 2 wires from the handlebar and remove the defective handlebar (Figure B).

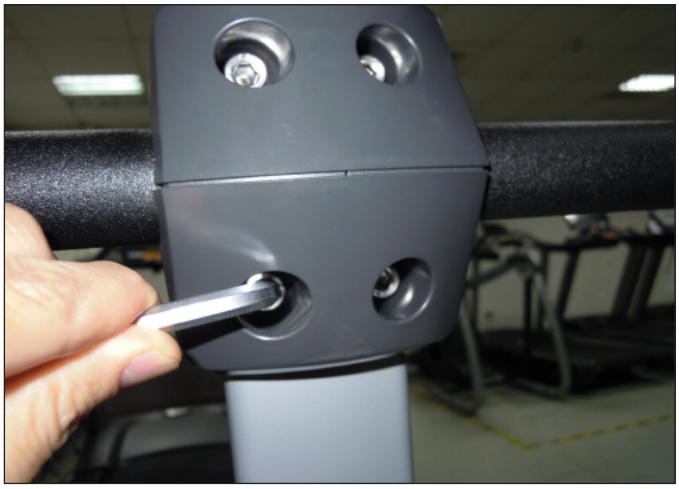


FIGURE A



FIGURE B

3) Reverse Steps 1-2 to install a new handlebar.

5.2 CUP HOLDER REPLACEMENT

1) Remove the 2 screws holding the cup holder to the frame (Figure A).

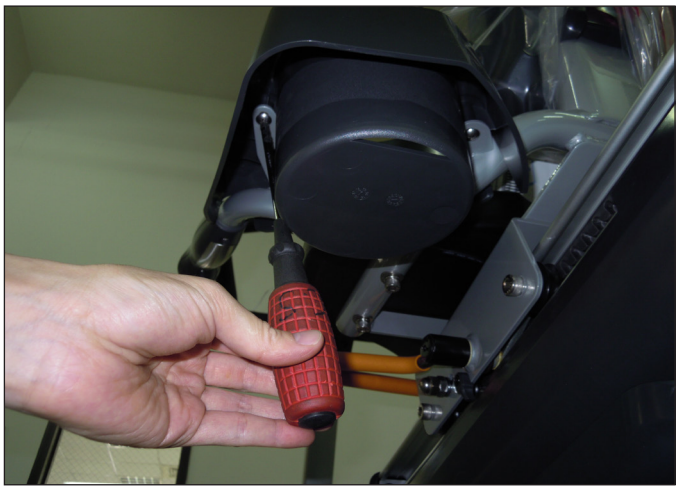


FIGURE A

2) Remove the cup holder (Figure B).



FIGURE B

3) Reverse Steps 1-2 to install a new cup holder.

5.3 SEAT PAD REPLACEMENT

1) Remove the 4 screws holding the seat pad to the seat frame (Figure A).

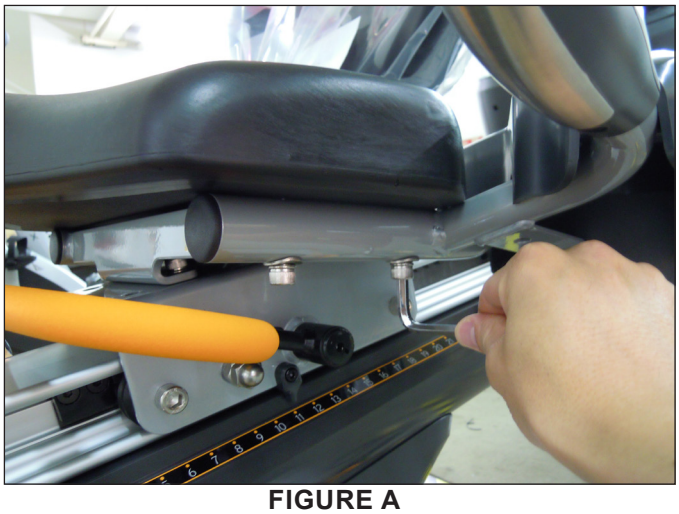


FIGURE A

2) Lift the seat pad away from the seat frame (Figure B).

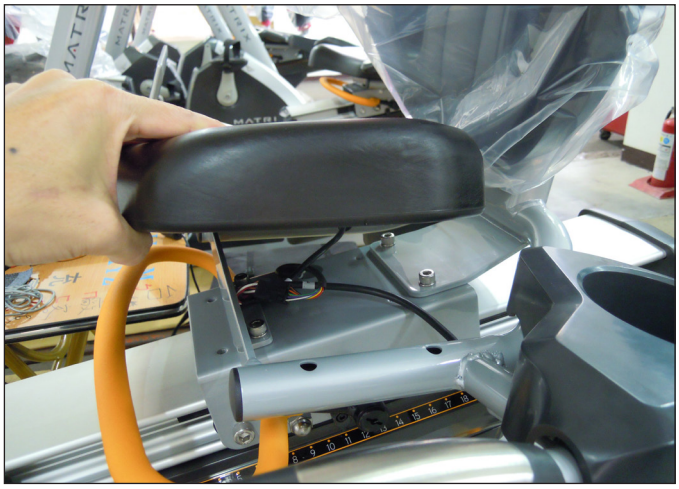


FIGURE B

3) Reverse Steps 1-2 to install a new seat pad.

5.4 BACK PAD REPLACEMENT

1) Remove the 2 bolts holding the back pad to the seat frame (Figure A).

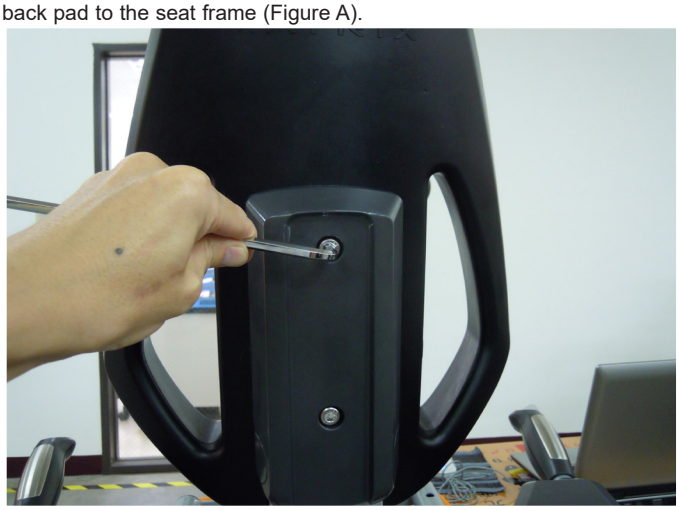


FIGURE A

2) Remove the back pad (Figure B).



FIGURE B

3) Reverse Steps 1-2 to install a new back pad.

5.5 HEART RATE GRIPS REPLACEMENT

1) Remove the 6 screws holding the HR grip together (Figure A).
2) Once the 6 screws are removed, the keypad will remove (Figure B).



FIGURE A



FIGURE B

3) Disconnect the keypad / overlay and the HR plate wiring and tucked the wire into the hole than remove the old HR grip (Figure C,D).
4) Reverse Steps 1-3 to install new HR grips. The red wire should be on the top HR plate, the white wire on the back (Figure D).



FIGURE C



FIGURE D

5.6 SEAT SET REPLACEMENT

1) Remove the cup holder
2) Remove the seat pad
3) Remove the back pad
4) Remove the HR grips
5) Disconnect the heart rate wiring (Figure A).
6) Remove the 4 screws holding the seat set to the seat slide set (Figure B).

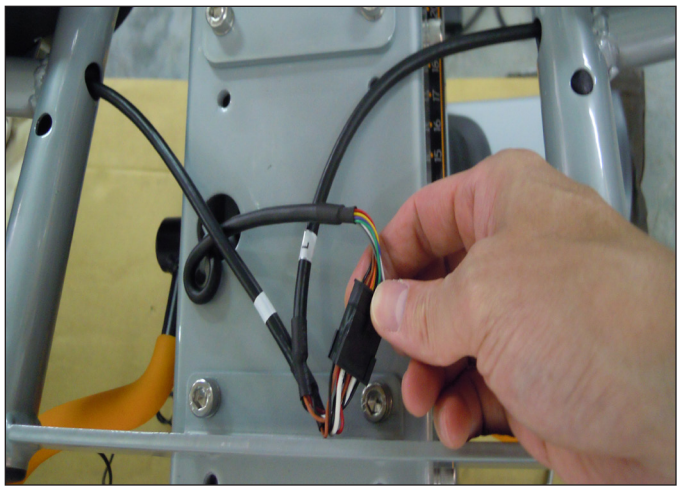


FIGURE A

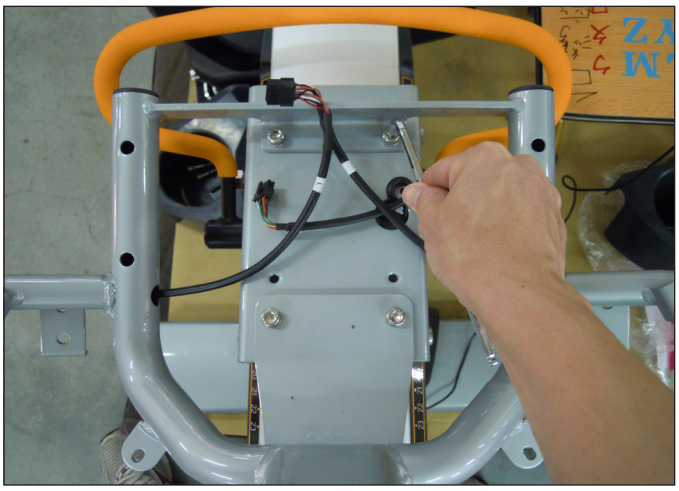


FIGURE B

7) Remove the upper seat set from the seat slide set (Figure C).

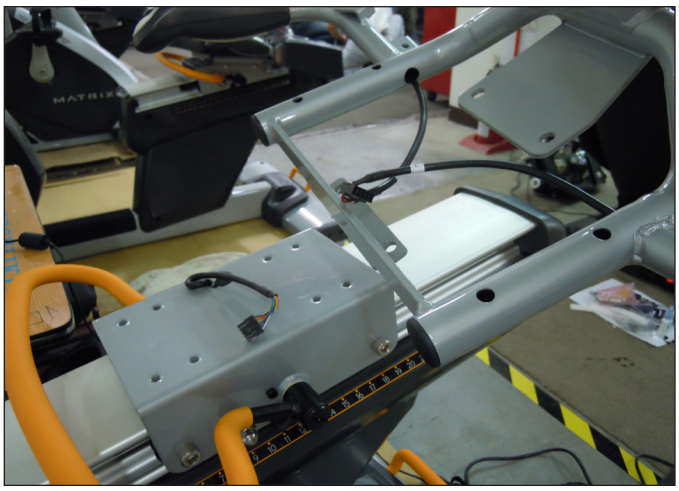


FIGURE C

8) Reverse Steps 1-7 to install a new seat set.

