NAUTILUS

Schwinn® 450 Elliptical Fitness Machine

Service manual 004-4738-121511.A

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Important Safety Instructions - Before servicing or using this equipment, obey the following warnings:

🛕 This icon means a potentially hazardous situation which, if not avoided, could result in death or serious injury. Read and understand all Warnings on this machine.

• Read and understand the Service Manual before working on the machine. Failure to obey the instructions and safety warnings could cause injury to the service technician or by-standers. • Keep bystanders and children away from the product being serviced at all times. • Make sure that the repair is done in an appropriate work space away from foot traffic and exposure to bystanders. • ADANGER Disconnect all power and allow to sit for 5 minutes before you service this machine. • Some components of the equipment can be heavy or awkward. Enlist the service of a second person when you do maintenance steps involving these components. Do not try to do heavy or awkward steps on your own. • Use only replacement parts and hardware that are supplied or approved by Nautilus. Failure to use Nautilus-approved replacement parts can adversely affect the safety and functionality of the equipment creating a risk to users. • Be sure that all warning stickers and instructional placards applied to the product stay present and in good condition when doing maintenance or replacing components. If necessary request replacement warning stickers or placards from Nautilus® customer service. • Do not try to change the design or functionality of the machine being serviced as this can adversely effect user safety. • Do not use the machine until all shrouds, instructions, warning labels and correct functionality have been verified and tested for correct performance.

Nautilus, Inc., (800) NAUTILUS / (800) 605-3369, www.NautilusInc.com - Customer Service: North America (800) 605-3369, tcinquiry@nautilus.com | outside U.S. +01-360-859-5180, technics-APLA@nautilus.com | © 2011 Nautilus, Inc., All rights reserved. ™ and ® indicate a trademark or registered trademark. Nautilus, Inc. (www.NautilusInc.com) trademarks include NAUTILUS®, BOWFLEX®, SCHWINN® and UNIVERSAL® and respective logos. Other trademarks are the property of their respective owners.

Maximum User Weight: 300 lbs. (136 kg)

Power Requirements:

Operational Voltage: Operational Voltage 9VDC

Operating Current: 1500 mA

Regulatory Approvals:

AC Power Adapter: UL listed, CSA certified (or equivalent),

Rated 120V 60Hz Input, 9VDC, 1500mA

Output. Class 2 or LPS.

Serial Number

AAAAAA Nautilus® part number (SKU)

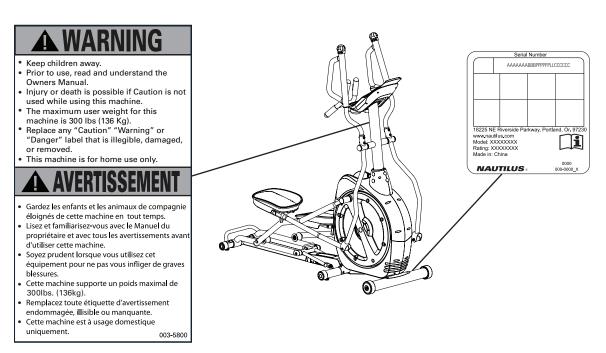
BBB Vendor Code

PPPPPP Purchase Order Number
LL Purchase Order Line Number

CCCCCC Unique Identifier



This product, its packaging, and components contain chemicals known to the State of California to cause cancer, birth defects, or reproductive harm. This Notice is provided in accordance with California's Proposition 65. If you would like additional information, please refer to our Web site at www.nautilus.com/prop65.



Maintenance

ADANGER To reduce the risk of electrical shock or unsupervised usage of the equipment, always unplug the power cord from the wall outlet and the machine and wait 5 minutes before cleaning, maintaining or repairing the machine. Place the power cord in a secure location.



Read all maintenance instructions fully before you start any repair work. In some conditions, an assistant is necessary to do the necessary tasks. Equipment must be regularly examined for damage and repairs. The owner is responsible to make sure that regular maintenance is done. Worn or damaged components must be replaced immediately or the equipment removed from service until the repair is made. Only manufacturer supplied components can be used to maintain and repair the equipment.

Daily: Before each use, examine the exercise machine for loose, broken, damaged, or worn parts. Do not use if found in this condition. Repair or replace

all parts at the first sign of wear or damage. After each workout, use a damp cloth to wipe your machine and Console free of sweat.

Note: Avoid excessive moisture on the Console.

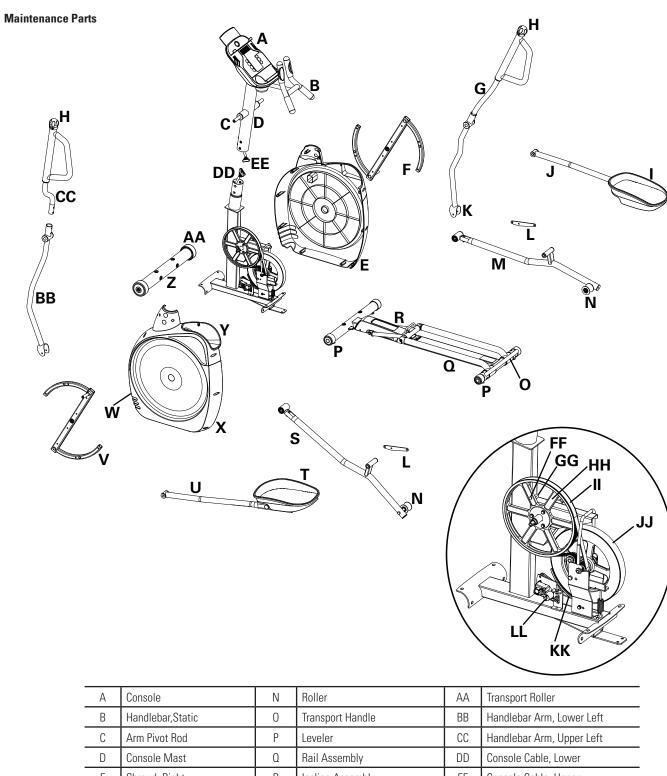
Weekly: Check for smooth roller operation. Wipe the machine to remove dust, dirt, or grime. Clean the rails and surface of the rollers with a damp cloth.

