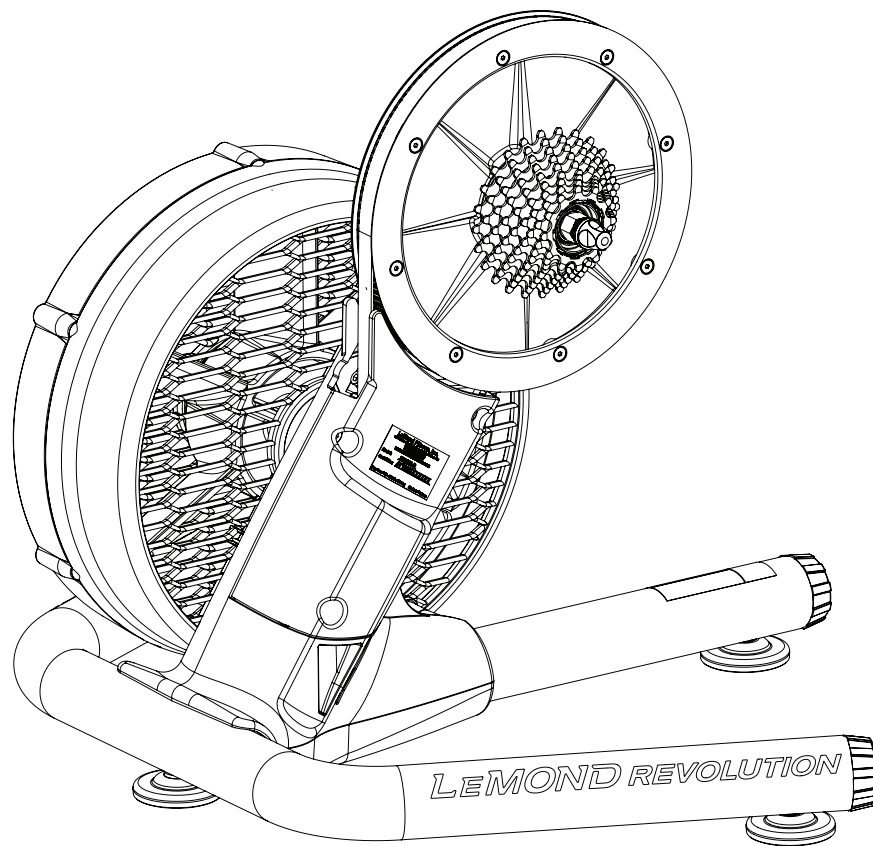


LEMOND[®]

REVOLUTION

BIKE TRAINER



SERVICE MANUAL

LEMOND[®] ***REVOLUTION***

BIKE TRAINER

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IMPORTANT SAFETY INSTRUCTIONS



THIS SYMBOL AND/OR THE WORD **“WARNING”** IN BOLD INDICATE A POTENTIAL FOR PROPERTY DAMAGE OR PERSONAL INJURY. TAKE NOTE OF IMPORTANT OPERATING, SERVICING OR MAINTENANCE INSTRUCTIONS

READ ALL INSTRUCTIONS BEFORE WORKING ON THIS EQUIPMENT

- This service manual should be used in conjunction with the Revolution Owner’s Manual.
- All warnings and instructions contained in the Revolution Owner’s Manual should be read and understood prior to working on this equipment.
- If you are unsure about your ability to perform any procedures in this manual please contact the LeMond Service Department (612.486.5750) for more information.
- The safety level of this equipment can only be maintained if all instructions in this manual are followed precisely.

Before leaving the manufacturing facility, your LeMond REVOLUTION bike trainer was thoroughly inspected.

Your LeMond REVOLUTION should arrive packed in 1 carton. Upon arrival fully inspect the carton for damage. If damage is found please contact the delivery company and the LeMond Customer Service Department at 612.486.5750 to report any damage.

UNPACKING

Remove all components and parts from the packaging and check them against the list below and Figure 1.1.

