

# Reebok®

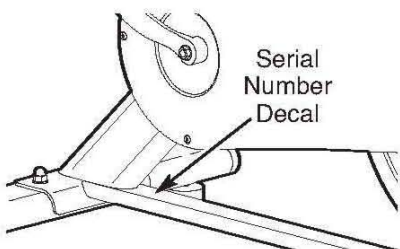


## TOMAHAWK

Model No. CEX1006ST.0

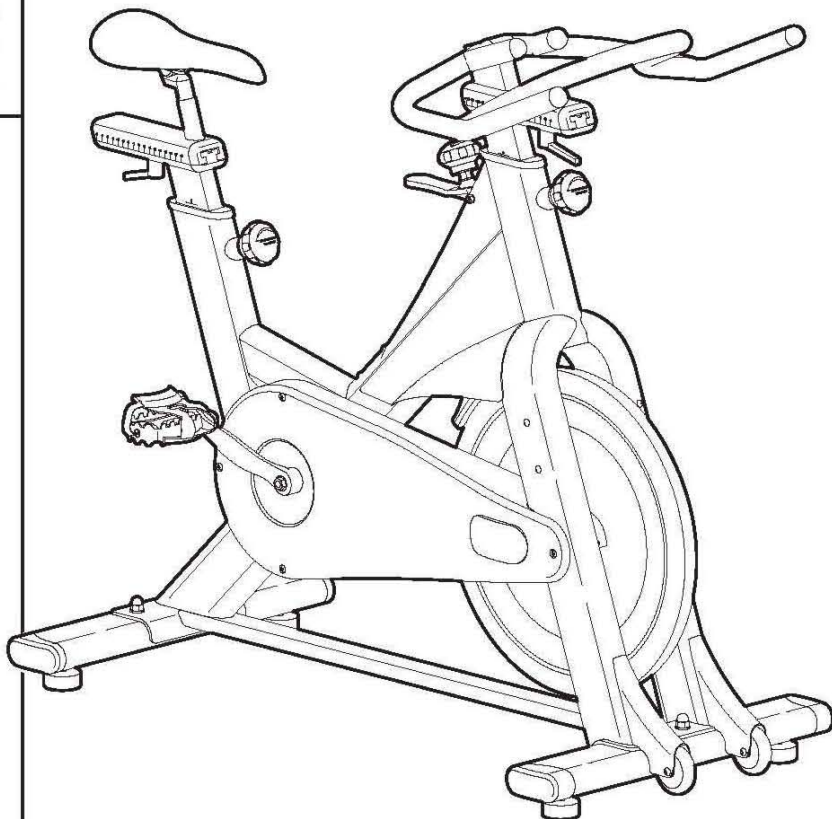
Serial No. \_\_\_\_\_

The serial number is found in the location shown below. Write the serial number in the space above for future reference.



### QUESTIONS?

At FreeMotion Fitness, we're committed to providing complete customer satisfaction. If you have questions, see HOW TO CONTACT CUSTOMER CARE on the back cover of this manual.



# Service Manual

© 2006 FreeMotion Fitness. © 2006 Reebok. All Rights Reserved.

REEBOK and the vector logo  are registered trademarks and service marks of Reebok.  
Manufactured and used under license from Reebok. SPD® is a registered trademark of Shimano, Inc.  
TOMAHAWK is a registered trademark of Cytech, GmbH.



## Table of contents

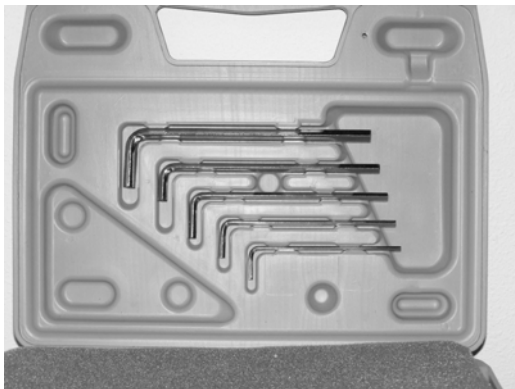
Tools required for servicing the Reebok Tomahawk.....	4
Service procedures:	
1. Pedal removal and installation.....	5
2. Brake pad inspection and replacement.....	6
3. Adjustment of the brake resistance system.....	8
4. Replacement of the brake tensioning arm.....	10
5. Brake rod system removal and replacement.....	12
6. Removal and replacement of the emergency brake handle.....	14
7. Removal of the outer chain guard.....	15
8. Removal of the crank arms.....	16
9. Removal of the chain ring.....	19
10. Bottom bracket spindle and bearing removal.....	21
11. Flywheel removal.....	24
12. Flywheel bearing inspection and axle removal.....	27
13. Front sprocket inspection and replacement.....	29
14. Flywheel bearing replacement.....	31
15. Flywheel installation.....	32
16. Initial setting of chain tension.....	34
17. Chain tension adjustment.....	37
18. Removal and replacement of the saddle.....	40
Part list.....	42
Exploded drawing.....	43
How to contact customer care.....	back cover



### **Tools required for servicing the Reebok Tomahawk**

Most of the tools required to service the Tomahawk are provided in the FreeMotion tool kit, CEXTK1006. The tools included in the kit are as follows:

- Metric allen wrench sizes 3mm, 4mm, 5mm, 6mm and 8mm
- Reversible standard/phillips head screwdriver
- 10mm/12mm open end wrench
- 14mm/15mm open end wrench
- Two (2) 17mm/19mm open end wrenches
- Combination 14mm crank arm wrench/crank removal tool
- Pulling tool for plastic insert sleeves



### **Additional tools and materials needed:**

- 15mm pedal wrench such as Park Tool PW-3
- Loctite® #242 for pedal threads
- Industrial food grade silicon lubricant such as MSC #0024635 or CRC #03040
- Rubber mallet
- Chain whip tool such as Park tool SR-1 or SR-2
- Bottom bracket wrench such as Park tool HCW-5
- 30mm deep well socket or 30mm headset wrench such as Park Tool HCW-7

## Pedal removal and installation

- a. Use a 15mm pedal wrench such as Park Tool PW-3 for removal and installation of pedals. A standard wrench is too wide and will not allow proper tightening.
- b. Orient the crank with the pedal you want to remove facing towards the front of the bike in a horizontal position. This allows maximum torque to be used.

### Loosen left side pedal



### Loosen right side pedal



- c. Remove the right pedal by loosening it in a counter-clockwise rotation.
- d. The left pedal is left hand threaded and must be turned clockwise to loosen.
- e. Upon removal, inspect the thread condition of the pedals and the crank arms. If either looks damaged or cross-threaded then always replace the component in question.
- f. To install pedals, first remove any debris that may be caught in the pedal or crank arm threads.
- g. Apply a small amount of blue Loctite® #242 to the leading edge of the pedal threads before inserting into the crank arm.
- h. Always begin threading by hand to ensure it is not cross threading.
- i. When the pedal is finger tight, use the pedal wrench to fully tighten the pedal. Orient the crank with the pedal you want to install facing towards the rear of the bike in a horizontal position. This allows maximum torque to be used.

### Tighten left side pedal



### Tighten right side pedal



- j. Wipe any excess Loctite® from the shaft of the pedal and crank arm.

## 2. Brake pad inspection and replacement

- a. Visually inspect the brake pad to determine if it needs to be replaced. A dry brake pad will wear much quicker than one that is kept lubricated, and pad material will gather at the front of the pad as shown.



Brake pad material that has built up along front edge of brake pad.

- b. Remove the buildup if present and thoroughly soak both sides of the pad with Industrial Food Grade Silicone lubricant (MSC #0024635 or CRC #03040) then wipe the excess runoff and overspray from the bike.



- c. If the pad is worn down to a thickness of less than 4mm it should be replaced with a new one.
- d. To remove the brake pad first set the resistance to the lowest setting by turning the brake tensioning knob counter-clockwise as far as possible, then loosen the screw using the appropriate size allen wrench and slide the brake pad off the tensioning arm.