Note: Do not use petroleum based products.

Monthly Make sure all bolts and screws are tight. Tighten as necessary.

or after 20 hours:

NOTICE: Do not clean with a petroleum based solvent or an automotive cleaner. Be sure to keep the Console free of moisture.



Α	Console	N	Roller	I AA	Transport Roller
В	Handlebar, Static	0	Transport Handle	BB	Handlebar Arm, Lower Left
С	Arm Pivot Rod	Р	Leveler	CC	Handlebar Arm, Upper Left
D	Console Mast	Q	Rail Assembly	DD	Console Cable, Lower
Е	Shroud, Right	R	Incline Assembly	EE	Console Cable, Upper
F	Crank Assembly, Right	S	Leg, Left		Speed Sensor Magnet
G	Handlebar Arm, Upper Right	T	Pedal, Left	GG	Speed Sensor
Н	Handlebar Arm Adjustment Knob	U	Pedal Arm, Left	НН	Pulley
	Pedal, Right	V	Crank Assembly, Left	Ш	Drive Belt
J	Pedal Arm, Right	W	AC Power Connector	JJ	Fly Wheel
K	Handlebar Arm, Lower Right	Χ	Shroud, Left	KK	Brake Assembly
L	Pedal Plate	Υ	Storage Bin	LL	Servo Motor
М	Leg, Right	Z	Front Stabilizer		

Troubleshooting

Condition/Problem	Things to Check	Solution
No display/partial display/unit will not turn on	Check electrical (wall) outlet	Make sure unit is plugged into a functioning wall outlet.
	Check connection at front of unit	Connection should be secure and undamaged. Replace adapter or connection at unit if either are damaged.
	Check data cable integrity	All wires in cable should be intact. If any are visibly crimped or cut, replace cable.
	Check data cable connections/orientation	Be sure cable is connected securely and oriented properly. Small latch on connector should line up and snap into place.
	Check console display for damage	Check for visual sign that console display is cracked or otherwise damaged. Replace Console if damaged.
	Console Display	If Console only has partial display and all connections are fine, replace the Console.
		If the above steps do not resolve the problem, contact Customer Care for further assistance.
Unit operates but Contact HR not displayed	HR cable connection at Console	Be sure cable is connected securely to Console.
	HR cable box connection	Be sure cables from handlebars and cable to Console are secure and undamaged.
	Sensor grip	Be sure hands are centered on HR sensors. Hands must be kept still with relatively equal pressure applied to each side.
	Dry or calloused hands	Sensors may have difficulty with dried out or calloused hands. A conductive electrode cream such as "Signa Crème" or "Buh-Bump" can help make better conduct. These are available on the web or at medical or some larger fitness stores.
	Static Handlebar	If tests reveal no other issues, Static Handlebar should be replaced.
Unit operates but Telemetric HR not displayed	Chest Strap (optional)	Strap should be "POLAR®" compatible and uncoded. Make sure strap is directly against skin and contact area is wet.
	Interference	Try moving unit away from sources of interference (TV, Microwave, etc).
	Replace Chest Strap	If interference is eliminated and HR does not function, replace strap.
	Replace Console	If HR still does not function, replace Console.
Console displays "E2" error code	Check data cable integrity	All wires in cable should be intact. If any are cut or crimped, replace cable.
	Check data cable connections/orientation	Be sure cable is connected securely and oriented properly. Small latch on connector should line up and snap into place.
	Reset Console	Unplug and plug in the machine for 10 seconds ten times
	Console Electronics	If tests reveal no other issues, Console should be replaced.
No speed/RPM reading, Console displays "Please Stride" error code	Check data cable integrity	All wires in cable should be intact. If any are cut or crimped, replace cable.
	Check data cable connections/orientation	Be sure cable is connected securely and oriented properly. Small latch on connector should line up and snap into place.
	Check magnet position (requires shroud removal)	Magnet should be in place on pulley.
	Check Speed Sensor (requires shroud removal)	Speed sensor should be aligned with magnet and connected to data cable. Realign sensor if necessary. Replace if there is any damage to the sensor or the connecting wire.
Console shuts off (enters sleep mode) while in use	Check electrical (wall) outlet	Make sure unit is plugged into a functioning wall outlet.
	Check connection at front of unit	Connection should be secure and undamaged. Replace adapter or connection at unit if either are damaged.
	Check data cable integrity	All wires in the cable should be intact. If any are cut or crimped, replace cable.
	Check data cable connections/orientation	Be sure cable is connected securely and oriented properly. Small latch on connector should line up and snap into place.
	Reset machine	Unplug unit from electrical outlet for 3 minutes. Reconnect to outlet.
	Check magnet position (requires shroud removal)	Magnet should be in place on pulley.
	Check Speed Sensor	Contact Customer Care for further assistance.

Condition/Problem	Things to Check	Solution	
Fan will not turn on or will not turn off	Check data cable integrity	All wires in cable should be intact. If any are cut or crimped, replace cable.	
	Check data cable connections/orientation	Be sure cable is connected securely and oriented properly. Small latch on connector should line up and snap into place.	
	Reset machine	Unplug unit from electrical outlet for 3 minutes. Reconnect to outlet.	
Fan will not turn on, but Console operates Check for blockage of fan		Unplug unit from electrical outlet for 5 minutes. Remove material from fan. If necessary, detach the Console to help with removal. Replace the Console if unable to remove blockage.	
Unit rocks/does not sit level	Check leveler adjustment	Adjust levelers until machine is level.	
	Check surface under unit	Adjustment may not be able to compensate for extremely uneven surfaces. Move machine to level area.	
Foot pedals loose/unit difficult to operate Hardware		Tightly secure all hardware on the Pedal Arms and Handlebar Arms.	
Clicking sound when operating	Check pedal arm to crank arm connection	Remove pedal arms and reattach.	
	Motor	Unplug machine and operate. If the clicking sound is gone, replace the Servo Motor.	