5.7 SEAT SLIDE SET REPLACEMENT

1) Remove the seat set
2) Remove the 2 screws holding the end cap over to the guide rail set (Figure A).
3) Remove the end cap cover (Figure B).

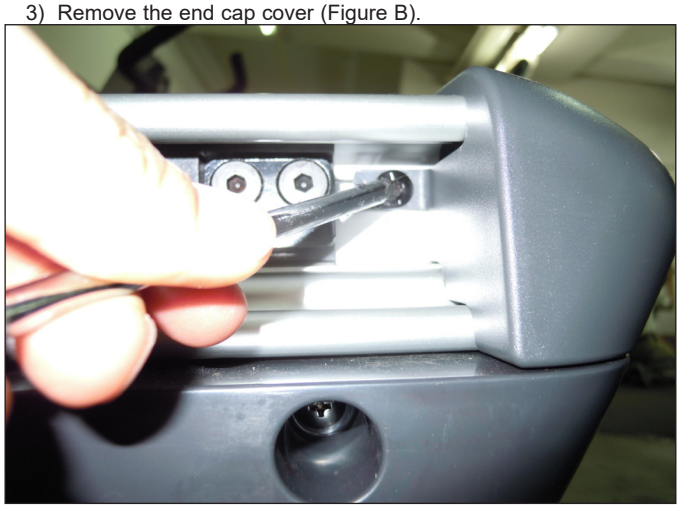


FIGURE A



FIGURE B

4) Remove the 2 screws holding the adjust plate to the adjustable plate (Figure C).
5) Remove the adjust plate (Figure D).

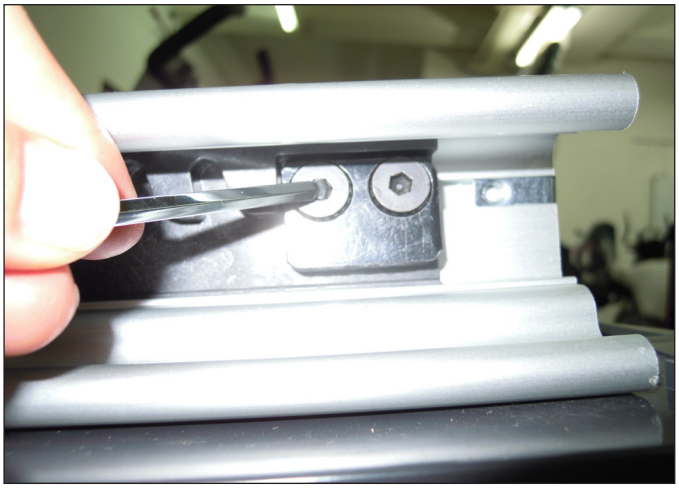


FIGURE C

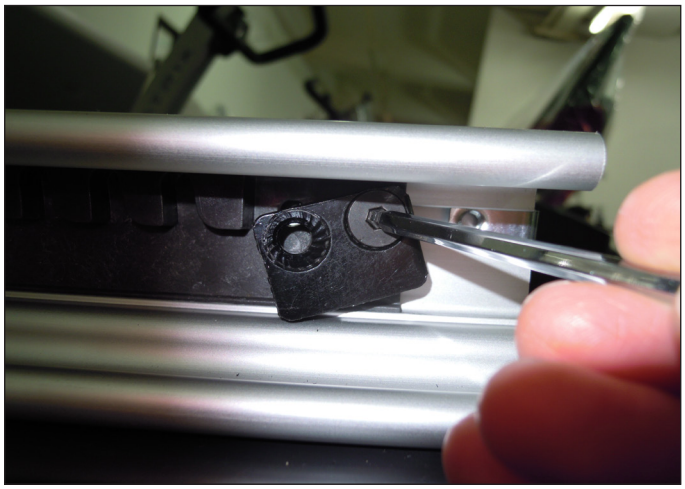


FIGURE D

5.7 SEAT SLIDE SET REPLACEMENT - CONTINUED

6) Remove the 2 screws holding the indicate cap to the seat slide set (Figure E).
7) Remove the indicate cap (Figure F).



FIGURE E

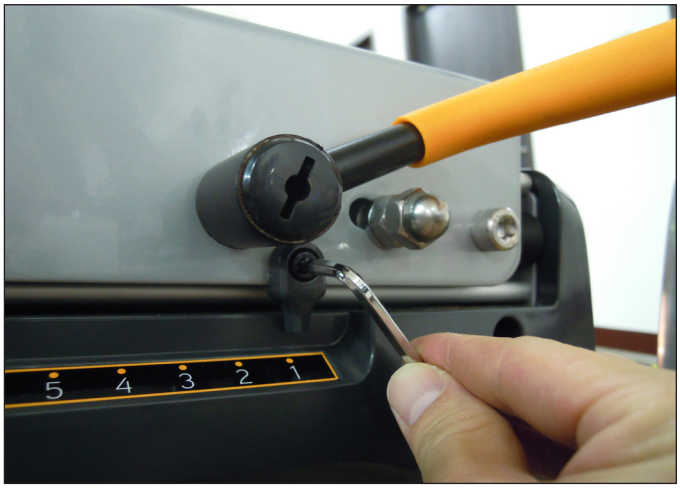


FIGURE F

8) Cut the cable tie and disconnect the HR wire from seat slide set (Figure G).
9) Depress the seat position lever and pull off the seat slide set from the guide rail set (Figure H).

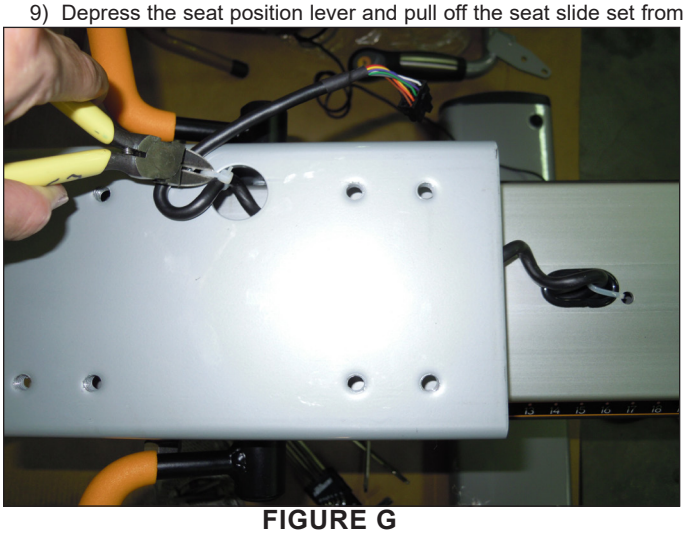


FIGURE G

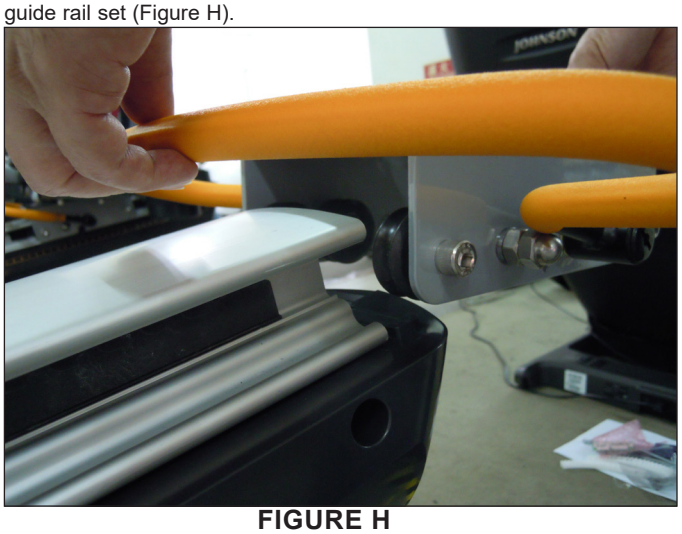


FIGURE H

10) Reverse Steps 1-9 to install a new seat slide set.

5.8 REAR COVERS REPLACEMENT

1) Remove the 4 screws holding the left side rear cover to the frame and remove it (Figure A).
2) Remove the 4 screws holding the right side rear cover to the frame and remove it (Figure B).



FIGURE A



FIGURE B

3) Figure C shows the bike with both rear side covers removed.

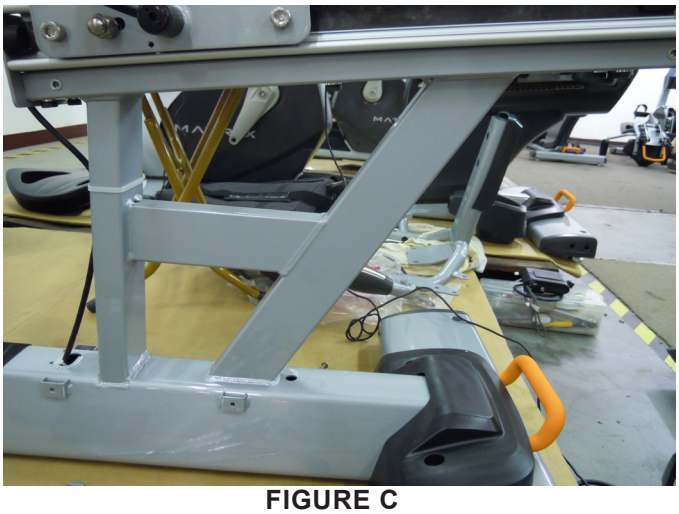


FIGURE C

4) Reverse Steps 1-2 to install new rear side cover.

5.9 GUIDE RAIL SET REPLACEMENT

1) Remove the seat slide set. .
2) Remove the rear covers
3) Cut the cable tie and disconnect the HR wire from guide rail set (Figure A).
4) Use a 13 mm wrench to remove the 6 screws holding the guide rail set to the frame (Figure B)

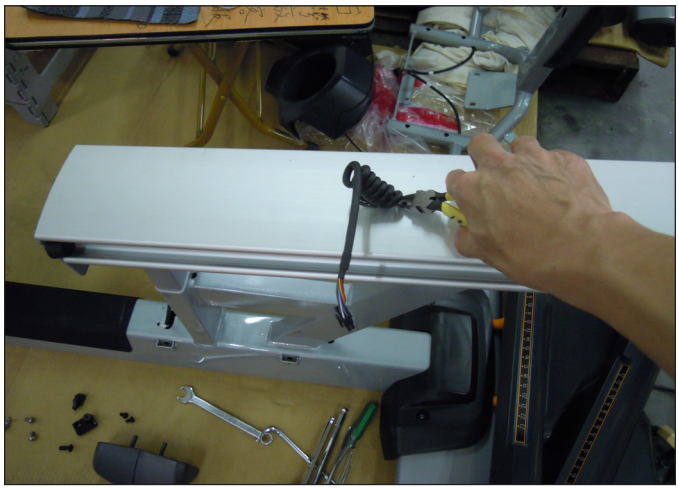


FIGURE A



FIGURE B

5) Pull the HR wires out of the guide rail set and remove the guide rail set (Figure C).