- e. When installing a new brake pad, it is easiest to lubricate the pad prior to installation. Installation of the brake pad is the same as removal, but in the reverse order. Be sure that the spacer is installed between the pad and tensioning arm or the brake pad will be loose and not function correctly.
- f. Once the brake pad has been replaced visually check the spacing between the pad and flywheel. The pad should be touching the flywheel when the resistance is set at the lowest setting, but a gap should not be present between the pad and flywheel.

Correct pad gap



Incorrect -- too much space



- g. Turn the flywheel by hand or by using the crank arms to turn it and note how easily the flywheel turns. At the lowest resistance setting, the brake pad should be in contact with the flywheel but the flywheel should turn easily.
- h. If the flywheel does not turn easily due to too much contact with the new brake pad or if there is too much gap between the brake pad and flywheel, then adjustment of the brake system is necessary. Refer to section 3 for adjustment of the brake system.

### 3. Adjustment of the brake resistance system

- a. A properly adjusted brake system allows the brake pad to be in contact with the flywheel at the lowest resistance setting, while also allowing easy rotation of the flywheel. If adjustment to the brake system is required either as a result of installing a new brake pad, pad wear over time or gap between the pad and flywheel follow these steps to properly set up the brake rod system.
- b. Turn the resistance knob counter-clockwise until it stops, this is the lowest resistance setting. The brake pad should be in contact with the flywheel, but not applying pressure to the flywheel. To set the brake pad distance, the plastic adjusting drum on the brake rod must be moved either up or down on the brake rod. Adjusting the drum down will allow more space while adjusting the drum up will bring the brake pad in closer contact with the flywheel.



Plastic adjustment drum is located here.



- c. Loosen the two jam nuts at the bottom of the brake rod by using two 17mm open end wrenches.



Use two 17mm wrenches to loosen the jam nuts.

- d. Loosen both nuts by hand a few turns. If more gap is needed between the pad and flywheel, turn the resistance knob counter-clockwise until the brake pad is just slightly touching the flywheel. If there is too much gap between the pad and flywheel, turn the resistance knob clockwise until the pad comes in contact with the flywheel.
- e. Once the proper setting is reached tighten the two jam nuts by hand against the base of the plastic drum, then lock them together using two 17mm open end wrenches.
- f. After making any adjustments to the resistance system it is necessary to check the function of the emergency braking system. Do this by rotating the flywheel at a speed of at least 195rpm (crank arm making 1 complete revolution per second) and pulling up on the red emergency brake handle. The flywheel should come to a complete stop within 2 revolutions. If it does not stop within 2 revolutions check the setting of the resistance system again.

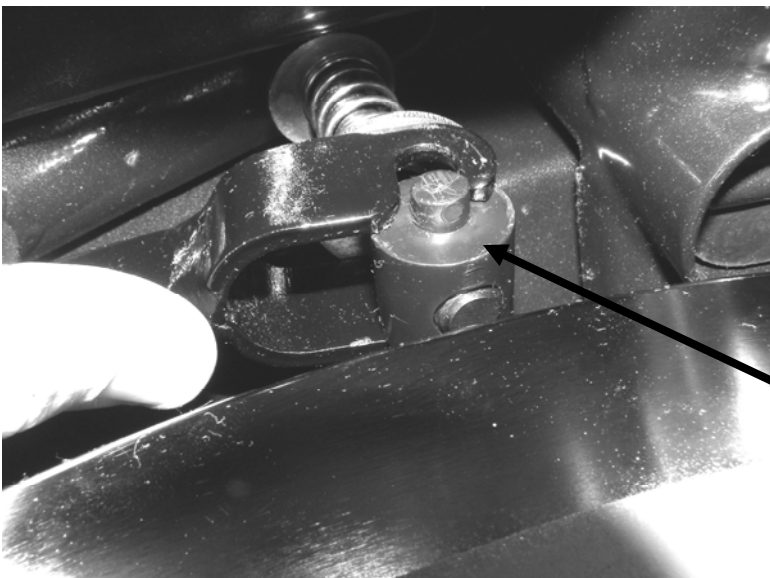
#### 4. Replacement of the brake tensioning arm

- a. The brake tensioning arm should only be replaced if it is broken or damaged to the point that it is causing braking or resistance system problems.
- b. To replace the brake tensioning arm, first remove the brake pad as described in section 2.
- c. Remove the screw that holds the brake tensioning arm to the frame by using the appropriate size allen wrench and open end wrench.



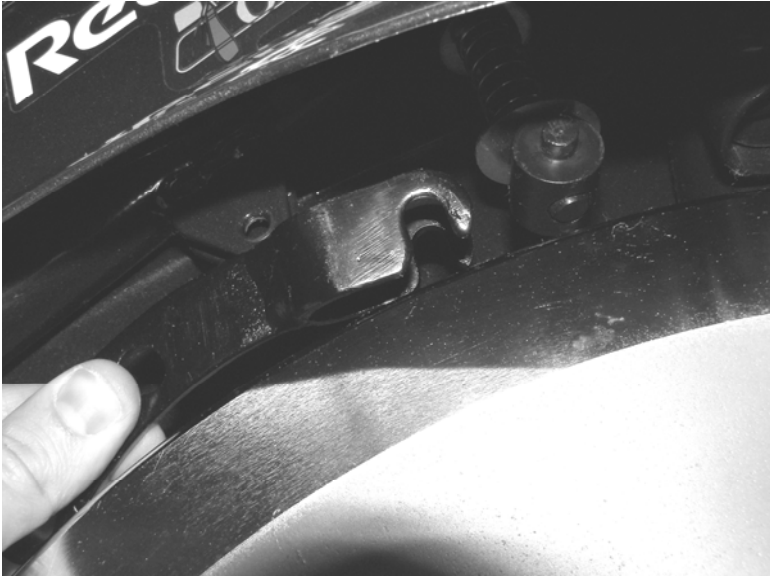
Use allen and open end wrenches to remove the brake tensioning arm.

- d. Once the screw has been removed, push up on the brake tension arm to unhook it from the plastic adjustment drum.



Plastic adjustment drum.

- e. Next, remove the brake tensioning arm from the bike.



- f. Installation of the brake tensioning arm is the same as removal but in reverse order.

## 5. Brake rod system removal and replacement

- a. If it is suspected that the brake rod system is not functioning properly it should be removed for inspection and/or replacement. Problems which may require the brake rod system to be replaced include a bent brake rod, stripped threads on the rod or adjustment drum causing the resistance system not to change when the knob is turned, a broken/bent tension spring or broken brake bushing.
- b. Begin by removing the brake pad as described in section 2 and removing the brake tensioning arm as described in section 4.
- c. Unlock the two jam nuts at the bottom of the brake rod system using two 17mm open end wrenches as described in section 3.
- d. While holding the resistance knob unscrew the two jam nuts and plastic adjustment drum by hand from the brake rod and lift the brake rod out of the bike frame.



- e. Be sure to keep track of these parts that will come off when the rod is extracted: 2 jam nuts, plastic adjustment drum, brake spring, brake bushing, socket ball and 3 washers (see next page). Refer to the exploded drawing in the back of this manual for proper assembly and location of these parts.



Brake rod parts:

- Brake bushing  
 M10 washer  
 Brake spring  
 M10 fender washer  
 Brake pivot  
 2 - M10 x 1mm jam nuts

- f. Inspect the threads on the brake rod and the threads inside the plastic adjustment drum to be sure they are not stripped. Also inspect the brake rod to be sure it is straight. Inspect the plastic parts to be sure they are not cracked or broken and inspect the spring to be sure it is not bent.
- g. Installation of the brake rod system is the same as removal but in reverse order. When installing the parts back onto the brake rod it is vital that the socket ball and brake bushing are oriented correctly. The tapered side of the bushing must be located towards the rear of the bike and the round portion on top must be engaged inside the frame of the bike. The round side of the socket ball must be in contact with the emergency brake handle.