Console Setup Mode

The Console Setup Mode lets you set the units of measurement to either English or Metric, change the machine type, or see maintenance statistics (Error Log and Run Hours – for service technician use only).

- 1. Hold down the Increase button and Decrease button together for 3 seconds while in the Power-Up Mode to go into the Console Setup Mode.
 - Note: Push STOP to go back to the previous screen or the Power-Up Mode screen.
- 2. The Console display shows the Units prompt. Push START/ENTER to start Units option. Push the Increase/Decrease buttons to change between "Miles-Lb" (Imperial English units) and "Km-Kg" (metric units).
 - Note: If the units change when there is data in User Statistics, the statistics convert to the new units.
- 3. Push START/ENTER to set. For the next option, push the Increase button.
- 4. The Console display shows the Machine Type prompt. Push START/ENTER to start Machine Type option. Push the Increase/Decrease buttons to change between ELLIPTICAL and BIKE.
- 5. Push START/ENTER to set. For the next option, push the Increase button.
- 6. The Console display shows the Brightness prompt. Push START/ENTER to start the brightness option. Push the Increase/Decrease buttons to change the backlight levels from 1 (lowest) to 5 (highest).
- 7. Push START/ENTER to set. For the next option, push the Increase button.
- 8. The Console display shows the Error Log prompt. Push START/ENTER to start Error Log option. The Error Log stores the last 10 errors (error type and system time of error), listed newest to oldest. Push the Increase/Decrease buttons to move through the Error Log. If there are no errors, the Console display shows "Index=0"
- 9. Push STOP to exit. For the next option, push the Increase button.
- 10. The Console shows the RUN HOURS prompt. Push START/ENTER to see total hours and minutes for the machine.
- 11. Push STOP to exit. For the next option, push the Increase button.
- 12. The Console display shows the Units prompt again. Push STOP to go back to the Power-Up Mode screen.

Part Replacement

Replacing the Console Assembly

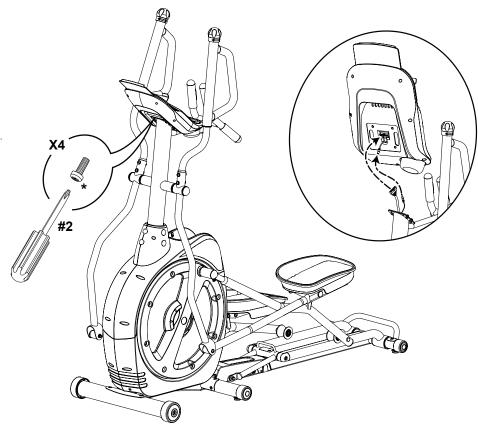
A DANGER

To reduce the risk of electrical shock or unsupervised usage of the equipment, always unplug the power cord from the wall outlet and the machine and wait 5 minutes before cleaning, maintaining or repairing the machine. Place the power cord in a secure location.

Tools Required: #2 Phillips Screwdriver

- 1. Using a #2 Phillips screwdriver, remove the 4 indicated screws from the Console Assembly.
- 2. Gently lift the Console Assembly and disconnect the Console Cable and the Heart Rate Cable.

Note: Do not crimp the cables. Do not allow the cables to fall down the Console Mast. Use a rubber band or wire tie.



- 3. Installation is the reverse procedure.
- 4. Dispose of the old parts.
- 5. Inspect your machine to ensure that all hardware is tight and components are properly assembled.



Do not use until the machine has been fully assembled and inspected for correct performance in accordance with the Owner's Manual.

6. Initial Setup of the Console

During the first power-up, the Console must be setup for your preferred measurement units, the machine type, and brightness of the screen.

- a. Units of Measurement: Push the Increase/Decrease buttons to change between "Miles-Lb" (Imperial English) or "Km-Kg" (metric).
- b. Push START/ENTER to set.
- c. Machine Type: Push the Increase/Decrease buttons to change between "BIKE" and "ELLIPTICAL".
- d. Push START/ENTER to set.
- e. Backlight: Push the Increase/Decrease buttons to change the screen contrast, with "1" the lowest and "5" the highest.
- f. Push START/ENTER to set. The Console goes back to the Power-Up / Idle Mode screen.

Note: To change these choices, consult the "Console Set-Up Mode" section.

Replacing the Static Handlebar Assembly

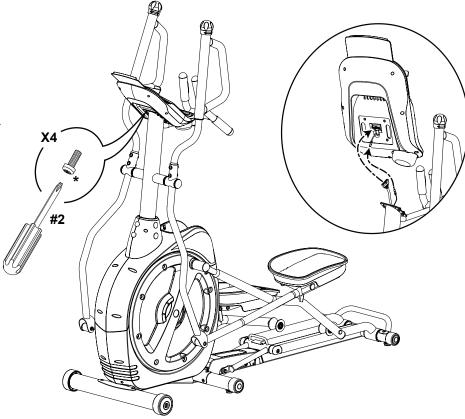
ADANGER

To reduce the risk of electrical shock or unsupervised usage of the equipment, always unplug the power cord from the wall outlet and the machine and wait 5 minutes before cleaning, maintaining or repairing the machine. Place the power cord in a secure location.

Tools Required: #2 Phillips Screwdriver, 4 mm hex wrench, 10 mm wrench

- 1. Using a #2 Phillips screwdriver, remove the 4 indicated screws from the Console Assembly.
- 2. Gently lift the Console Assembly and disconnect the Console Cable and the Heart Rate Cable.

Note: Do not crimp the cables. Do not allow the cables to fall down the Console Mast. Use a rubber band or wire tie.