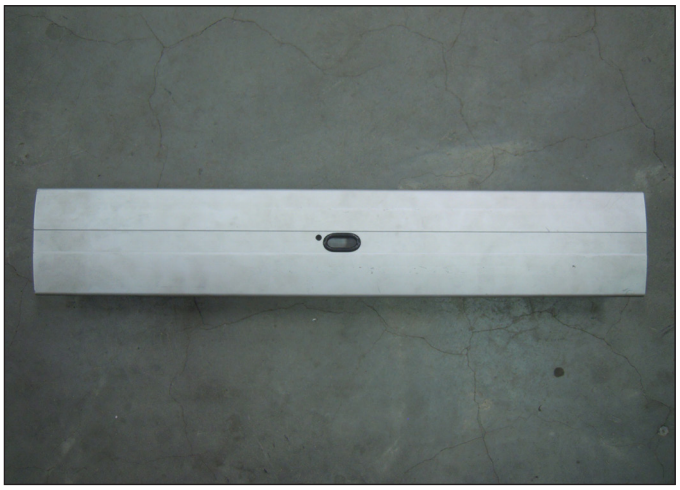


FIGURE C

6) Reverse Steps 1-5 to install a new guide rail set. ***NOTE:*** When installing a new guide rail set, be sure to pull the HR wire up through the new guide rail prior to installing the 6 screws into the frame.

5.10 PEDAL REPLACEMENT

1) Use a 15 mm commercial pedal wrench to remove the pedal from the crank (Figure A). ***NOTE:*** For the right side pedal, the threads are normal. For the left side pedal, the threads are reversed (the pedal turns off counterclockwise).



FIGURE A

2) Remove the pedal (Figure B).



FIGURE B

3) Reverse Steps 1-2 to install a new pedal. ***NOTE:*** Be sure to tighten the pedal as much as possible onto the crank with a commercial pedal wrench

5.11 CRANK AXLE SET REPLACEMENT

1) Remove the bolt that holds the crank to the drive axle set (Figures A & B).
NOTE: When loosening the bolt, you will feel some resistance after a few turns. This is normal. Keep loosening



FIGURE A



FIGURE B

2) The crank can be removed (Figure C).



FIGURE C

3) Reverse Steps 1-2 to install a new crank axle set. ***NOTE:*** Torque the bolt removed in Step 1 to 80 N-m / 800 kgf-cm.

5.12 FRONT SHROUDS REPLACEMENT

1) Remove the 4 screws that hold the silver cover to the frame (Figure A).
2) Remove the silver cover (Figure B).

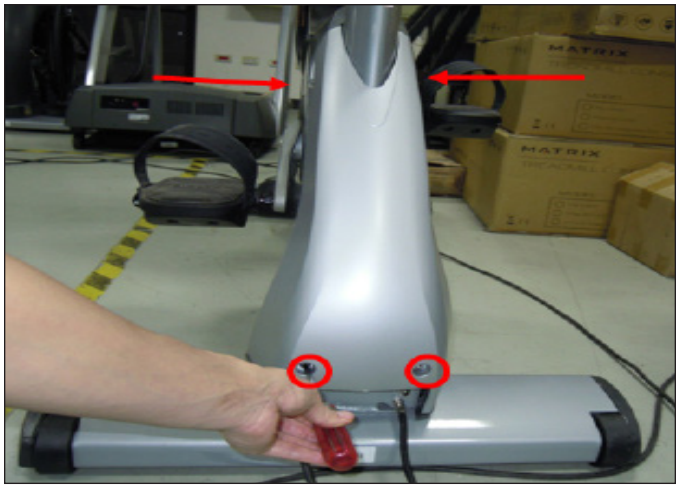


FIGURE A

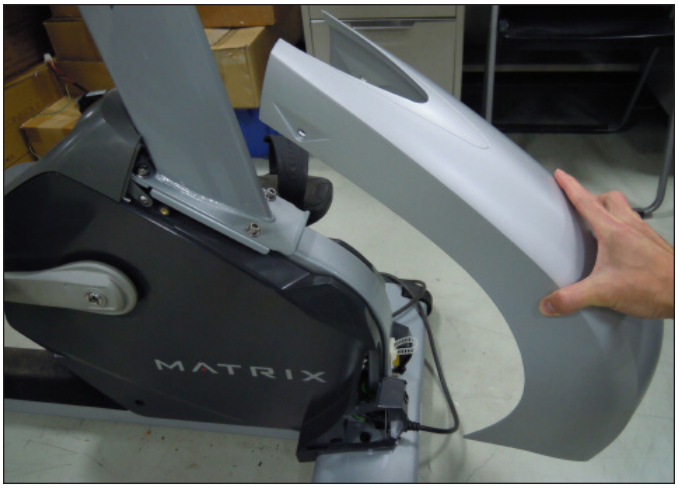


FIGURE B

3) Remove the 2 screws that hold the grey cover to the frame (Figure C).
4) Remove the grey cover (Figure D).



FIGURE C

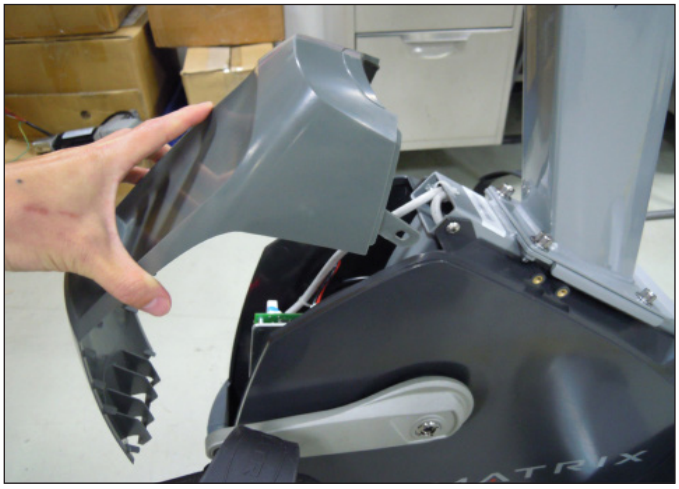


FIGURE D

5) Reverse Steps 1-4 to install new shrouds.

5.13 FRONT COVERS REPLACEMENT

1) Remove the pedals.
2) Remove the crank.
3) Remove the front shrouds.
4) Remove the 6 screws to detach the front covers from the frame (Figures A & B).

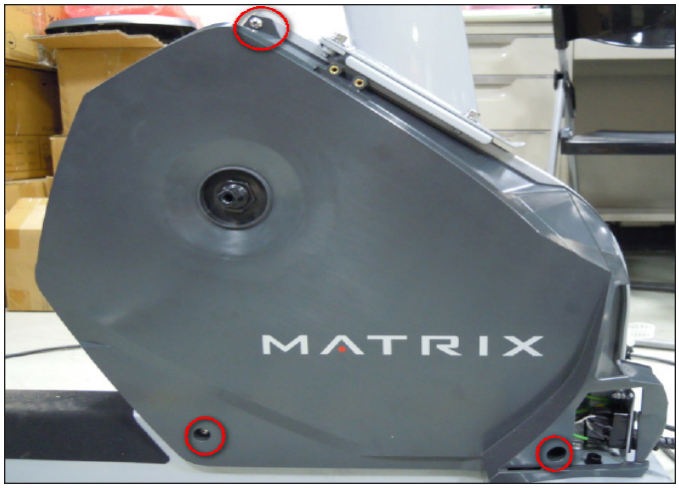


FIGURE A



FIGURE B

5) Figure C shows both the front covers removed.

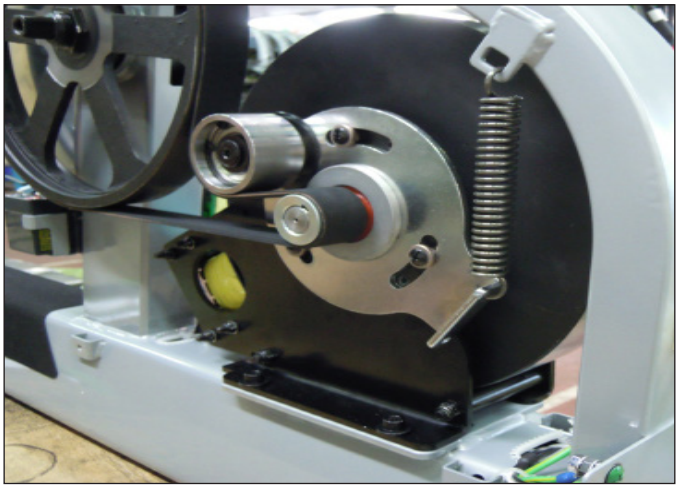


FIGURE C

6) Reverse Steps 1-5 to install new front covers.

5.14 CONSOLE MAST REMOVAL

1) Remove the console .
2) Remove the handlebars.
3) Remove the front shrouds.
4) Remove the 4 screws holding the console mast to the frame (Figure A)
5) Pull the wires out the bottom of the console mast and remove the mast.

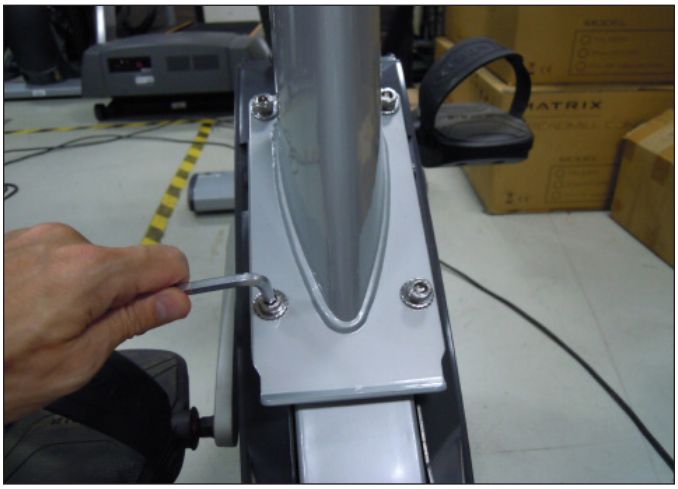


FIGURE A

6) Reverse Steps 1-5 to install a new console mast. ***NOTE:*** When installing a new console mast, be sure to pull the console wires up through the new mast prior to installing the 4 screws into the frame.

5.15 LOWER CONTROL BOARD REPLACEMENT

1) Remove the left side front cover.
2) Disconnect the 5 wire connections to the lower board (Figure A).
3) Remove the 2 screws holding the lower control board to the frame (Figure B), and remove the lower control board.