Brake bushing



Tapered side

Brake socket ball



Rounded side

## 6. Removal and replacement of the emergency brake handle

- a. The red emergency brake handle only needs to be replaced if it is broken.
- b. Begin by removing the brake pad, brake tensioning arm and brake rod system as described in sections 2, 4 and 5 respectively.
- c. While holding the nylon lock nut with the appropriate sized open end wrench, loosen the screw that retains the emergency brake handle with a screwdriver, remove the screw and hardware then remove the emergency brake handle from the frame.



- d. Installation of the emergency brake handle is the same as removal, but in the reverse order. It's important that the rubber gaskets are placed between the frame and washer when the handle is installed to avoid damage to the finish. Do not over-tighten the bolt or the frame may be damaged.
- e. Once the emergency brake handle has been replaced, install the brake rod system, brake tensioning arm and brake pad as described in sections 5, 4 and 2 respectively.
- f. Check the function of the emergency brake as described in step f in section 3.

## 7. Removal of the outer chain guard

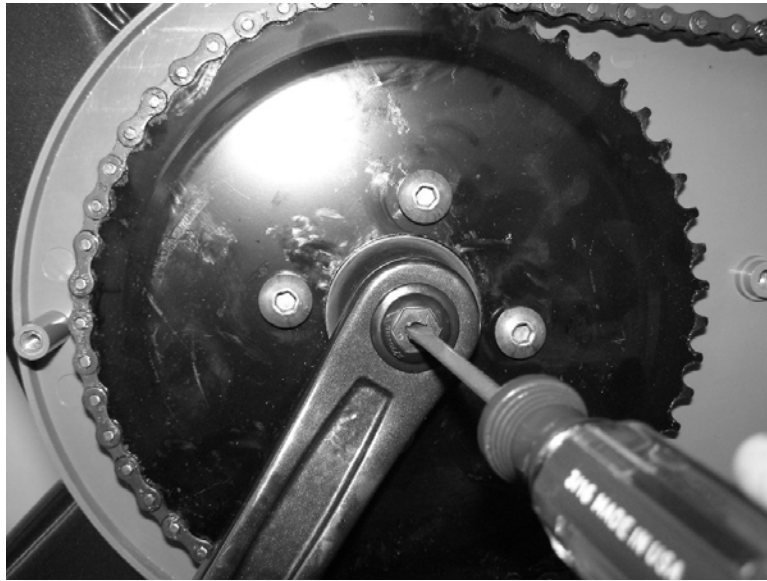
- a. There are a total of 5 screws that attach the outer chain guard to the inner chain guard.
- b. Remove each screw with the appropriate size allen key. Note: The screws that thread directly into the frame have a rubber gasket to prevent corrosion that must be re-installed.
- c. Orient the crank as shown in the following photo and slide the outer chain guard off the bike to expose the chain. Note: Removal of the pedal is not necessary in order to remove the outer chain guard.



- d. Installation of the outer chain guard is the same as above, but in the reverse order.

## 8. Removal of the crank arms

- a. First remove the outer chain guard as described in section 7.
- b. Remove the plastic dust cap from the crank arms using a flat head screwdriver as shown.

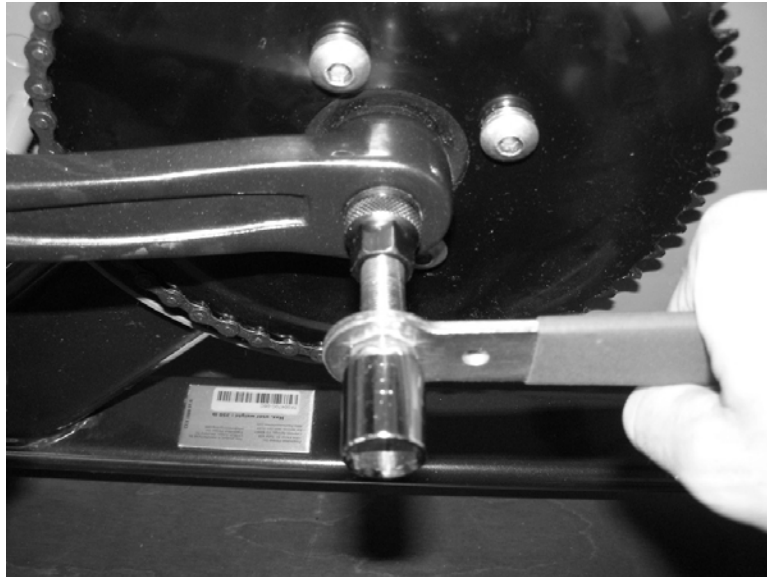


- c. Use a 14mm crank wrench such as Park Tool CCW-5 or the combination tool from the FreeMotion tool kit (CEXTK1006) putting the handle portion on the socket end and remove the flange nut as shown by turning the tool counter clockwise.



- d. Use a proper crank arm pulling tool such as Park Tool CCP-2 or the combination tool provided in the FreeMotion service tool kit to remove the crank arm.





- e. Be sure to thread the crank pulling tool all the way into the crank arm, or damage to the tool and crank arm threads may occur.



- f. Move the handle portion of the tool to the socket side so it engages securely.

- g. Turn the tool clockwise until the crank arm comes off the bottom bracket spindle.



- h. Remove the crank arm pulling tool or combination tool from the crank arm and inspect the threads on the tool and inside the crank arm to be sure no damage has occurred.
- i. Removal of the left and right crank arms is the same.
- j. When installing the crank arms first make sure the correct crank arm is being installed on the correct side of the bike. An indicator “L” or “R” is stamped into the inside of the crank arm close to the pedal hole.

Left crank arm indicator



Right crank arm indicator



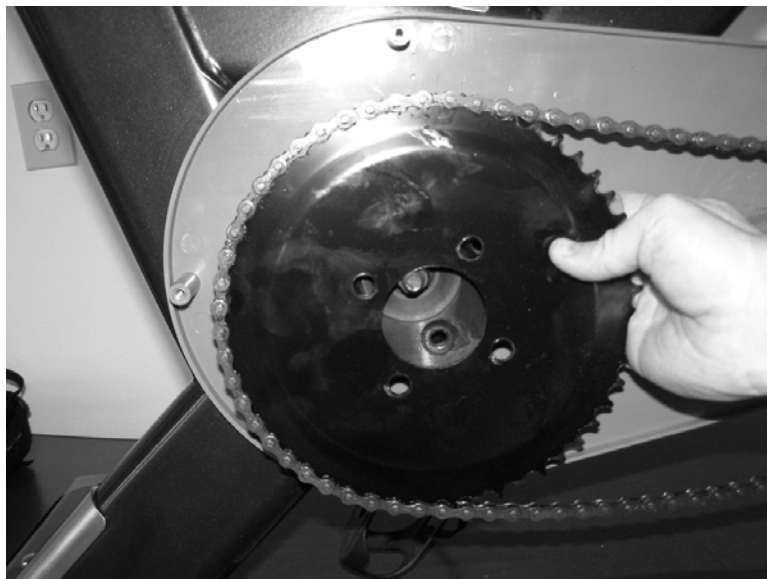
- k. Push the crank arms onto the bottom bracket making sure they are pointing in opposite directions.
- l. Apply a small amount of blue Loctite® #242 to the threads on the bottom bracket and thread the flange nut onto the bottom bracket by hand.
- m. Use a 14mm crank wrench such as Park Tool CCW-5 or the combination tool from the FreeMotion tool kit to securely tighten the flange nut onto the bottom bracket. Tighten the flange nuts to a torque of 85 Nm (64 Ft-Lb).

## 9. Removal of the chain ring

- a. Begin by removing the outer chain guard as described in section 7 and remove the right crank arm as described in section 8.
- b. Using the appropriate size allen wrench, loosen the four screws that hold the chain ring onto the bottom bracket spindle flange.