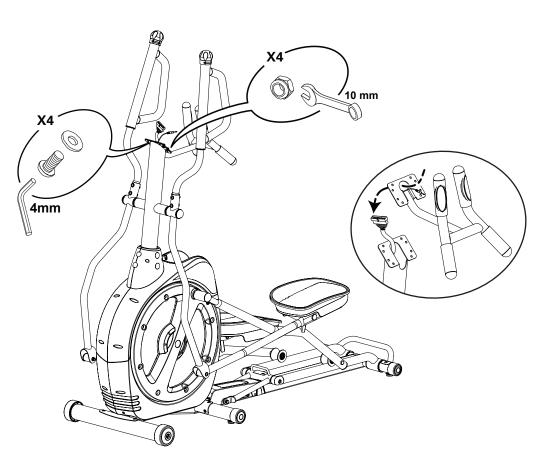


3. Using a 4 mm hex wrench and a 10 mm wrench, remove the 4 indicated bolts and remove the Static Handlebar.

Note: Do not crimp the Console Cable when removing the Static Handlebar.
Do not allow the Console Cable to fall into the Console Mast.

- 4. Installation is the reverse procedure.
- 5. Dispose of the old parts.
- 6. Inspect your machine to ensure that all hardware is tight and components are properly assembled.





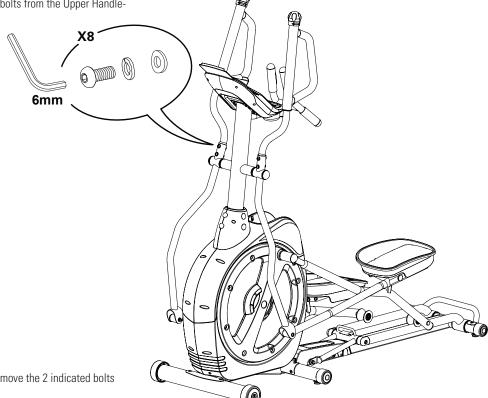
Replacing the Upper and Lower Handlebar Arms

ADANGER

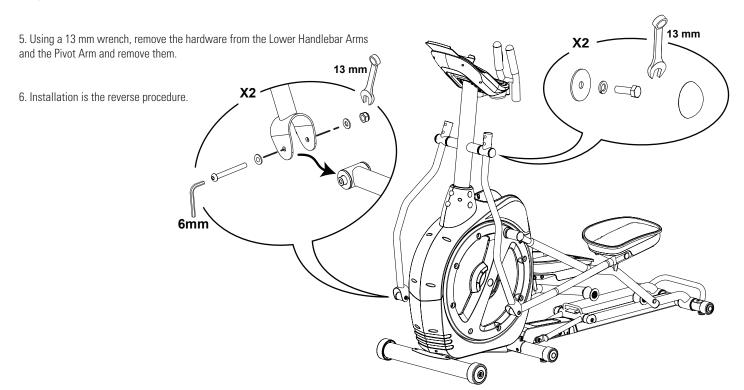
To reduce the risk of electrical shock or unsupervised usage of the equipment, always unplug the power cord from the wall outlet and the machine and wait 5 minutes before cleaning, maintaining or repairing the machine. Place the power cord in a secure location.

Tools Required: 6 mm hex wrench, small Standard Screwdriver, 13 mm wrench

2. Remove the Upper Handlebar Arms.



- 3. Using a 6 mm hex wrench and a 13 mm wrench, remove the 2 indicated bolts from the Lower Handlebar Arms and Pedals.
- 4. Using a small Standard Screwdriver, pry up the Caps from the Lower Handlebar Arms.



Replacing the Pedals and Legs

A DANGER

To reduce the risk of electrical shock or unsupervised usage of the equipment, always unplug the power cord from the wall outlet and the machine and wait 5 minutes before cleaning, maintaining or repairing the machine. Place the power cord in a secure location.

Tools Required: 6 mm hex wrench, 13 mm wrench

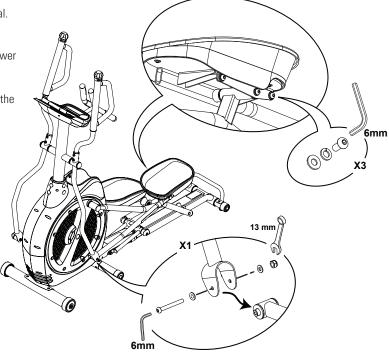
1. Using a 6 mm hex wrench, remove the 3 indicated bolts from below the Pedal.

2. Using a 6 mm hex wrench, remove the indicated bolts from the Pedal and Lower Handlebar Arm.



Be aware that the Handlebar Arms will be loose and may pivot when the hardware is removed.

3. Remove the Pedal.



- 4. Using a small Standard Screwdriver, pry up the Cap from the Crank Arm.
- 5. Using a #13 mm wrench, remove the indicated bolt from the Pedal and remove $^{:}$
- 6. Repeat steps on opposite side.
- 7. Installation is the reverse procedure.
- 8. Discard the old parts.
- 9. Inspect your machine to ensure that all hardware is tight and components are properly assembled.



Do not use until the machine has been fully assembled and inspected for correct performance in accordance with the Owner's Manual.

13 mm

X2

Replacing the Front Stabilizer

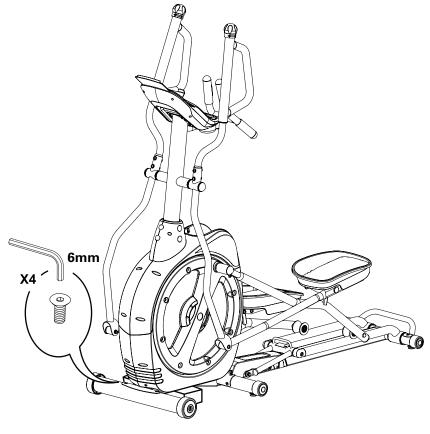
A DANGER

To reduce the risk of electrical shock or unsupervised usage of the equipment, always unplug the power cord from the wall outlet and the machine and wait 5 minutes before cleaning, maintaining or repairing the machine. Place the power cord in a secure location.