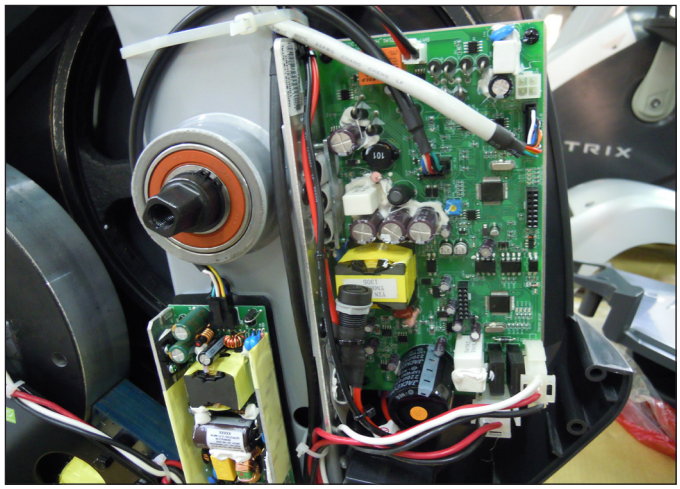


FIGURE A

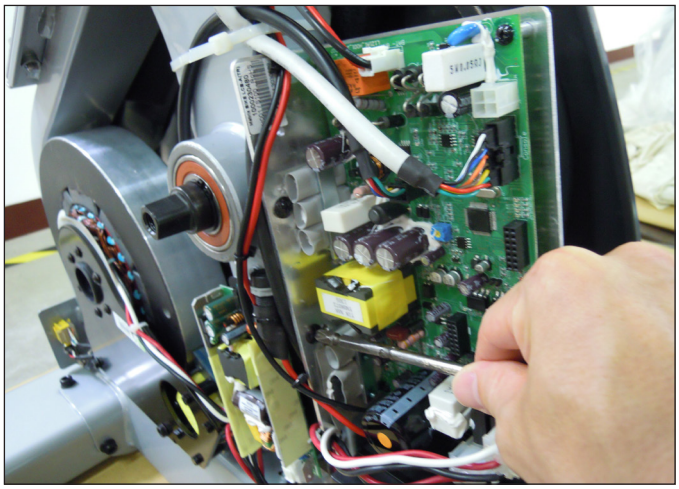


FIGURE B

4) Reverse Steps 1-3 to install a new lower board. Figure C shows the electrical connections to the lower board.

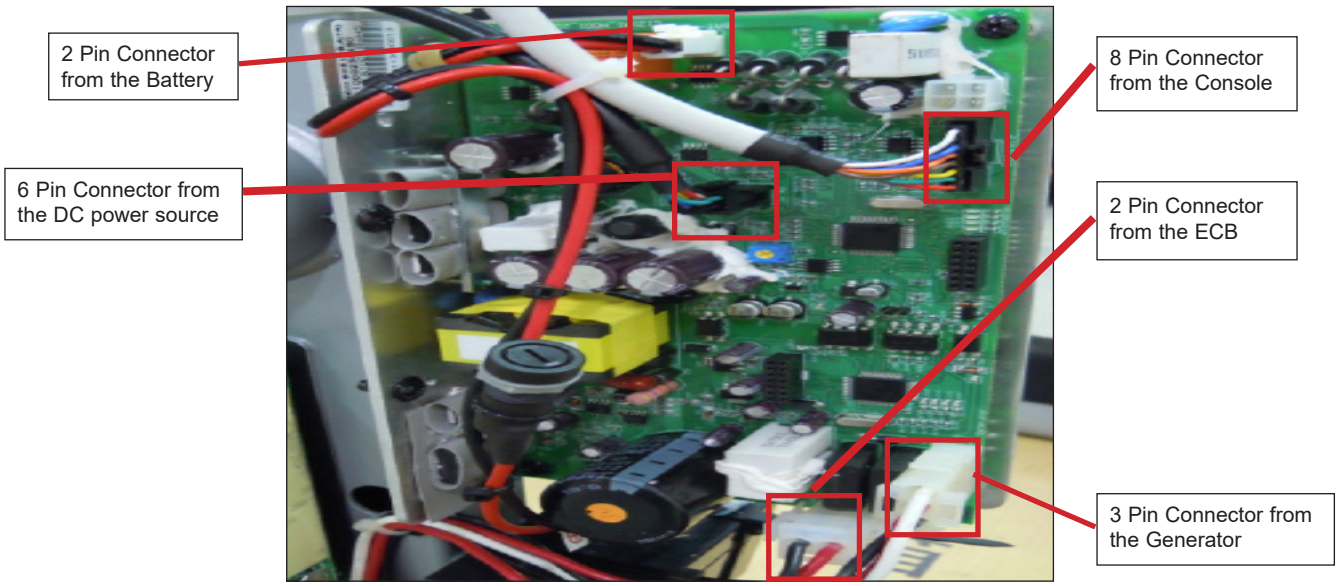


FIGURE C

5.16 BATTERY / DC POWER BOARD REPLACEMENT

1) Remove the right side pedal.
2) Remove the right side crank.
3) Remove the right side front cover.
4) Disconnect the 2 wires from the battery (Figure A) / DC power board (Figure B).

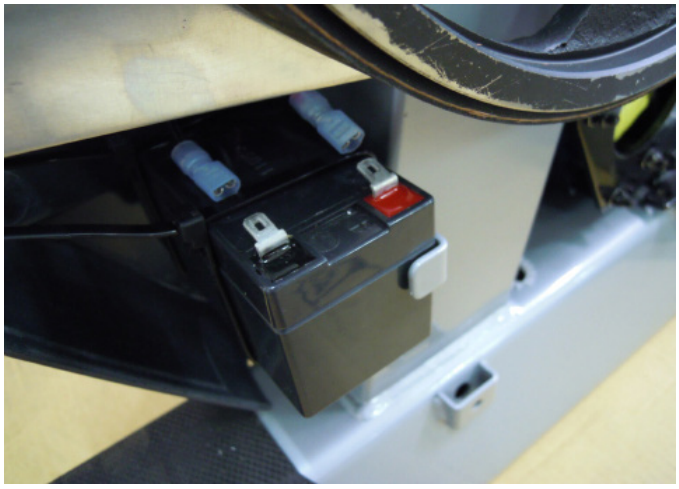


FIGURE A

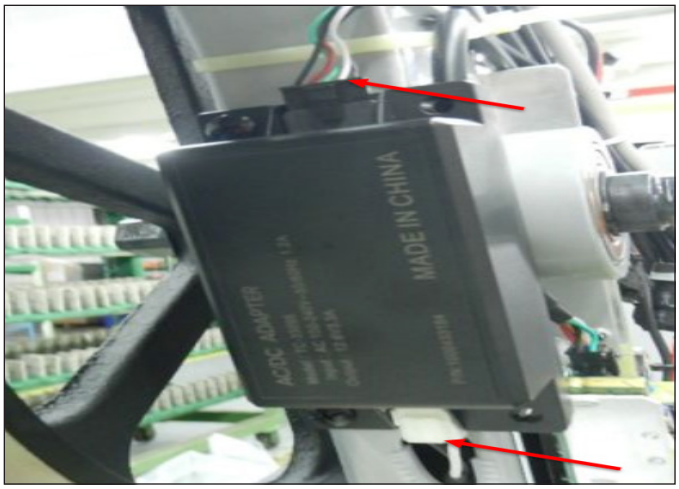


FIGURE B

5) Disconnect the 2 cable ties from the battery bracket (Figure C) / Release 2 screws on the power board (Figure D).
6) Remove the battery / DC power board.

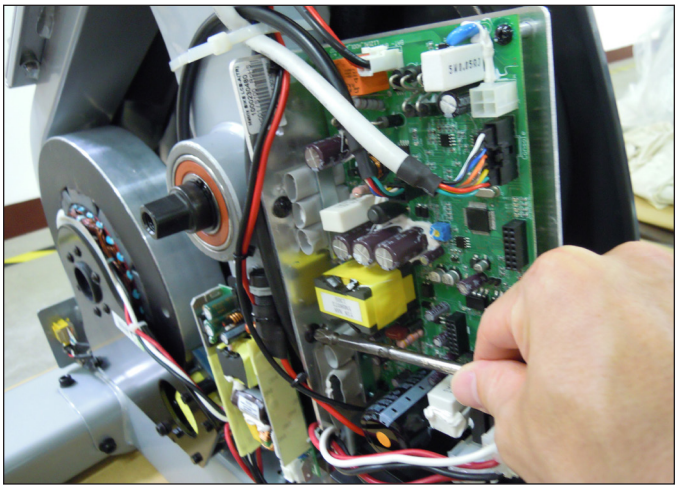


FIGURE C



FIGURE D

7) Reverse Steps 1-6 to install a new battery / DC power board.

5.17 DRIVE BELT REPLACEMENT

1) Remove the right side pedal.
2) Remove the right side crank.
3) Remove the right side front cover. (Figure A).
4) Using a hook or loop of wire, remove the spring from the frame (Figure B). The tensioner should now pivot away from the drive belt.

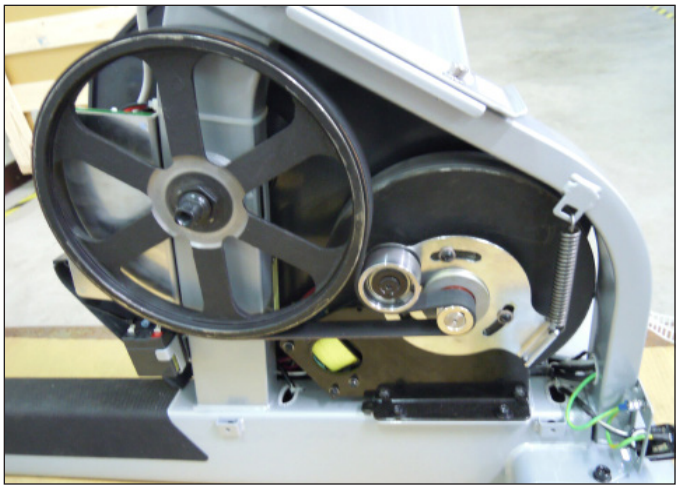


FIGURE A

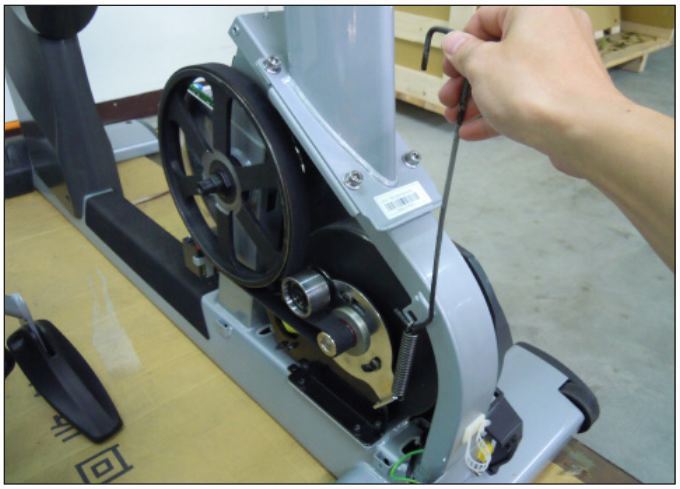


FIGURE B

5) Remove the drive belt (Figure C).
6) Use a ruler to management that the flywheel pulley and generator pulley are at same level (Figure D). If the belt is not on line, try to adjust the generator location.