- c. Pull the chain ring off the bottom bracket spindle flange and remove the chain from the chain ring.



- d. Inspect the chain ring for flatness and for the presence of all 52 teeth. If the chain ring is warped, bent, missing teeth, or damaged in any other way it should be replaced.



- e. Installation of the chain ring is the same as removal, but in reverse order. When installing the chain ring first wrap the chain around the chain ring, ensuring each chain link engages with the teeth on the chain ring. Next, align the four holes in the chain ring with the holes in the bottom bracket spindle flange as you press the chain ring onto the flange. If chain tension is too tight, you may first need to loosen the chain tension in order to install the chain ring. Refer to section 17 for proper chain tension adjustments. When installing the chain ring, blue Loctite® #242 must be used on each of the four bolts and the bolts must be tightened to a torque of 60 Nm (45 Ft-Lb).

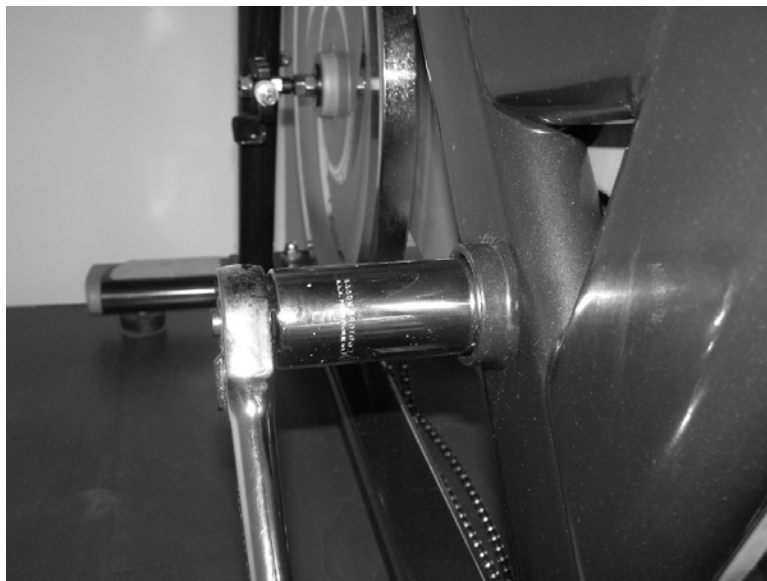
## 10. Bottom bracket spindle and bearing removal

- a. Begin by removing the outer chain guard, both crank arms and chain ring as described in sections 7, 8, and 9 respectively.
- b. Using a small screwdriver or other appropriate tool, remove the rubber cover from the left side of the bottom bracket spindle to expose the locking nut.



- c. Keep the spindle from turning by holding it with a 16mm open end wrench on the right side while loosening the locking nut located on the left side using a 30mm deep well socket, or a 30mm headset wrench such as Park Tool HCW-7. A socket will apply more torque to the nut with less risk of slipping.

Recommended method -- 30mm deep well socket



Alternative method -- 30mm headset wrench



- d. Once the locking nut is removed, pull the bottom bracket spindle out from the right side of the bike. It may be necessary to tap the spindle out with a rubber mallet. DO NOT use a traditional hammer as damage to the threaded portion of the spindle can occur.



- e. With the spindle removed from the frame, the bearings can be inspected. To do this, turn the bearings on each side of the frame by hand. The bearings should roll smoothly and quietly without binding or dragging. If they do not move smoothly or if grinding is noticed, the bearings need to be replaced. If replacing bearings, always replace them as a complete set, not just one or two.

## Bearing inspection



- f. The bearings can be removed by gently tapping them out with a punch and hammer. Tap evenly around the entire inside surface of the bearing in small increments so they come out without binding inside the housing. DO NOT use a screwdriver or other sharp object to remove bearings as extensive damage to the bearings can easily occur and cause them to jam inside the housing or come apart.
- g. Install new bearings 1 at a time using a rubber mallet making sure they go in straight. Be sure that the spacer is installed in the center of the bearing hub or damage to the bearings can occur when the spindle nut is tightened.
- h. Be sure to insert the bearings all the way into the housing so that the outside bearing on each side of the frame is flush with the edge of the housing.

**IMPORTANT: ALWAYS USE BEARINGS PROVIDED BY FREEMOTION FITNESS OR A SERVICE PROVIDER APPROVED BY FREEMOTION FITNESS OR WARRANTY TO THE BOTTOM BRACKET WILL BE VOID.**

- i. Insert the bottom bracket spindle from the right side of the frame, tapping it lightly with a rubber mallet if necessary, until it comes in contact with the bearings. You may first need to move the spacer inside the bearing housing so that the spindle goes through it.
- j. Slide the 30mm nylon locking nut onto the left side of the spindle and thread it onto the spindle by hand as far as possible.
- k. Keep the spindle from turning by holding it with a 16mm open end wrench on the right side while tightening the nylon locking nut using a 30mm deep well socket, or a 30mm headset wrench such as Park Tool HCW-7. A socket will apply more torque to the nut with less risk of slipping.
- l. Tighten the nylon locking nut all the way up to the bearings but do not torque tighten the nut as that not allow the bearings to rotate. Tighten the nut a little at a time checking the rotation of the bottom bracket spindle by hand in between each adjustment. If the nut is tightened too much the spindle will not rotate freely.
- m. Install the rubber nut cover over the 30mm nylon locking nut. DO NOT skip this step. The rubber cover keeps dirt, debris and sweat away from the nut and is important.

## 11. Flywheel removal

- a. The flywheel should only be removed if it is suspected that the hub bearings have failed, the axle is damaged or if the flywheel itself has sustained damage.
- b. Follow the instructions in sections 2, 4, 7, 8, 9 and 10 to remove the brake pad, brake tension arm, outer chain guard, crank arms, chain ring and bottom bracket spindle. It is also helpful to remove the inner chain guard to allow space for flywheel removal. Note: On newer bikes with serial number ### and higher the bottom bracket spindle does not need to be removed in order to remove the inner chain guard so it and the left crank arm can remain in the bike for this procedure.
- c. Remove the left side flywheel hub cover by removing the 3 screws with the appropriate sized allen wrench. Note: One of the screws is located on the bottom of the cover.
- d. Once all the items listed in steps 2 and 3 have been removed the flywheel axle needs to be loosened and the tensioning bolts must be removed in order to remove the flywheel.
- e. Loosen the main flywheel axle nuts located on the outside of the axle mounts using two 19mm open ended wrenches.





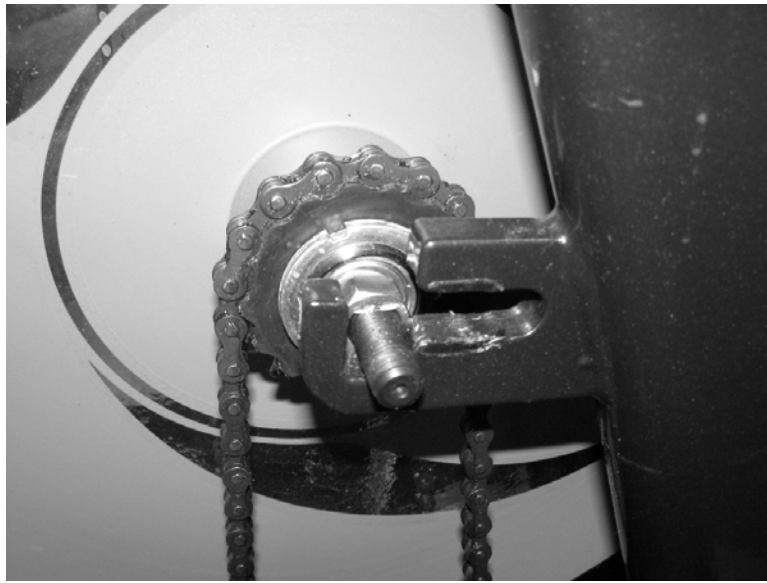
- f. Loosen the locking nuts on the tensioners that are located on the outside of the axle brackets.