Tools Required: 6 mm hex wrench, static object (like a book or box)

- 1. Place a static object (like a book or box) under the front of the machine but not under the Front Stabilizer. The static object should not be compressible.
- 2. Using a 6 mm hex wrench, remove the four bolts that attach the Front Stabilizer.
- 3. Installation is the reverse procedure.
- 4. Dispose of the old parts.
- 5. Inspect your machine to ensure that all hardware is tight and components are properly assembled.





Replacing the Rail Assembly

ADANGER

To reduce the risk of electrical shock or unsupervised usage of the equipment, always unplug the power cord from the wall outlet and the machine and wait 5 minutes before cleaning, maintaining or repairing the machine. Place the power cord in a secure location.

Tools Required: 6 mm hex wrench, static object (like a book or box)

1. Be sure the Incline Assembly on the Rail Assembly is fully lowered.

If the Incline Assembly is raised:

a. Grasp the Incline Handle and be prepared to support the weight of the raised parts of the machine.



When released, the Incline Assembly may fully disengage. Make sure that you are able to support the weight of the raised parts of the machine safely.

b. With your foot, step and hold down one of the Incline Release Pedals. This releases the Incline Assembly.

Note: The Incline Handle may need to be slightly lifted to disengage the Incline Assembly.

c. Fully lower the Incline Assembly.



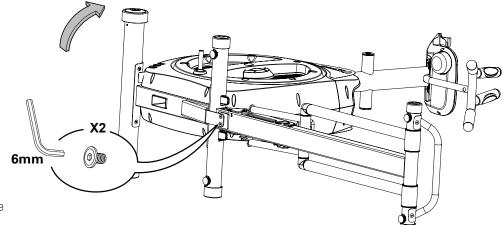
In order to avoid possible serious injury when lowering the Rails, be careful to avoid fingers or hands being caught or pinched.

- d. Step off the Incline Release Pedal.
- 2. Perform the removal steps of "Replacing the Pedals and Legs" Procedure.
- 3. Perform the removal steps of "Replacing the Upper and Lower Handlebars" Procedure.
- 4. Tilt the Machine and remove the two indicated bolts using a 6 mm hex wrench.



The machine may be moved by one or more persons depending on their physical abilities and capacities. Make sure that you and others are all physically fit and able to move the machine safely.

 $\begin{tabular}{ll} \textit{NOTICE:} \\ \textit{This step requires at least} \\ \textit{two people.} \\ \end{tabular}$



5. Stand the machine upright.



The machine may be moved by one or more persons depending on their physical abilities and capacities. Make sure that you and others are all physically fit and able to move the machine safely.

NOTICE: This step requires at least two people.

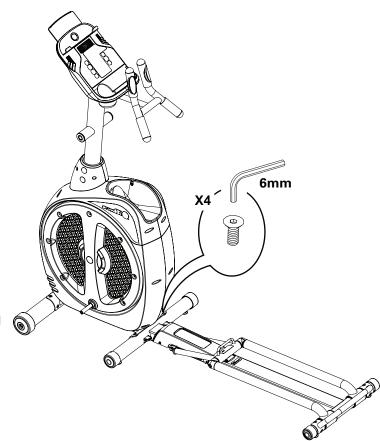
6. Using a 6 mm hex wrench, remove the four bolts that attach the Rail Assembly.



Be aware that the Frame Assembly may be unstable and slightly top heavy.

- 7. Remove the Rail Assembly.
- 8. Installation is the reverse procedure.
- 9. Dispose of the old parts.
- 10. Inspect your machine to ensure that all hardware is tight and components are properly assembled.





Removing the Shrouds

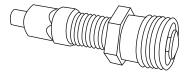
ADANGER

To reduce the risk of electrical shock or unsupervised usage of the equipment, always unplug the power cord from the wall outlet and the machine and wait 5 minutes before cleaning, maintaining or repairing the machine. Place the power cord in a secure location.

Tools Required: #2 Phillips screwdriver, Crank Puller, small Standard Screwdriver, 9/16" socket and ratchet

- 1. Perform the removal steps of "Replacing the Pedals and Legs" Procedure.
- 2. Perform the removal steps of "Replacing the Upper and Lower Handlebars" Procedure.
- 3. Using a #2 Phillips screwdriver, remove the two screws from the Storage Bin Insert.
- 4. Using a small Standard Screwdriver, remove the Cap (Item A) from the Crank Arm.
- 5. Using a 9/16" socket and ratchet, remove the Lock Nut from the Crank Arm with Plastics.
- 6. Using a Crank Puller, thread it into the Crank Arm with Plastics.

Note: Be sure the end of the Bolt of the Crank Puller is flush with the Nut (as shown) before use.

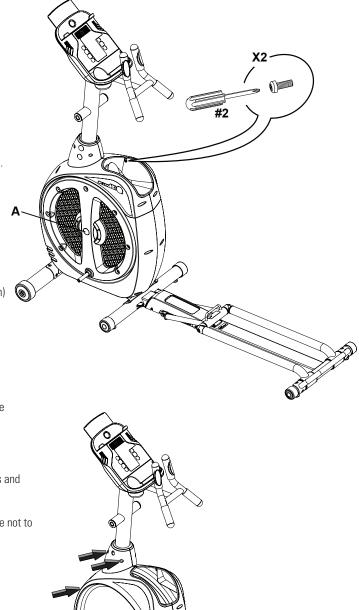


- 7. Using a wrench, turn the inner portion (the Bolt) of the Crank Puller clockwise. The Crank Arm with Plastics will slide off as it is tightened.

Note: Disconnect the AC Inlet cables from the Shroud to the wiring harness. Be sure not to crimp any cables.

- 9. Installation is the reverse procedure.
- 10. Dispose of the old parts.
- 11. Inspect your machine to ensure that all hardware is tight and components are properly assembled.





Replacing the Tensioner Assembly

ADANGER

To reduce the risk of electrical shock or unsupervised usage of the equipment, always unplug the power cord from the wall outlet and the machine and wait 5 minutes before cleaning, maintaining or repairing the machine. Place the power cord in a secure location.