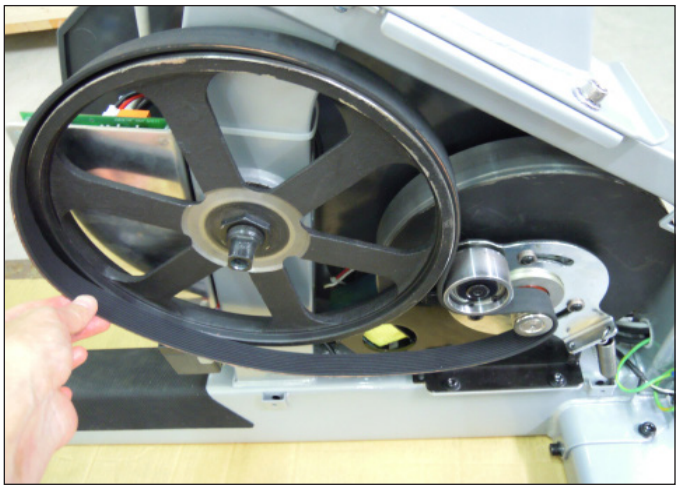


FIGURE C



FIGURE D

7) Reverse Steps 1-6 to install a new drive belt. ***NOTE:*** Be sure to reattach the tension spring. Rotate the pulley to make sure that the motion is smooth and that there is no wobbling to one side.

5.18 GENERATOR REPLACEMENT

1) Remove the pedals.
2) Remove the cranks.
3) Remove the front covers.
4) Remove the drive belt .
5) Cut the cable tie and disconnect the generator with ECB wire from the LCB (Figures A & B).

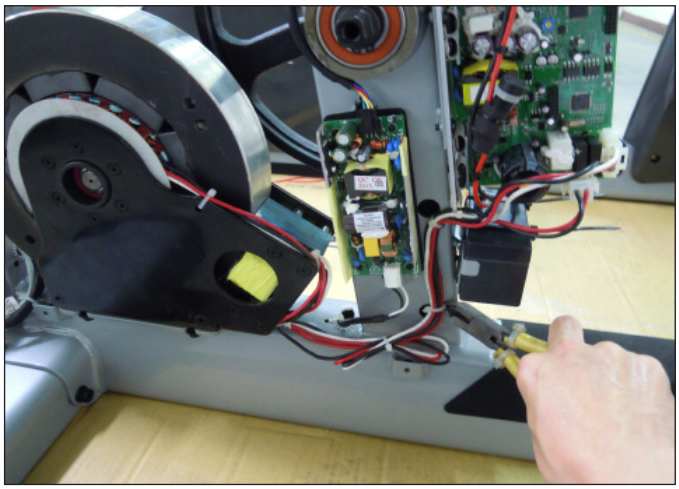


FIGURE A

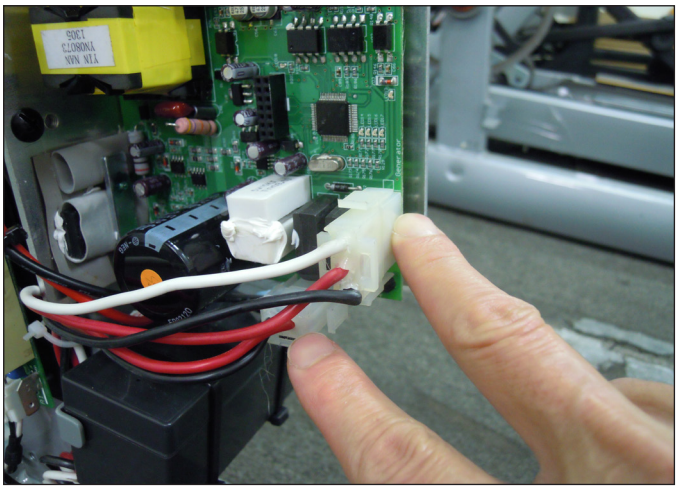


FIGURE B

6) Remove the 4 screws holding the generator to the frame (Figures C & D), and remove the generator.

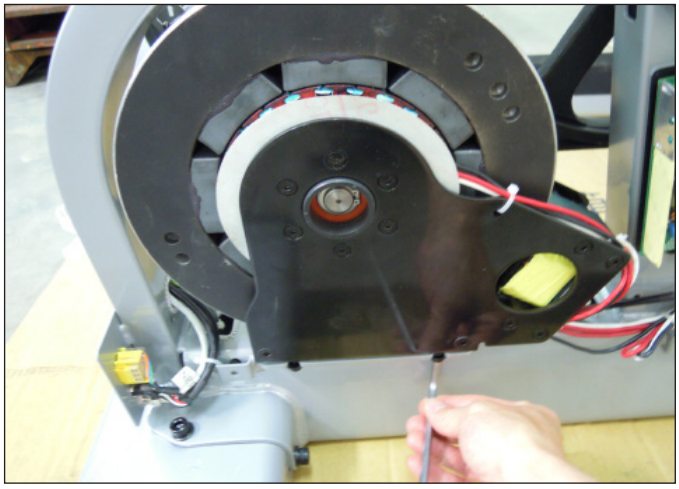


FIGURE C

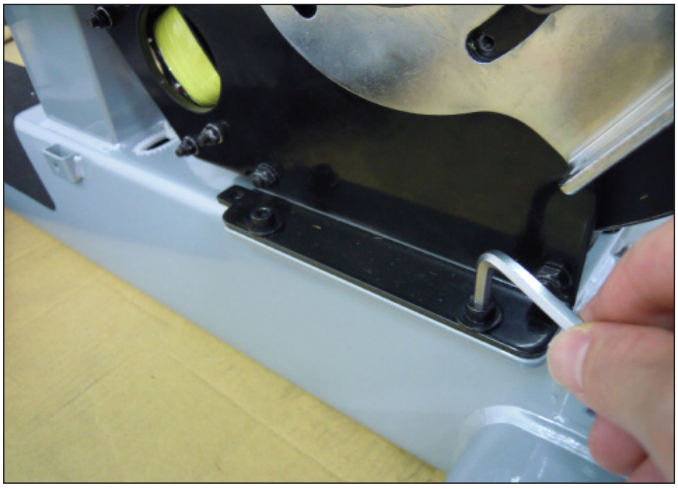


FIGURE D

7) Reverse Steps 1-6 to install a new generator.

5.19 REAR STABILIZER REPLACEMENT

1) Remove the 2 screws holding the black cover to the rear stabilizer (Figure A).
2) Remove the black cover (Figure B).



FIGURE A



FIGURE B

3) Remove the 4 screws holding the rear stabilizer to the frame (Figure C).
4) Remove the rear stabilizer (Figure D).

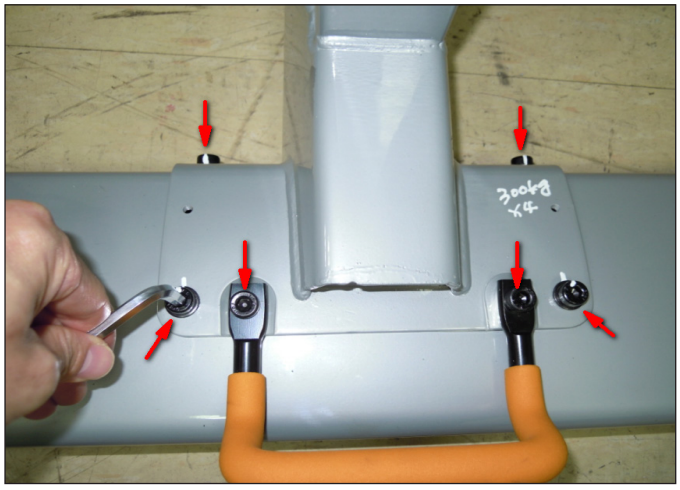


FIGURE C

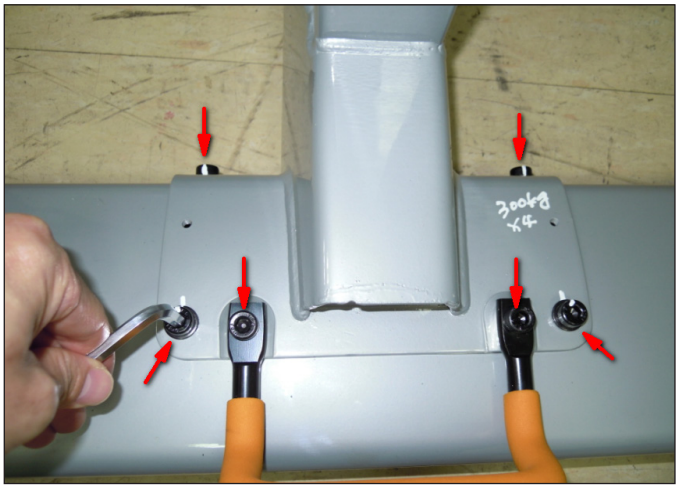


FIGURE D

5) Reverse Steps 1-4 to install a new rear stabilizer.

5.20 FRONT STABILIZER REPLACEMENT

1) Remove the 4 screws holding the rear stabilizer to the frame (Figures A & B). .

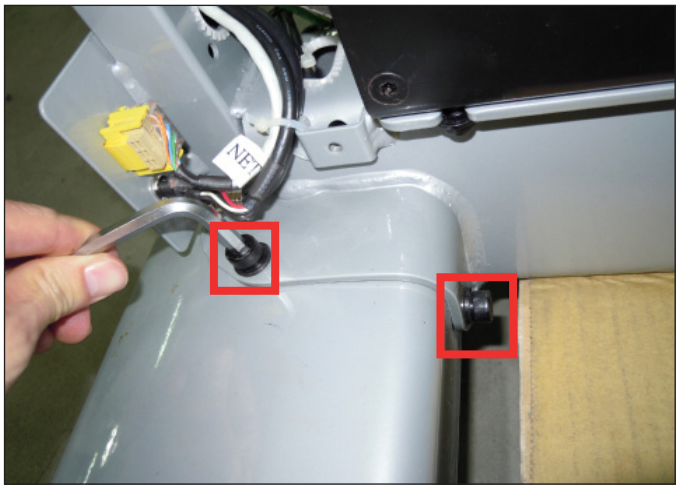


FIGURE A

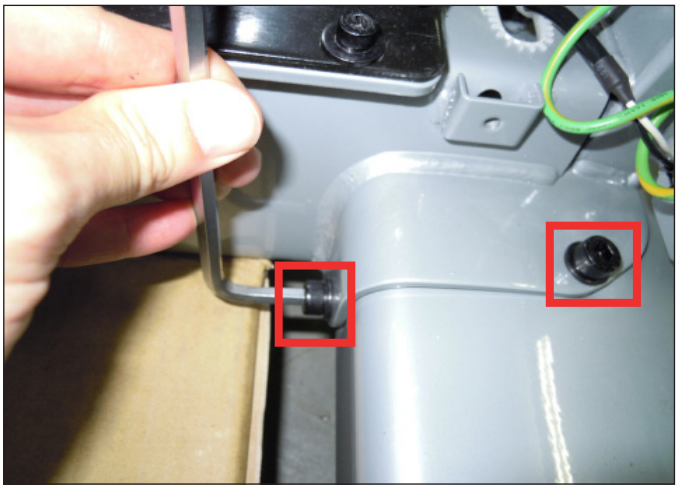


FIGURE B

2) Remove the front stabilizer (Figure C).