- g. While holding the adjustment nut on the tensioner with an open end wrench, unscrew the tensioning bolt with an appropriate size allen key then remove the main flywheel axle nut and the tensioning bracket. Repeat on the other side of the unit.



- h. Shift the flywheel towards the rear of the bike to make it ready to remove.

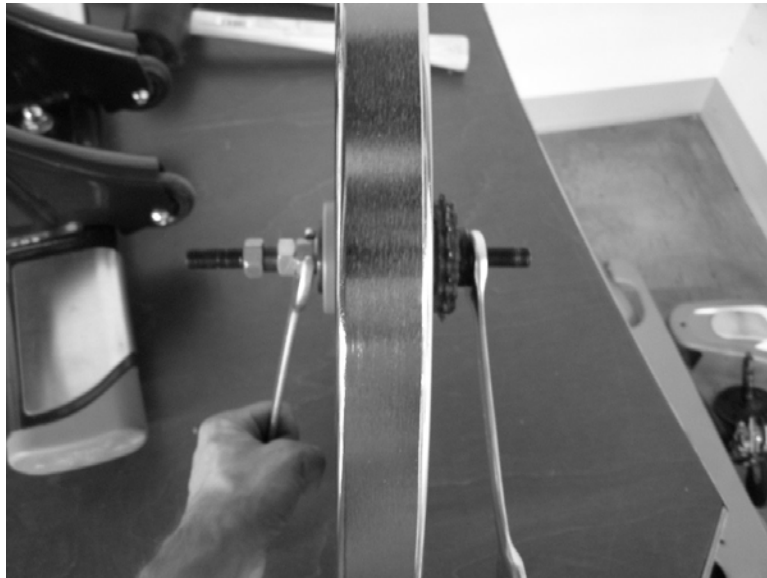


**CAUTION: THE FLYWHEEL IN THIS INDOOR CYCLE WEIGHS 46LBS. DO NOT ATTEMPT TO REMOVE IF YOU ARE NOT CAPABLE OF LIFTING THIS MUCH WEIGHT OR GET ASSISTANCE IN DOING SO.**

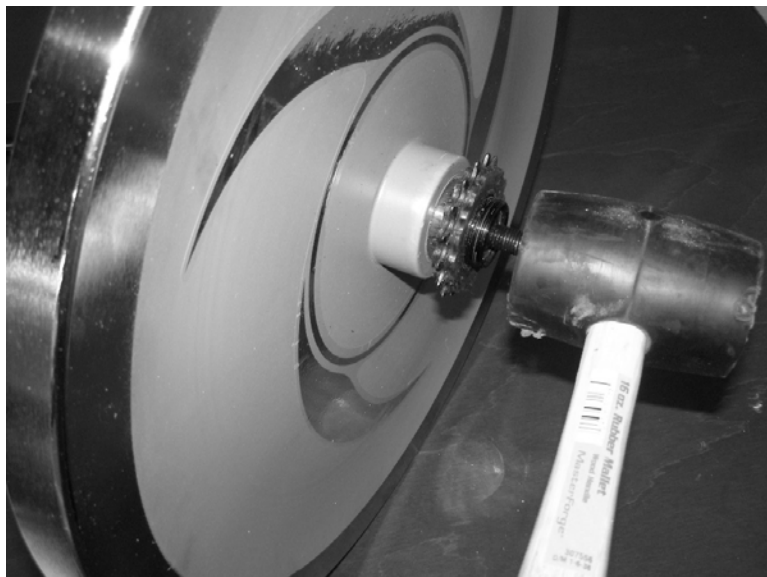
- i. The flywheel is now ready to be removed from the frame. Prepare an area located close to the bike to place the flywheel once removed.
- j. Lift the flywheel straight up from the frame so that the axle clears the brackets on both sides, and then carefully pull the flywheel out of the frame. Caution should be used when setting the flywheel down or damage to the axle, hub and bearings could occur. Carefully remove the chain so that it does not get damaged.

## 12. Flywheel bearing inspection and axle removal

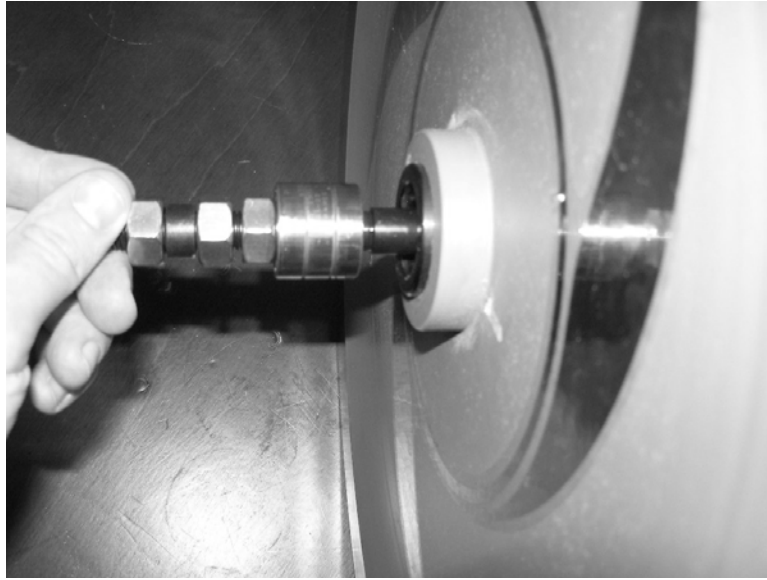
- a. Leave the axle in the flywheel and turn the axle by hand. It should easily turn without dragging, binding or making noise. If the bearings feel as if they are not turning freely or if a grinding noise or feel is present then the bearings should be replaced.
- b. To remove the axle from the flywheel, carefully stand the flywheel on edge and loosen the innermost nut on each side of the flywheel using two 19mm open end wrenches.



- c. Remove the single nut that is located on the sprocket side of the flywheel and carefully tap the axle out of the flywheel hub from the sprocket side using a rubber mallet. **DO NOT** use a traditional hammer as damage to the axle can occur.

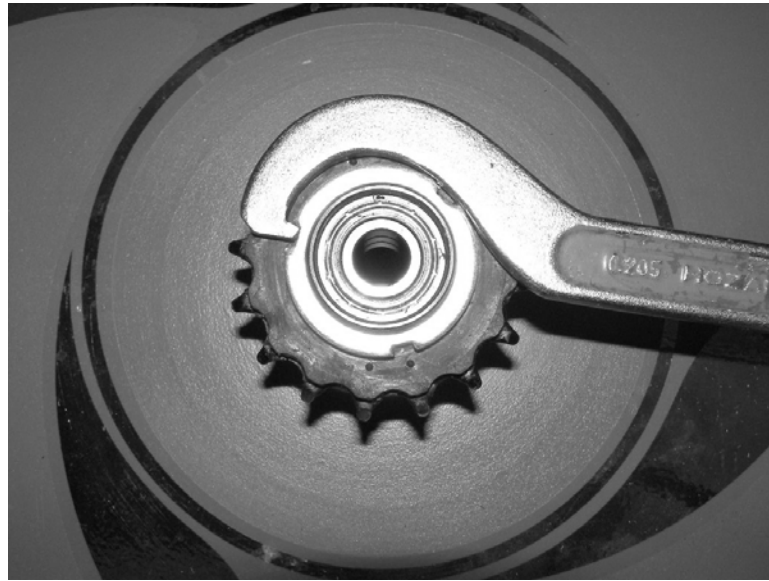


- d. Once the axle comes free from the hub, it can be removed by hand.