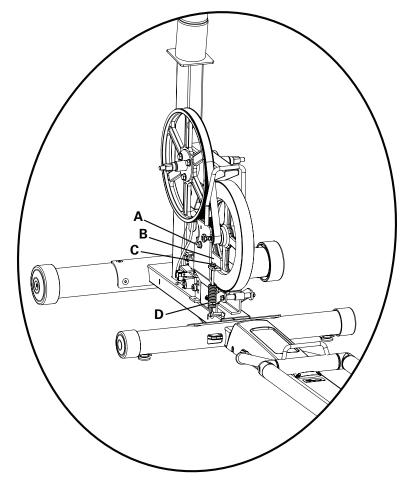
Tools Required: 10 mm hex wrench, 13 mm wrench, large #2 Standard Screwdriver

- 1. Perform the removal steps of "Replacing the Pedals and Legs" Procedure.
- 2. Perform the removal steps of "Replacing the Upper and Lower Handlebars" Procedure.
- 3. Perform the removal steps of "Removing the Shrouds" Procedure.
- 4. Measure, or mark a piece of scrap paper, the lengths of the Tensioner Spring and Bolt.
- 5. Using a 10 mm hex wrench, loosen the Spring Insert (Item C) until the Tension Spring (Item D) can be released.
- 6. Using a 13 mm wrench, remove the Tensioner Assembly Hardware (Item A).
- 7. Remove the Tensioner Assembly (Item B) from the Frame Assembly and the Drive Belt.
- 8. Installation is the reverse procedure.

Note: Be sure to adjust the Tensioner Bolt and Spring to the previous lengths.

- 9. Dispose of the old parts.
- 10. Inspect your machine to ensure that all hardware is tight and components are properly assembled.





Replacing the Flywheel, Drive Belt and Drive Pulley

A DANGER

To reduce the risk of electrical shock or unsupervised usage of the equipment, always unplug the power cord from the wall outlet and the machine and wait 5 minutes before cleaning, maintaining or repairing the machine. Place the power cord in a secure location.

Tools Required: 13 mm wrench, 17 mm wrench, large #2 Standard Screwdriver, eye protection, rubber mallet (or wooden block and hammer), needle nose pliers

- 1. Perform the removal steps of "Replacing the Pedals and Legs" Procedure.
- 2. Perform the removal steps of "Replacing the Upper and Lower Handlebars" Procedure.
- 3. Perform the removal steps of "Removing the Shrouds" Procedure.
- 4. Place a piece of cardboard the entire length of the Brake Magnet Assembly (Item F) and the Flywheel (Item E).
- 5. Using a large #2 Standard Screwdriver, loosen the Spring Insert (Item A) until the Tension Spring can be released.
- 6. Turn the Drive Pulley (Item D) clockwise while forcing the Drive Belt to the outside. Belt will come off of the Drive Pulley.



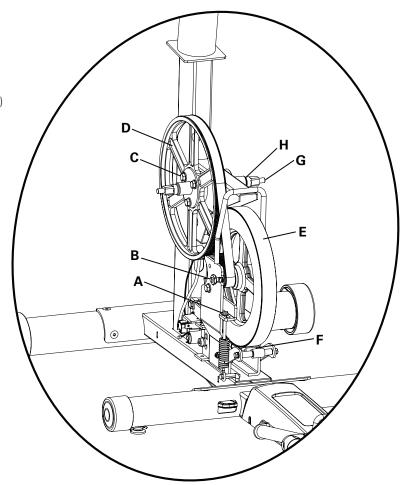
Keep fingers out of any pinch opportunities when turning the Pulleys.

- 7. Using a 17 mm wrench, remove the hardware (Item B) securing the Flywheel from both sides.
- 8. Using a 13 mm wrench, remove the hardware (Item C) from the Crank Spindle Weldment that contains the Drive Pulley Assembly.

Note: The Speed Sensor Magnet is on the Drive Pulley Assembly.

- 9. Using eye protection and needle nose pliers, remove the Snap Ring (Item H) from the Crank Spindle Weldment (Item G)
- 10. Using eye protection and a rubber hammer (or wooden block and hammer), gently strike the Crank Spindle Weldment until it works out of the Frame releasing the Drive Pulley Assembly.
- 11. Installation is the reverse procedure.
- 12. Dispose of the old parts.
- 13. Inspect your machine to ensure that all hardware is tight and components are properly assembled.



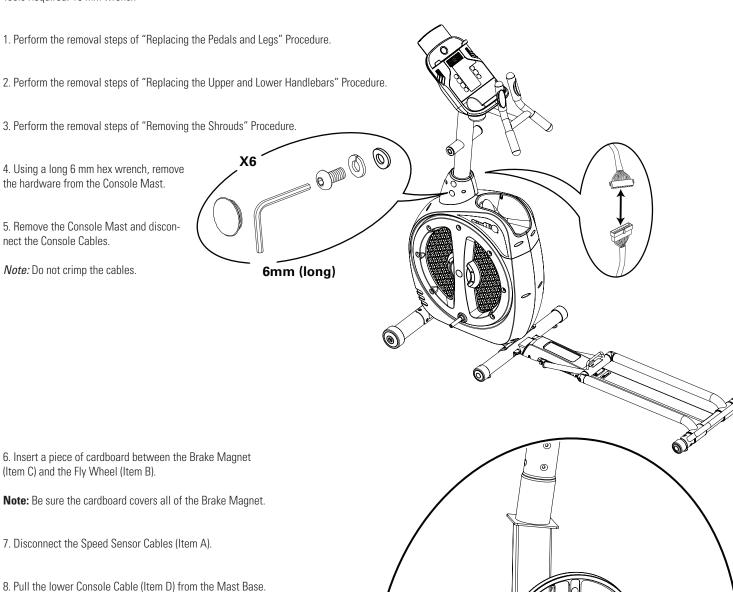


Replacing the Servo Motor

A DANGER

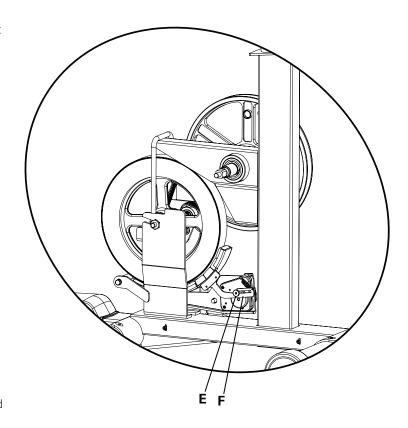
To reduce the risk of electrical shock or unsupervised usage of the equipment, always unplug the power cord from the wall outlet and the machine and wait 5 minutes before cleaning, maintaining or repairing the machine. Place the power cord in a secure location.