FIGURE C

3) Reverse Steps 1-2 to install a new front stabilizer.

5.21 DRIVE AXLE SET REPLACEMENT

NOTE: A Matrix special tool is needed to correctly replace a drive axle. Order part # 1000323981 from Matrix CTS at 866-693-4863 ext 3.

1) Turn off the power and disconnect the cord from the machine.
2) Remove the front covers from the machine.
3) Remove drive belt.
4) On the left side of the frame, remove the retainer clip that holds the drive axle bearings in the frame (Figure A).
5) Use a hammer to hit the screw until the drive axle assembly is loose in the frame, and remove it (Figure B).

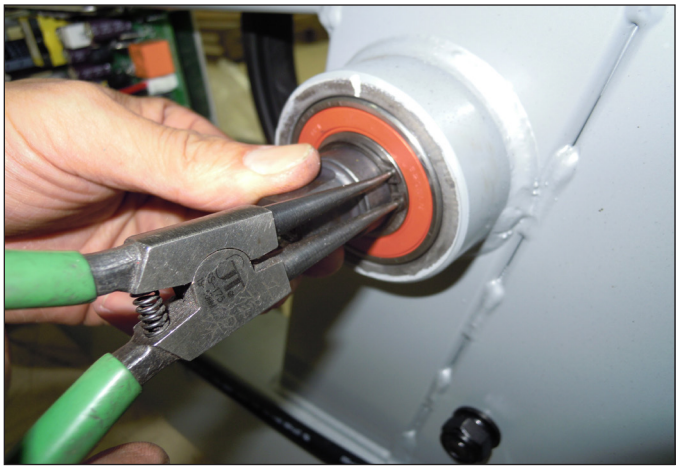


FIGURE A

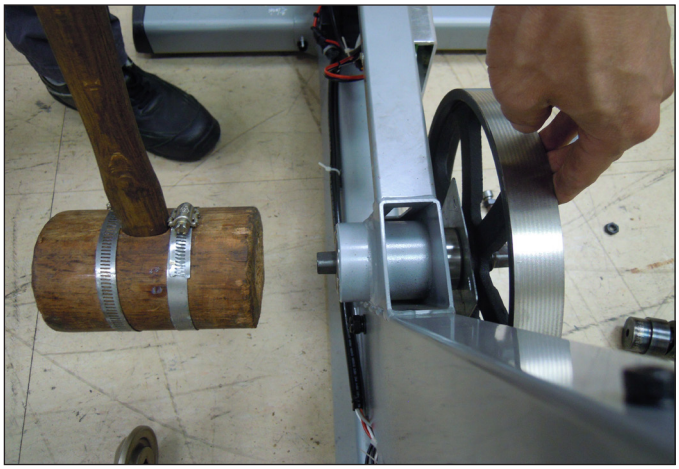


FIGURE B

6) Install the tool into the hole in the frame and use a rubber mallet to hit the end of the tool until the bearing can be removed from the frame (Figures C & D).



FIGURE C

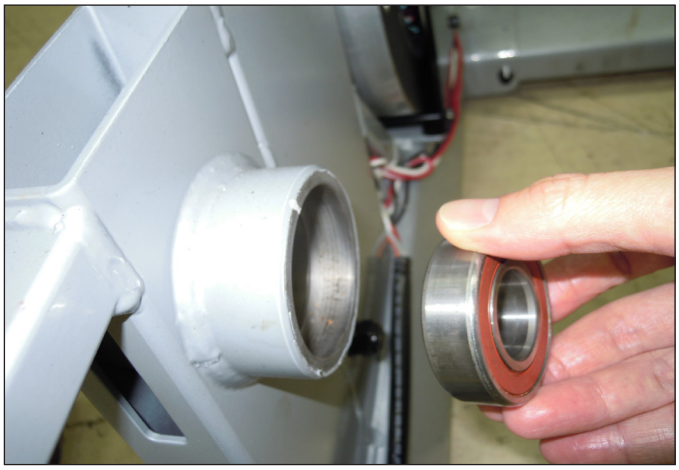


FIGURE D

7) The drive axle should have come with an iron plate installed (Figure E).
8) Assemble the Matrix tool as shown in Figure F.



FIGURE E



FIGURE F

5.21 DRIVE AXLE SET REPLACEMENT - CONTINUED

9) Slide the drive axle assembly into the frame from the right side. Install the bearing cap portion of the tool into the left side of the frame (Figure G).
10) Mount the other tool from Figure F behind the bearing cap portion of the tool. Use the M10 x 100L x 1.25P screw with a nut to attach the tool to the drive axle (Figure H).

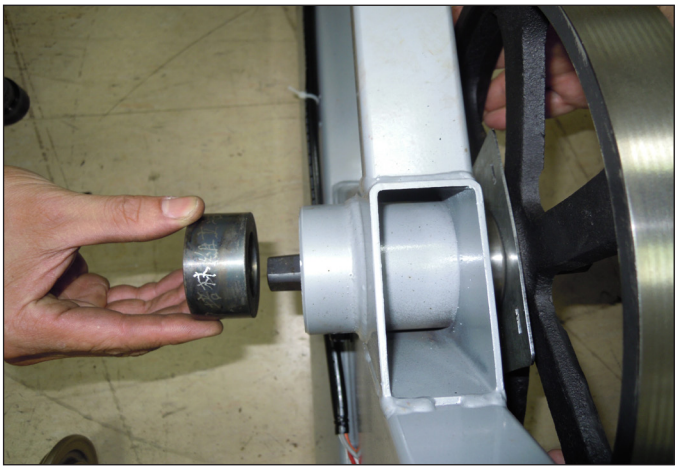


FIGURE G



FIGURE H

11) Turn the screw until it is close into the drive axle (Figure I).
12) Then turn the nut until it is close to the cup portion of the tool (Figure J).

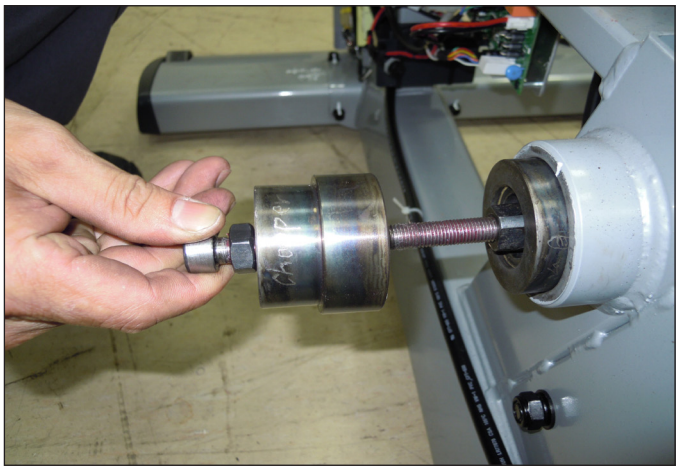


FIGURE I

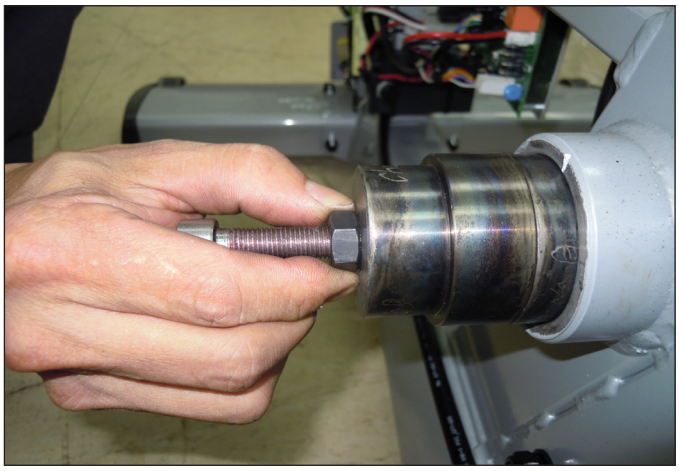


FIGURE J

13) Use a wrench to hold the screw, then turn the nut to pull the drive axle into the frame (Figure K).
14) Turn the nut until the iron plate is close to the frame on the right side (Figure L).

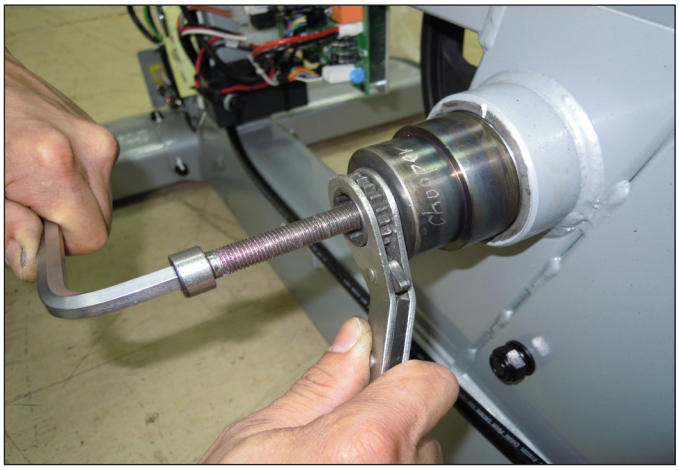


FIGURE K

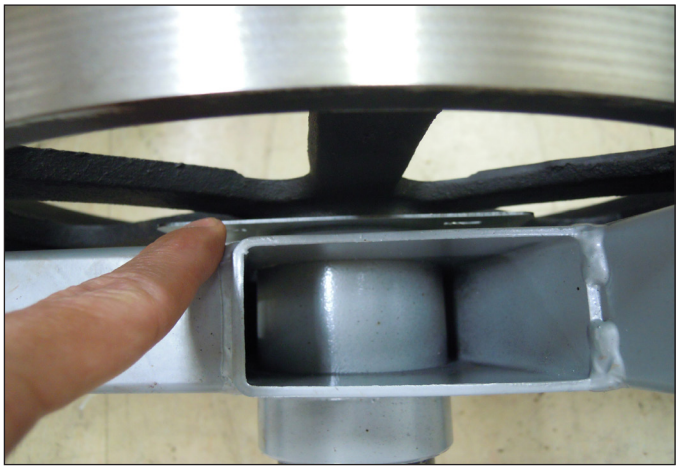


FIGURE L

5.21 DRIVE AXLE SET REPLACEMENT - CONTINUED

15) Remove the tools, then insert the bearing into the hole in the frame on the left side (Figure M).
16) Again use the M10 x 100L x 1.25P screw with a nut to attach the tool to the drive axle (Figure N).