The following items are included with your LeMond REVOLUTION bike trainer:

- Trainer Body Assembly
- Trainer Base Assembly
- One (1) long button head M8 by 60mm screw
- Skewer Assembly
- 5mm Allen key for assembly
- Quick-Start Guide
- Owner's Manual

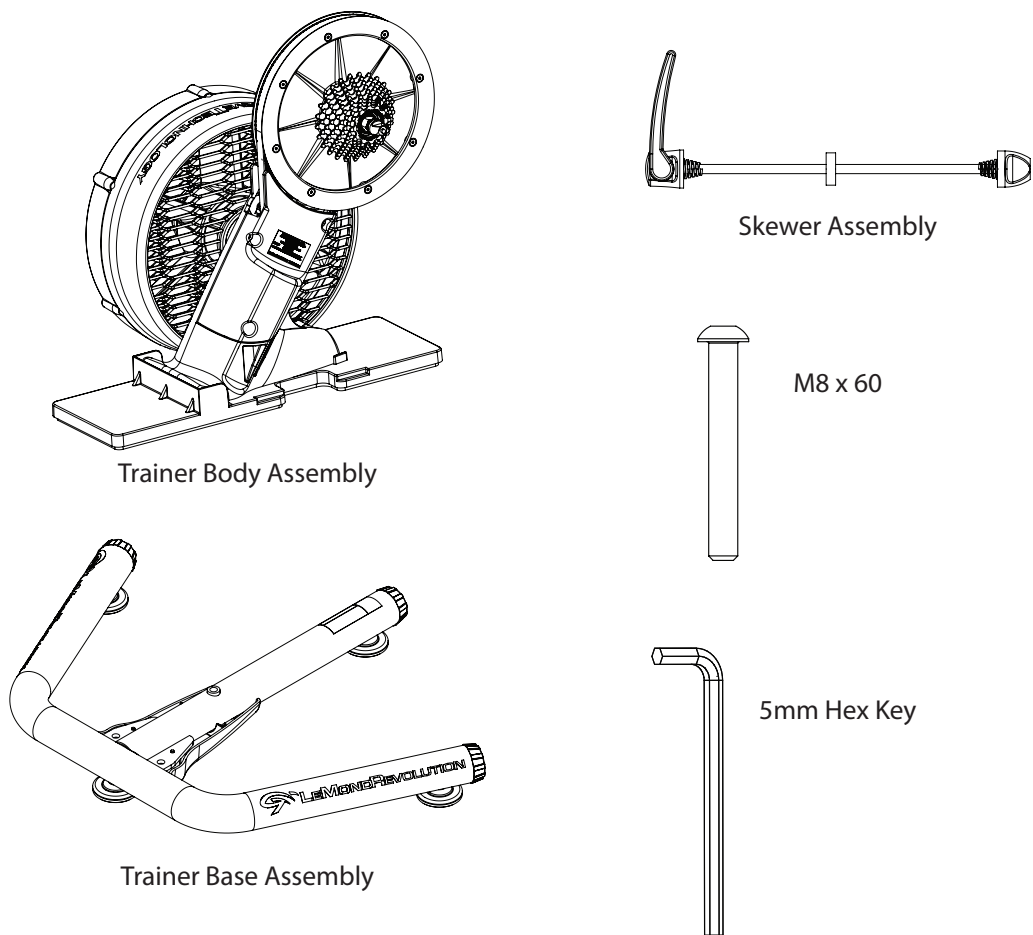


FIGURE 1.1

ASSEMBLY



WARNING: THE BODY ASSEMBLY WEIGHS 28LBS (12.7 KG). USE CAUTION WHEN HANDLING THE BODY ASSEMBLY AND BE SURE TO SUPPORT THE ASSEMBLY PROPERLY WHILE INSTALLING THE BASE ASSEMBLY. FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN PROPERTY DAMAGE OR INJURY.

Note: Ensure that you have all the parts listed and illustrated above prior to beginning assembly.

1. Place the body assembly fan-side down on the edge of a table with the belt wheel away from you and the black shipping base overhanging the edge of the table. (Figure 1.2)

Note: The fan shroud should hang 1-2 inches over the table edge to allow full installation of the base.