Tools Required: 10 mm wrench



B

9. Pull downward and release the Magnet Arm (Item F) enough to disengage it from the Motor Pulley Shaft (Item E).



10. Remove the two hex head bolts (Item G) from the Servo Motor (Item H) and the Spring Tension Arm (Item K).

Note: To assist with reassembly, be sure to observe how the Spring Tension Arm (Item K) is oriented.

- 11. Remove the Servo Motor from the Brake Plate (Item J).
- 12. Installation is the reverse procedure.

Notice: Do not touch the Potentiometer (Item I). Do not crimp any cables when routing through the Brake Plate and the Frame Assembly.

Note: Before fully attaching the Shrouds, remove the cardboard from between the Brake Magnet and the Fly Wheel. Power up the machine to verify that the Magnet Arm can move freely, and that the Brake Magnet and Fly Wheel are not

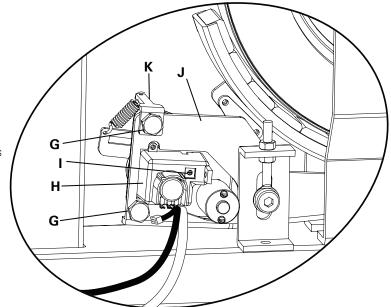
touching.

- 13. Dispose of the old parts.
- 14. Inspect your machine to ensure that all hardware is tight and components are properly assembled.



Do not use until the machine has been fully assembled and inspected for correct performance in accordance with the Owner's Manual.

After replacing the Servo Motor, the resistance levels of the machine may be different. The user should adjust their workout levels accordingly.



Adjusting the Servo Motor

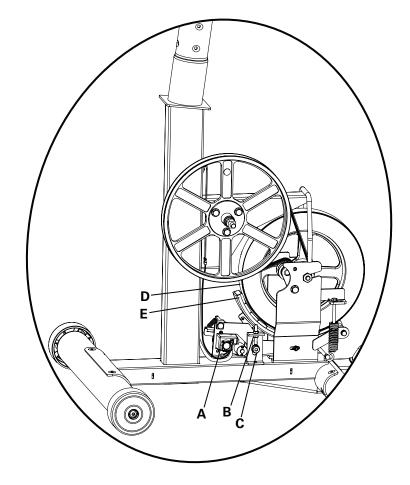
ADANGER To reduce the risk of electrical shock or unsupervised usage of the equipment, always unplug the power cord from the wall outlet and the machine and wait 5 minutes before cleaning, maintaining or repairing the machine. Place the power cord in a secure location.

Tools Required: hex wrench, 10 mm wrench

If resistance has shifted out of the factory specification, the Servo Motor may need to be adjusted.

- 1. Perform the removal steps of "Replacing the Pedals and Legs" Procedure.
- 2. Perform the removal steps of "Replacing the Upper and Lower Handlebars" Procedure.
- 3. Perform the removal steps of "Removing the Shrouds" Procedure.
- 4. Insert a piece of cardboard between the Brake Magnet (Item E) and the Flywheel (Item D).
- 5. Inspect the Servo Motor Assembly (Item A) and decide which way to adjust it.
- 6. Using a 10 mm wrench, loosen the Snap Nut (Item B) that will allow the Servo Motor to adjust in the correct direction. Count the number of exposed threads to assist with resetting the Servo Motor to the factory specifications.
- 7. Using a hex wrench, loosen the hardware (Item ${\bf C}$) securing the Servo Motor.
- 8. Using the Snap Nuts, adjust the position of the Servo Motor.
- 9. Secure hardware when the Servo Motor is in the correct position.

After adjusting the Servo Motor, the resistance levels of the machine may be different. The user should adjust their workout levels accordingly.



Replacing the Brake Assembly

A DANGER To reduce the risk of electrical shock or unsupervised usage of the equipment, always unplug the power cord from the wall outlet and the machine and wait 5 minutes before cleaning, maintaining or repairing the machine. Place the power cord in a secure location.

Tools Required: 6 mm hex wrench, 10 mm wrench, (2) 13 mm (1/2") wrench, 17 mm wrench

- 1. Perform the removal steps of "Replacing the Pedals and Legs" Procedure.
- 2. Perform the removal steps of "Replacing the Upper and Lower Handlebars" Procedure.
- 3. Perform the removal steps of "Removing the Shrouds" Procedure.
- 4. Insert a piece of cardboard between the Brake Magnet (Item B) and the Flywheel (Item F).

Note: Be sure the cardboard covers all of the Brake Magnet.

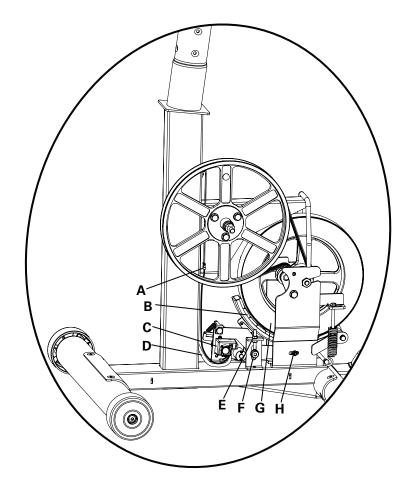
5. Disconnect the Speed Sensor Cables (Item A).