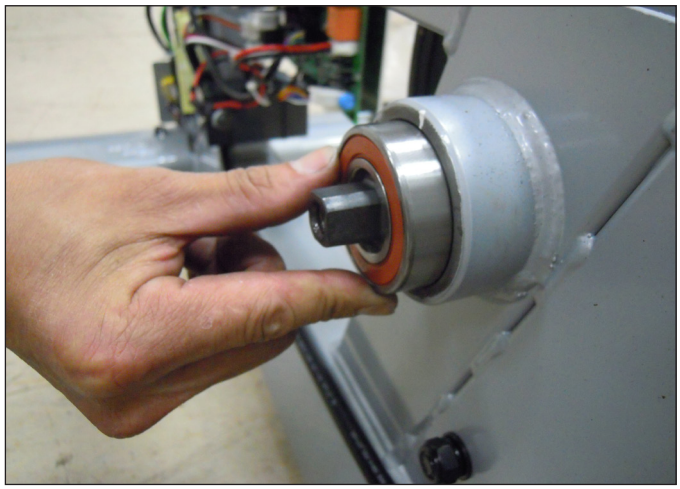


FIGURE M

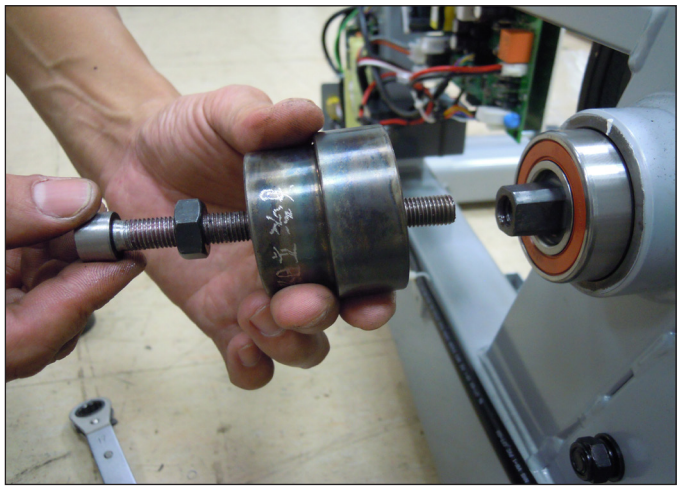


FIGURE N

17) Turn the screw until it is close into the drive axle (Figure O).
18) Then turn the nut until it is close to the cup portion of the tool (Figure P).

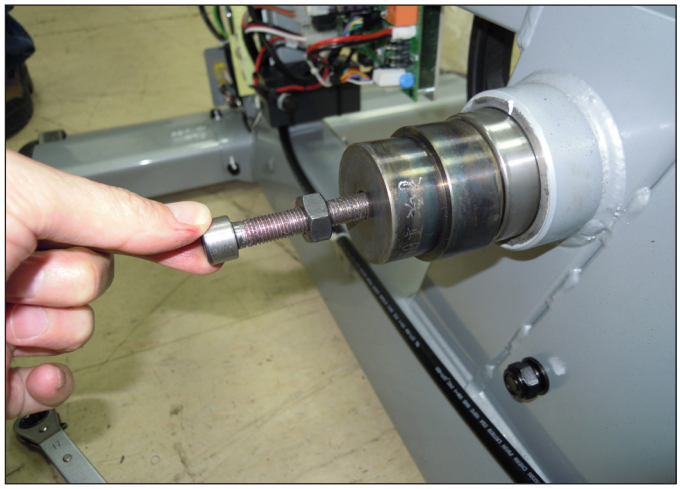


FIGURE O

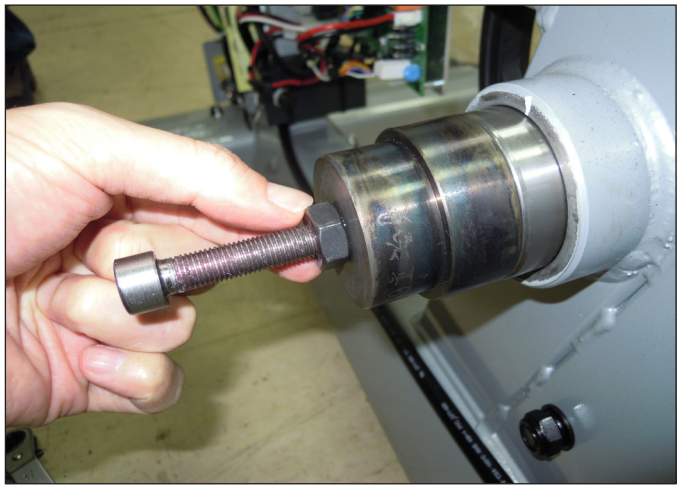


FIGURE P

19) Use a wrench to hold the screw, then turn the nut to push the bearing into the hole in the frame (Figure Q).
20) Insert the retainer clip to hold the bearing in the frame (Figure R).

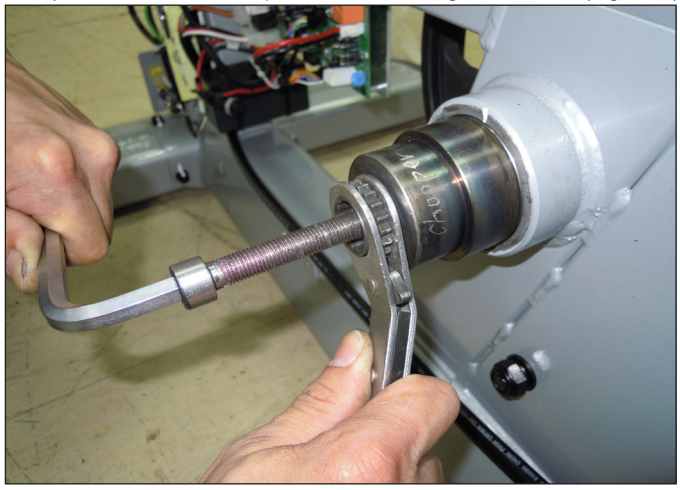


FIGURE Q



FIGURE R

5.21 DRIVE AXLE SET REPLACEMENT - CONTINUED

21) Use a screwdriver to remove the iron plate from the drive axle (Figures S & T).



FIGURE S



FIGURE T

22) Rotate the drive axle to make sure that the motion is smooth and that there is no wobbling to one side (Figures U).

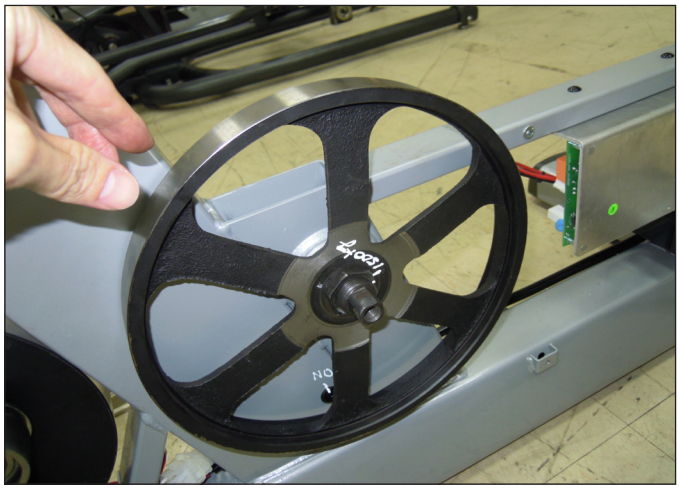


FIGURE U

23) Re-install the belts .
24) Reverse Steps 1-2 to re-assemble the unit.

6.1 R-PS-F BIKE SPECIFICATIONS

RECUMBENT CYCLE	
Max User Weight	182 kg / 400 lbs
Assembled Weight	86.4 kg / 190 lbs
Shipping Weight	95.5 kg / 210 lbs
Assembled Dimensions (L x W x H)*	150x65x143cm / 59"x26"x56"

Ensure a minimum clearance width of 0.6 meters (24”) for access to and passage around MATRIX equipment. Please note, 0.91 meters (36”) is the ADA recommended clearance width for individuals in wheelchairs.

LOCATION OF THE UNIT

Place the equipment on a level and stable surface away from direct sunlight. The intense UV light can cause discoloration on the plastics. Locate your equipment in an area with cool temperatures and low humidity. Please leave a clear zone on both sides of the equipment that is at least 24” (600 mm). This zone must be clear of any obstruction and provide the user a clear exit path from the machine. Do not place the equipment in any area that will block any vent or air openings. The equipment should not be located in a garage, covered patio, near water or outdoors.

LEVELING THE EQUIPMENT

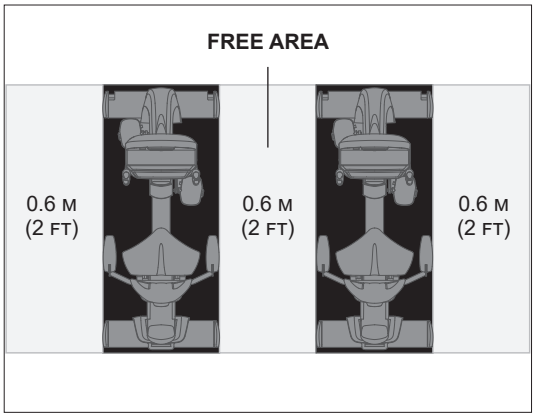
The equipment should be level for optimum use. Once you have placed the equipment where you intend to use it, raise or lower one or both of the adjustable levelers located on the bottom of the frame. Use 6mm hex key through the access hole (shown below).

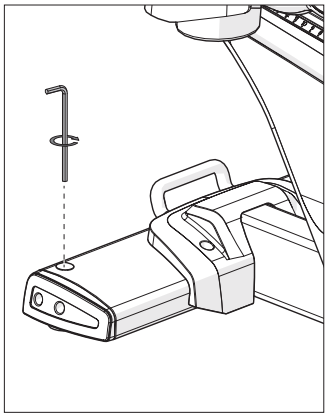
A carpenter’s level is recommended.

NOTE: There are only two levelers on the equipment.

WARNING!

Our equipment is heavy, use care and additional help if necessary when moving. Failure to follow these instructions could result in injury.





POWER

If the equipment is powered by a power supply, the power must be plugged into the power jack, which is located in the front of the equipment near the stabilizer tube. Some equipment has a power switch, located next to the power jack. Make sure it is in the ON position. Unplug cord when not in use.

WARNING!

Never operate equipment if it has a damaged cord or plug, if it is not working properly, if it has been damaged, or immersed in water. Contact Customer Tech Support for examination and repair.