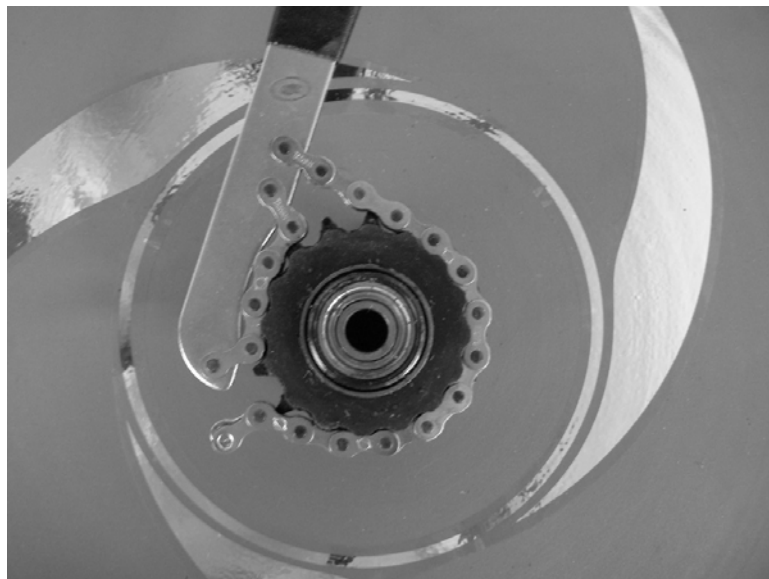


### 13. Front sprocket inspection and replacement

- a. With the axle removed from the flywheel, the flywheel can be carefully placed flat on a work bench or table with the sprocket side facing up. Inspect the sprocket for damage and for the presence of all 16 teeth. Also be sure that the rubber is still adhered to both sides of the sprocket.
- b. If the sprocket needs to be replaced, first remove the lock ring using an appropriate lock ring wrench or a bottom bracket wrench such as Park Tool HCW-5. Note that the lock ring is left hand threaded onto the hub so turning it clockwise loosens it.



- c. With the lock ring removed, the sprocket can now be removed using a chain whip tool such as Park Tool SR-1 or SR-2. The sprocket is right hand threaded so turning it counter-clockwise loosens it. It is recommended to have a second person hold the flywheel for the removal of the sprocket.



NOTE: In some cases it may be difficult to remove the sprocket using a chain whip tool since the sprocket is installed with Loctite® thread locker. If this is the case, a punch and hammer may be necessary.

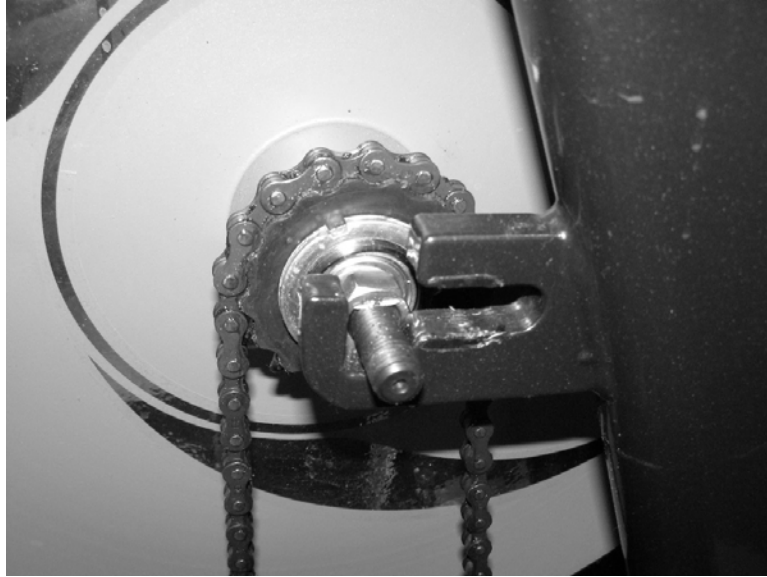
- d. When installing the new sprocket onto the flywheel hub, use blue Loctite® #242 on the threads and tighten the sprocket securely to the hub.
- e. Install the new lock ring that comes with the sprocket. The lock ring is reverse threaded so turning it counter-clockwise tightens it. Do not use Loctite® on the lock ring threads. Tighten the lock ring securely to the flywheel hub.

## 14. Flywheel bearing replacement

- a. The hardware on the axle will need to be removed in order to pull the bearings off the axle. The bearings on the sprocket side of the flywheel should be carefully tapped out from the opposite side using a punch and hammer. Tap evenly around the entire surface of the bearing in small increments so they come out without binding inside the hub. DO NOT use a screwdriver or other sharp object to remove bearings as extensive damage to the bearings can easily occur and cause them to jam inside the hub or come apart.
- b. Install new bearings carefully into the hub of the flywheel on the sprocket side using a rubber mallet. Tap them in slowly one at a time to be sure they are inserted evenly.
- c. Slide new bearings onto the side of the axle that will be opposite the sprocket and carefully install the axle back into the flywheel hub, tapping it with a rubber mallet in small increments.
- d. Once the axle has been installed in the hub, turn the axle by hand to be sure it rotates freely without any binding.
- e. Refer to the exploded drawing in the back of this manual for the proper installation of the nuts and spacer on the flywheel axle, installing all hardware by hand first.
- f. Carefully tighten the innermost nut on each side of the flywheel with two 19mm open end wrenches. These nuts should not be torque tightened, just snug to keep the axle in place. Tighten the nuts a little at a time checking the rotation of the axle by hand in between each adjustment. If the nuts are tightened too much the axle will not rotate freely.
- g. Once the two innermost nuts are correctly tightened, jam the second nut on the side opposite the sprocket against the first nut using two 19mm open end wrenches and install the remaining nuts and spacer on the axle as shown in the exploded drawing.
- h. The flywheel is now ready to be installed on the bike.

## 15. Flywheel installation

- a. Wrap the chain around the sprocket and carefully lift the flywheel onto the bike with the sprocket located on the right side of the bike aligning each side of the axle with the axle support brackets and set the flywheel into the brackets.



- b. Roughly center the flywheel within the frame visually as a starting point.
- c. Lift the flywheel up slightly so that the axle can be placed into the slotted opening in the brackets. This will make room for the next steps.

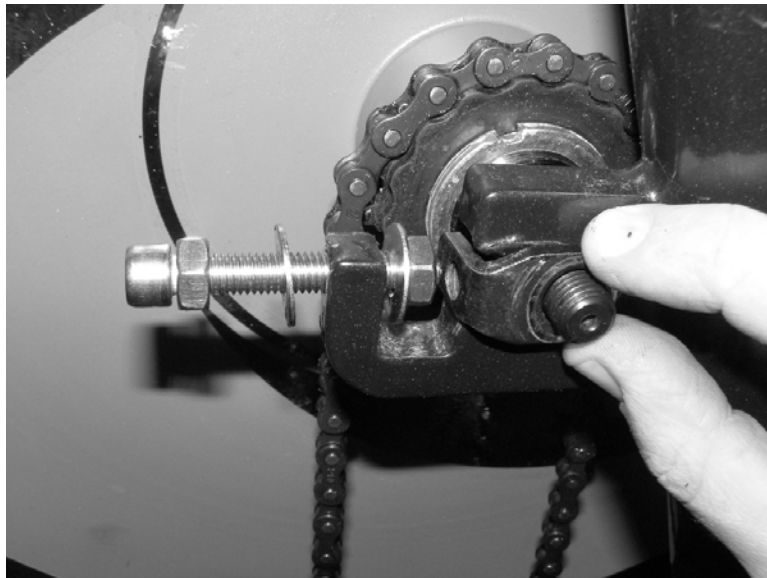




- d. Insert the tensioning bolt with washer and locking nut into the axle bracket, then place the second washer on the bolt and thread the adjusting nut onto the bolt a few turns.