Note: Do not crimp the cables.

6. Pull the lower Console Cable (Item D) from the Frame Assembly.

Note: Do not crimp the cables.

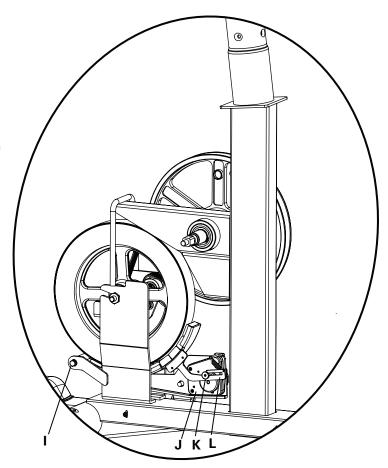
- 7. Count the number of exposed threads above the Upper Snap Nut (Item E). This will assist with resetting the Servo Motor to the factory specifications.
- 8. Remove the bolt (Item F) and upper Snap Nut from the Servo Motor/Brake Assembly.
- 9. Remove the bolt (Item H) from below the Flywheel.



- 10. Remove the bolt (Item I) from below the Flywheel.
- 11. Remove the Servo Motor/ Brake Assembly (Item J).

Note: Do not crimp the cables.

12. Pull downward and release the Magnet Arm (Item L) enough to disengage it from the Motor Pulley Shaft (Item K).

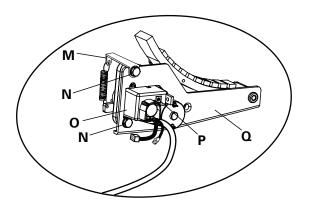


- 13. Remove the two hex head bolts (Item N) from the Servo Motor (Item 0) and the Spring Tension Arm (Item M).
- 14. Remove the Servo Motor from the Brake Plate (Item Q).

Note: Do not touch the Potentiometer (Item P).

15. Installation is the reverse procedure. Be sure the cardboard will completely cover the new Brake Magnet before installation. Do not crimp any cables when routing through the Brake Plate.

Note: Before fully attaching the Shrouds, remove the cardboard from between the Brake Magnet and the Fly Wheel. Power up the machine to verify that the Magnet Arm can move freely, and that the Brake Magnet and Fly Wheel are not touching.



After replacing the Brake Assembly, the resistance levels of the machine may be different. The user should adjust their workout levels accordingly.

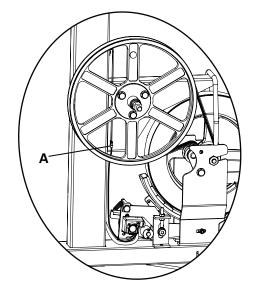
Replacing the Speed Sensor Assembly

ADANGER To reduce the risk of electrical shock or unsupervised usage of the equipment, always unplug the power cord from the wall outlet and the machine and wait 5 minutes before cleaning, maintaining or repairing the machine. Place the power cord in a secure location.

Tools Required: #2 Phillips screwdriver

- 1. Perform the removal steps of "Replacing the Pedals and Legs" Procedure.
- 2. Perform the removal steps of "Replacing the Upper and Lower Handlebars" Procedure.
- 3. Perform the removal steps of "Removing the Shrouds" Procedure.
- 4. Disconnect the Speed Sensor Cables (Item A).

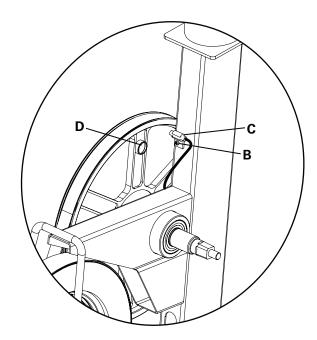
Note: Do not crimp the cables.



5. Using a #2 Phillips screwdriver, remove the indicated bolt (Item B) from the Speed Sensor Assembly (Item C).

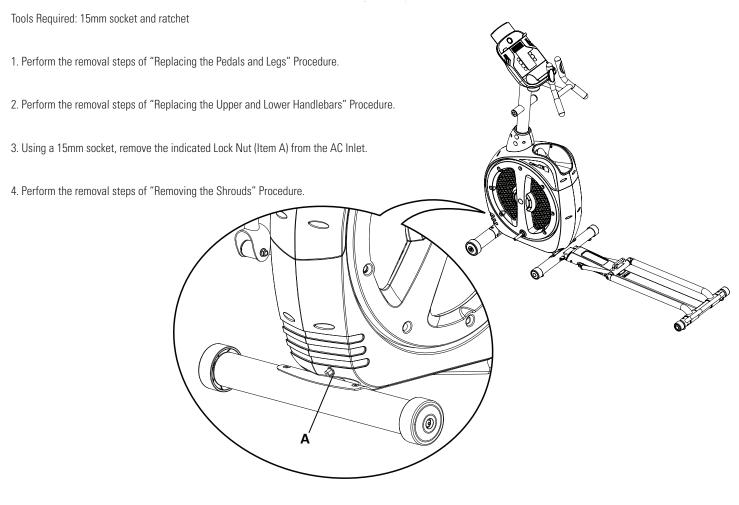
Note: The Speed Sensor Magnet is on the Drive Pulley Assembly (Item D).

- 6. Remove the Speed Sensor Assembly and replace with the new assembly.
- 7. Installation is the reverse procedure.



Replacing the Power Inlet Assembly

ADANGER To reduce the risk of electrical shock or unsupervised usage of the equipment, always unplug the power cord from the wall outlet and the machine and wait 5 minutes before cleaning, maintaining or repairing the machine. Place the power cord in a secure location.



5. Disconnect the Power Inlet Assembly (Item B) from the wiring harness.

Note: Do not crimp the cable.

- 6. Remove the Power Inlet Assemby and replace with the new assembly.
- 7. Installation is the reverse procedure.