6.2 ASSEMBLY INSTRUCTIONS

TOOLS REQUIRED:

- ☐ 4 mm Allen Wrench
- ☐ 6 mm Allen Wrench
- ☐ Flat Wrench (15mm/17mm 325L)
- ☐ Phillips Screwdriver

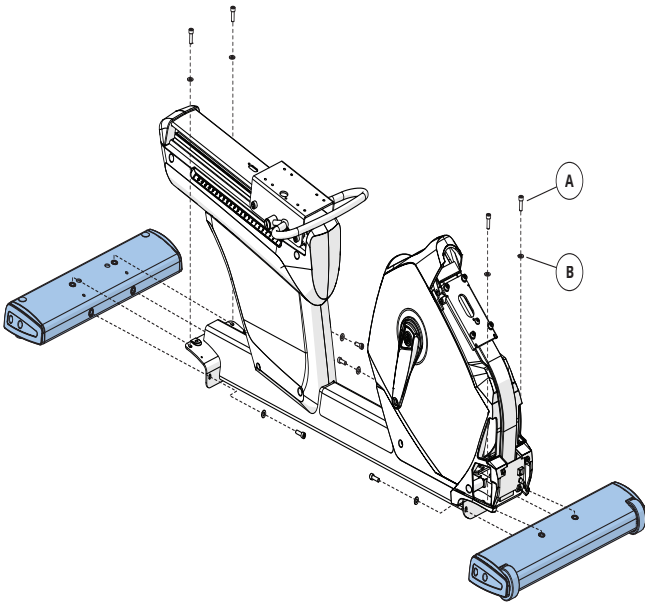
PARTS INCLUDED:

- ☐ 1 Main Frame
- ☐ 1 Rear Stabilizer Tube
- ☐ 1 Front Stabilizer Tube
- ☐ 1 Rear Frame Handle
- ☐ 1 Rear Frame Cover
- ☐ 1 Console Mast
- ☐ 1 Console Mast Cover
- ☐ 1 Console Handlebars
- ☐ 1 Front Shroud Cover
- ☐ 1 Seat Frame
- ☐ 2 Water Bottle Pockets
- ☐ 1 Seat Base
- ☐ 1 Seat Back
- ☐ 2 Pedals
- ☐ 1 Hardware Kit
- ☐ 1 Power Cord

Console sold separately

STEP 1

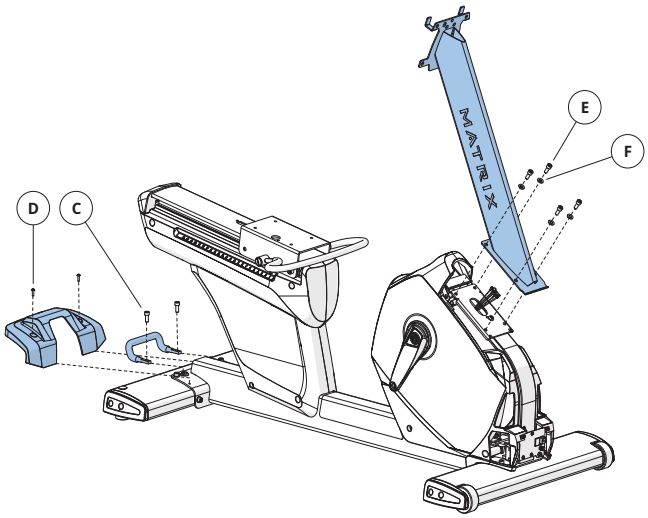
1	Hardware	Qty
A	Bolt	8
B	Flat Washer	8



6.2 ASSEMBLY INSTRUCTIONS - CONTINUED

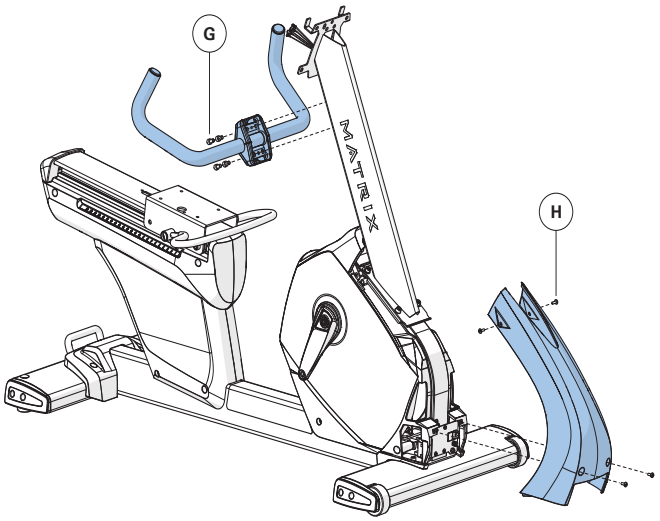
STEP 2

2	Hardware	Qty
C	Bolt (black)	2
D	Screw	2
E	Bolt (chrome)	4
F	Tooth Washer	4



STEP 3

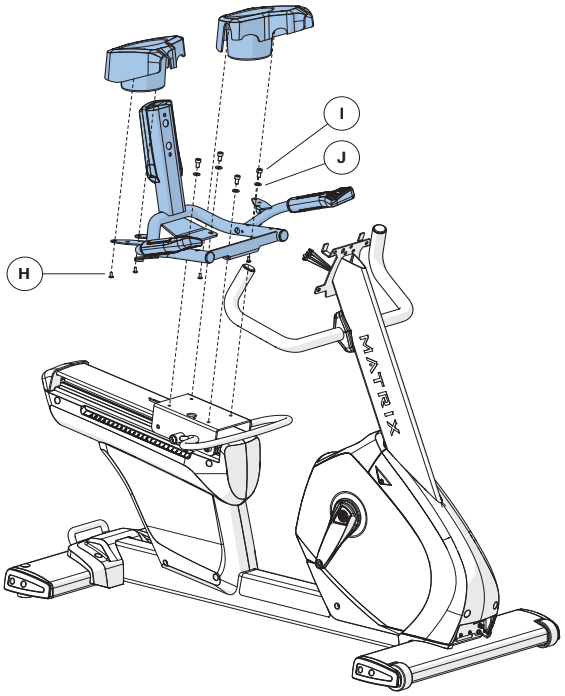
3	Hardware	Qty
G	Bolt	4
H	Screw	4



6.2 ASSEMBLY INSTRUCTIONS - CONTINUED

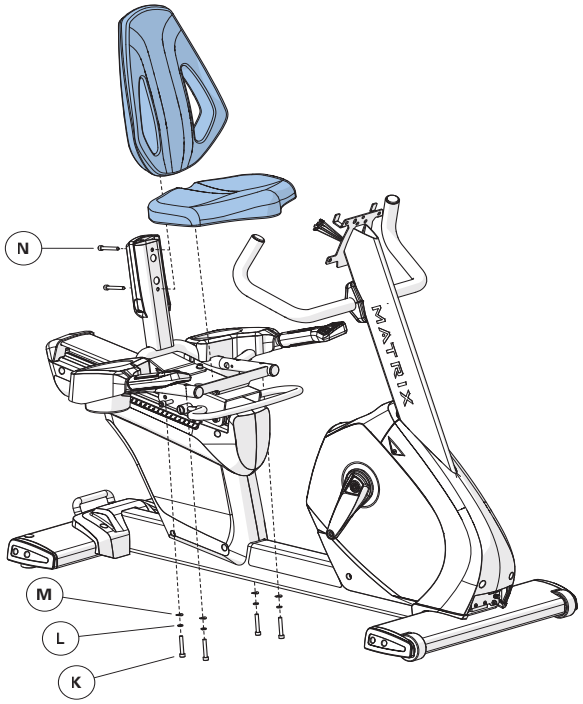
STEP 4

4	Hardware	Qty
H	Screw	4
I	Bolt	4
J	Spring Washer	4



STEP 5

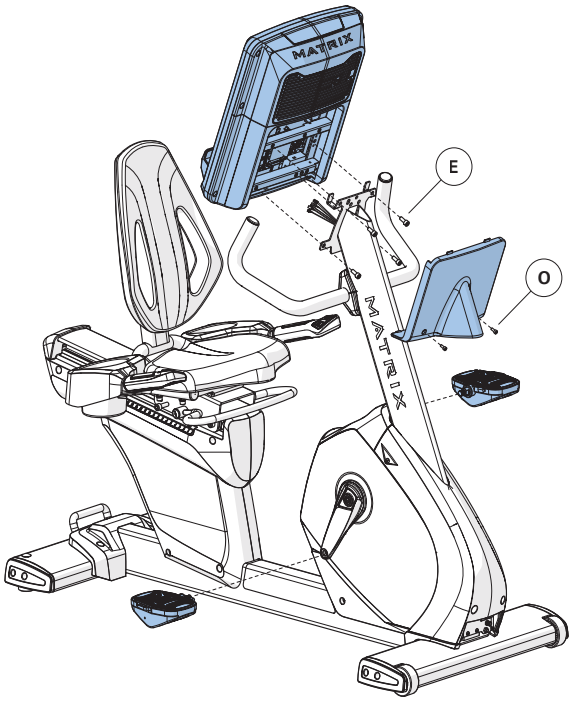
5	Hardware	Qty
K	Bolt	4
L	Spring Washer	4
M	Wavy Washer	4
N	Bolt	2



6.2 ASSEMBLY INSTRUCTIONS - CONTINUED

STEP 6

6	Hardware	Qty
E	Bolt (pre-installed)	4
O	Bolt	2

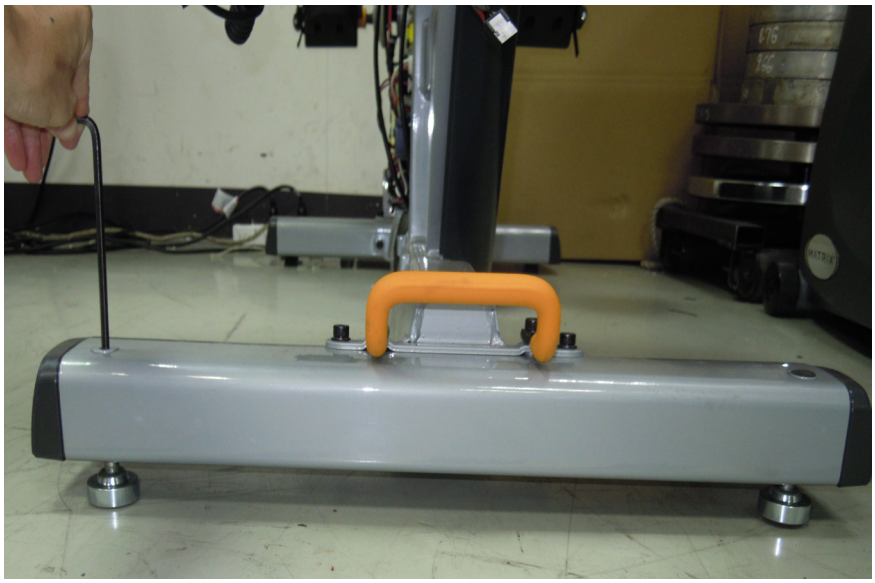


ASSEMBLY COMPLETE

6.3 LEVELING THE BIKE

STABILIZING THE MATRIX RECUMBENT BIKE

After positioning the bike in its intended location, check its stability by attempting to shake it side to side. Shaking or wobbling indicates that your bike needs to be leveled. Determine which leveler is not resting completely on the floor. Rotate the left or right foot pad, and repeat the adjustment as necessary until the bike is stable.



NOTES

MATRIX FITNESS SYSTEMS CORP.
1610 LANDMARK DRIVE COTTAGE GROVE WI 53527 USA
TOLL FREE 866.693.4863 www.matrixfitness.com FAX 608.839.1717

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