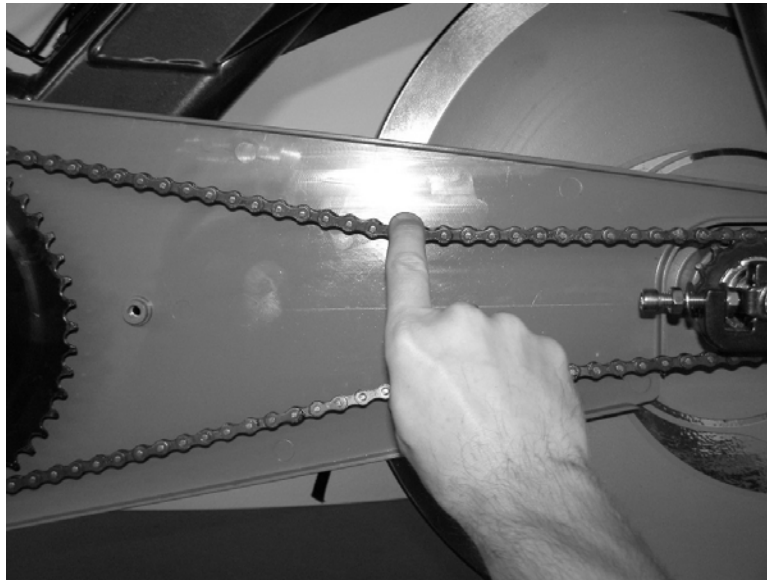
- e. Place the tension bracket over the flywheel axle with the tab point inward, followed by the locking washer and flywheel axle nut. Do not tighten the flywheel axle nut at this time. Repeat steps d and e for the opposite side of the flywheel axle assembly.



- f. Before chain alignment and tensioning can be performed, the inner chain guard, bottom bracket spindle, chain ring and crank arms must first be installed if they were removed. Refer to sections 8, 9 and 10 for instructions on proper installation of these components.

## 16. Initial setting of chain tension

- a. After re-installing the flywheel chain alignment and tension need to be properly set and at this point there should be significant slack in the chain.



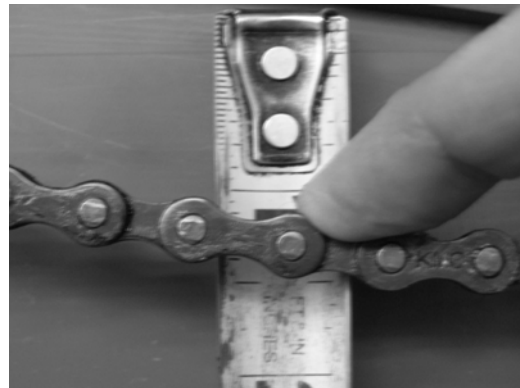
- b. Start first by centering the flywheel on the unit and aligning it so it is straight in the axle brackets. Look down the length of the chain to visually see if it appears aligned between the sprocket and chain ring. A large offset or misalignment is easy to spot because the chain will appear bent.



- c. Begin tightening the chain slowly by using the adjustment nut on the tensioning bolt. As the bike is viewed from the front, turning the nuts clockwise will increase chain tension while turning them counter-clockwise will loosen the chain. Adjust the tensioning nuts on each side of the flywheel equally.

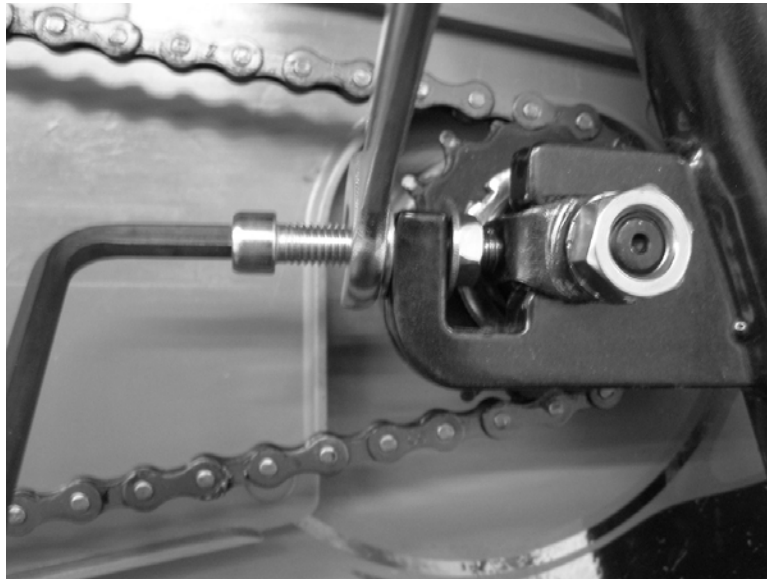


- d. In between adjustments check the chain tension by hand and turn the crank to listen for chain noise. A properly adjusted chain will deflect approximately  $\frac{1}{2}$ " when pushed firmly by hand and only a "clicking" noise should be heard in the front sprocket area when the flywheel is rotating.



- e. As adjustments are made also check to see how much play there is in the cranks. Do this by first positioning one of the crank arms horizontally, then quickly lift and push on the crank up and down. If a lot of play is felt in the crank then the chain is too loose.
- f. Repeat steps c through e until the following criteria are all met:
1. Chain deflects approximately  $\frac{1}{2}$ " when pushed in the center by hand.
  2. Very minimal or no play is noticeable in the cranks when felt by hand.
  3. Chain noise is minimal -- only a "clicking" noise is noticeable and no grinding is present.

- g. Once the chain tension is adjusted properly and all the criteria in step f are met, tighten the locking nut on the tensioning bolt while keeping the tensioning bolt from turning.



- h. Tighten the main nuts on the flywheel axle using two 19mm open end wrenches. Tighten the nuts to a torque of 20 Nm (15 Ft-Lb).
- i. Once proper chain tension is achieved and the hardware is tightened, insert the roll ring into the chain as shown ensuring the teeth on the roll ring are engaged with the links in the chain.



- j. With the roll ring in place, the outer chain guard can be installed. Installation of the chain guard is the same procedure as removal but in the reverse order, as described in section f.

## 17. Chain tension adjustment

- a. Follow this procedure if a minor chain tension adjustment needs to be made. If the flywheel position has been adjusted or completely removed then follow the steps in section 16 for proper setup of chain tension.
- b. Remove the rubber access cover on each side of the flywheel hub.



- c. Loosen the main flywheel axle nuts using two 19mm open end wrenches.



- d. While holding the tensioning bolt in place with an allen wrench, loosen the locking nuts on the tensioning bolt with the appropriate size open end wrench on both sides of the flywheel.



- e. While still holding the tensioning bolt from turning, adjust the chain tension by turning the adjusting nut that is located on the opposite side of the bracket. Turning the nuts clockwise from the viewpoint of the front of the bike tightens the chain while turning the nuts counter-clockwise loosens the chain.



- f. Make small adjustments on both sides of the flywheel evenly, checking the chain tension by hand in between each adjustment.

- g. Check the tension by grasping a pedal and attempting to move the crank up and down to feel for slack in the chain.



- h. Once the feel of slack is gone from the crank do not make more adjustments. Over-tightening the chain will produce grinding noises and make the bike feel “rough” when riding.



- i. When proper chain tension is achieved tighten the locking nuts on the tensioning bolts while holding the bolts from turning.  
j. Tighten the main flywheel axle nuts using two 19mm open end wrenches. Tighten the nuts to a torque of 20 Nm (15 Ft-Lb).  
k. Install the rubber access covers that were removed in step b.

## 18. Removal and replacement of the saddle

- a. If the saddle has become damaged in any way it should be replaced.
- b. Loosen the bolt located directly under the saddle with the appropriately sized allen wrench.



- c. Once the bolt has been loosened, turn the upper clamp 90 degrees and lift the saddle off the clamp.





- d. With the saddle removed, inspect the clamp and bolt assembly and replace the assembly if any parts are damaged or excessively worn. The assembly consists of a bolt, lower clamp, upper clamp and nut.

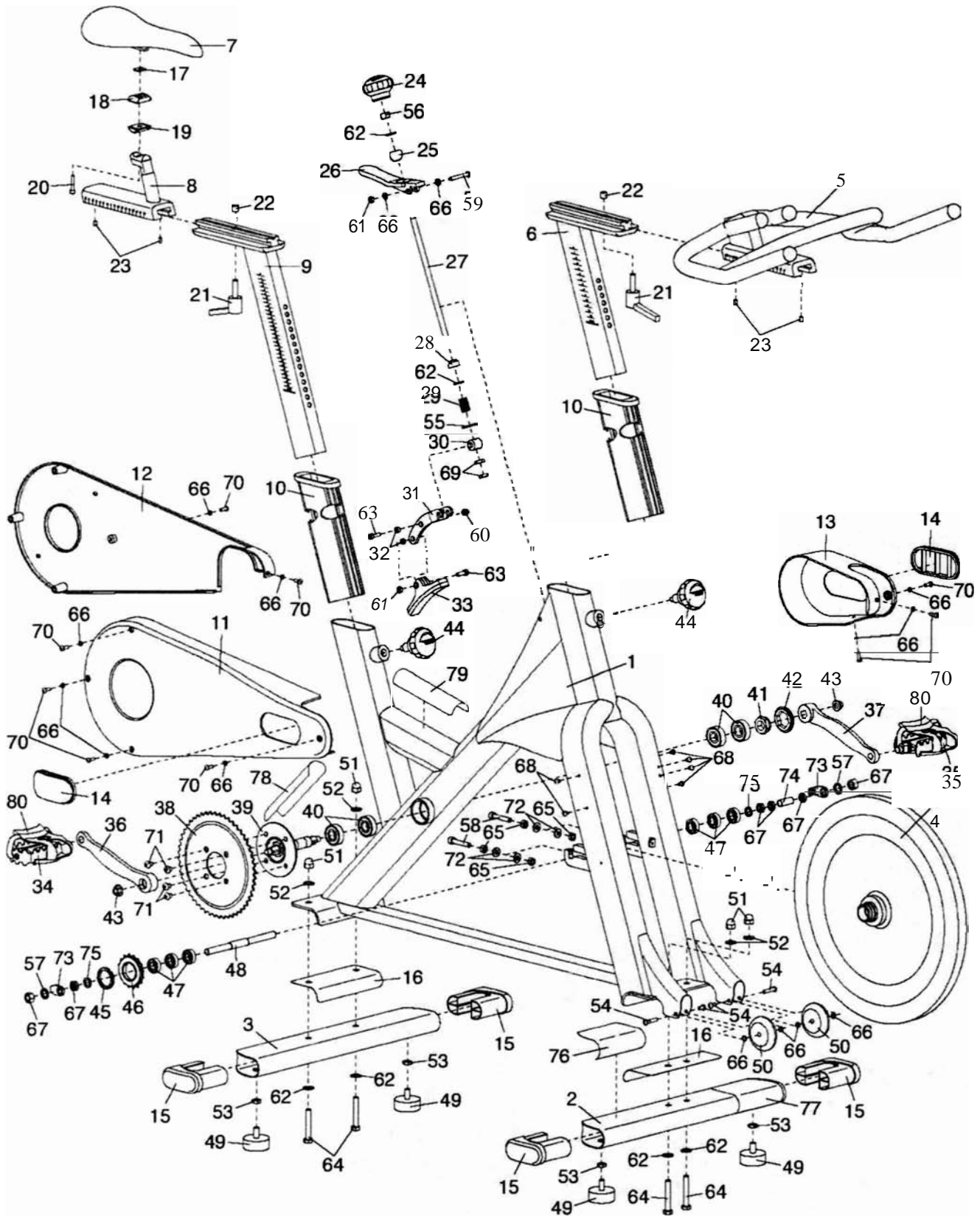


- e. When installing a new clamp assembly be sure that the grooved side of the lower clamp is facing down engaging the grooves in the seat post, the upper clamp round side is facing up and the round side of the nut is facing down.
- f. Install the new saddle onto the clamp making sure it is level.
- g. Tighten the bolt securely making sure the saddle is straight and forward on the rails.



# EXPLODED DRAWING-MODEL NO. CEX1006ST.O

R0806A



Key No.	Qty.	Description	Key No.	Qty.	Description
1	1	Frame	43	2	M10 Flange Nut
2	1	Front Stabilizer	44	2	Adjustment Knob
3	1	Rear Stabilizer	45	1	Lock Ring
4	1	Flywheel	46	1	Flywheel Sprocket
5	1	Handlebar	47	6	Flywheel Bearing
6	1	Handlebar Post	48	1	Flywheel Axle
7	1	Saddle	49	4	Leveling Foot
8	1	Saddle Carriage	50	2	Wheel
9	1	Saddle Post	51	4	M10 Acorn Nut
10	2	Frame Sleeve	52	4	Plastic Washer
11	1	Chain Guard	53	4	M10 Jamnut
12	1	Inner Chain Guard	54	2	M6 x 30mm Union Bolt
13	1	Hub Cover	55	1	M10 Fender Washer
14	2	Maintenance Cover	56	1	M10 Nylon Locknut
15	4	Stabilizer Endcap	57	2	M12 Lock Washer
16	2	Stabilizer Gasket	58	2	M8 x 45mm Adjustment Screw
17	1	Saddle Clamp Nut	59	1	M6 x 45mm Bolt
18	1	Upper Saddle Clamp	60	1	M6 Nylon Locknut
19	1	Lower Saddle Clamp	61	2	M6 Nut
20	1	M8 x 48mm Bolt	62	6	M10 Washer
21	2	Adjustment Handle	63	2	M6 x 20mm Bolt
22	2	Lock Bushing	64	4	M10 x 60mm Bolt
23	4	M6 x 8mm Set Screw	65	4	M8 Nut
24	1	Resistance Knob	66	15	M5 Washer
25	1	Socket Ball	67	6	M12 Axle Nut
26	1	Emergency Brake Handle	68	6	M5 x 15mm Screw
27	1	Brake Rod	69	2	M10 x 1mm Jamnut
28	1	Brake Bushing	70	9	M5 x 16mm Screw
29	1	Brake Spring	71	4	M10 x10mm Screw
30	1	Brake Pivot	72	4	M8 Washer
31	1	Brake Tension Arm	73	2	Capture Nut
32	2	Lever Bushing	74	1	Flywheel Spacer
33	1	Brake Pad	75	2	M12 Washer
34	1	Right Pedal	76	1	Right Stabilizer Shield
35	1	Left Pedal	77	1	Left Stabilizer Shield
36	1	Right Crank Arm	78	1	Lower Frame Shield
37	1	Left Crank Arm	79	1	Upper Frame Shield
38	1	Chain Ring	80	2	Pedal Toe Strap
39	1	Bottom Bracket Spindle	#	1	Roll Ring
40	4	Bottom Bracket Bearing	#	1	Chain
41	1	Bottom Bracket Locknut	#	1	Water Bottle Cage
42	1	Locknut Cover	#	1	User's Manual

Note: # indicates a non-illustrated part. Specifications are sUBJECT to change without notice. If replacement parts are needed, or if parts are missing, see HOW TO CONTACT CUSTOMER CARE on the back cover of this manual.

## HOW TO CONTACT CUSTOMER CARE

If you have questions after reading this manual, or if you require assistance, please contact Customer Care at the phone number or address listed below:

**1-800-201-2109, Monday through Friday, 8 a.m. until 5 p.m. Mountain Time**  
**FreeMotion Fitness, Inc., 1096 Elkton Drive, Suite 600, Colorado Springs, CO 80907**

When contacting Customer Care, please be prepared to provide the following information:

- the MODEL NUMBER of the product (CEX1006ST.0)
- the NAME of the product (REEBOK® TOMAHAWK indoor studio cycle)
- the SERIAL NUMBER of the product (see the front cover of this manual for the location)

When ordering replacement parts, please also provide the KEY NUMBER and DESCRIPTION of each needed part (see the PART LIST and the EXPLODED DRAWING on pages 18 and 19).



FreeMotion Fitness, Inc. • 1096 Elkton Drive, Suite 600 • Colorado Springs, CO 80907