2. Remove the shipping base and set two of the screws aside for use in the next step. Discard the shipping base and the remaining screw. (Figure 1.2)

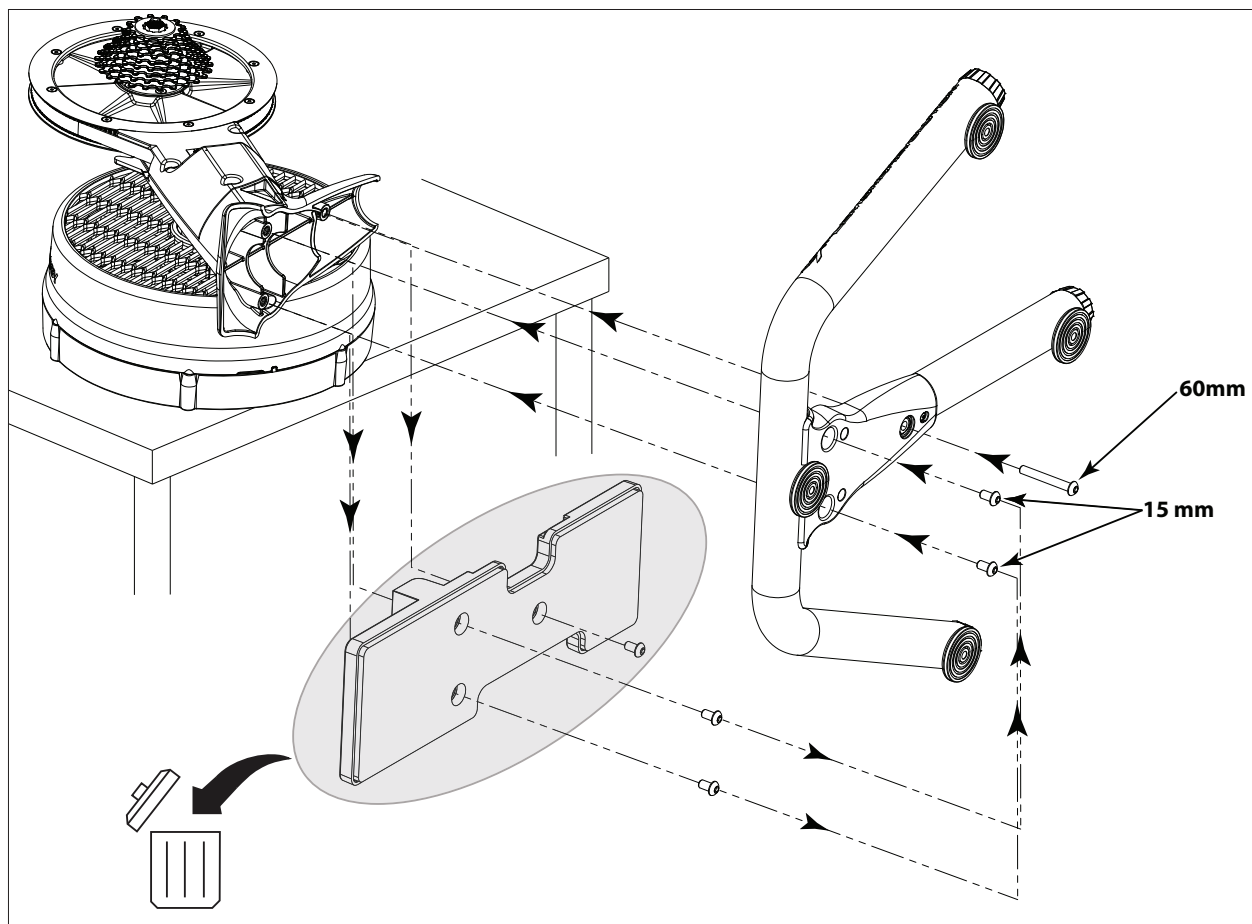


FIGURE 1.2

3. Install the base assembly to the body assembly using the included 60mm screw and two 15mm screws removed from the shipping base. (Figure 1.2)
 - Begin by starting the longer (60mm) screw through the center arm of the base assembly into the body assembly. Do not fully tighten to allow the other two screws to thread in easily.
 - Next, install the two shorter (15mm) screws into the recessed holes near the center foot.
 - Tighten all three screws.
4. Insert the skewer into the body assembly from the fan side and thread the acorn nut onto the skewer on the cassette side. (Figure 1.3) Do not fully thread the acorn nut in place to allow for bike mounting.

Note: Ensure the spacer is installed on the fan side of the unit and that both springs are present on the skewer as shown in Figure 1.3.

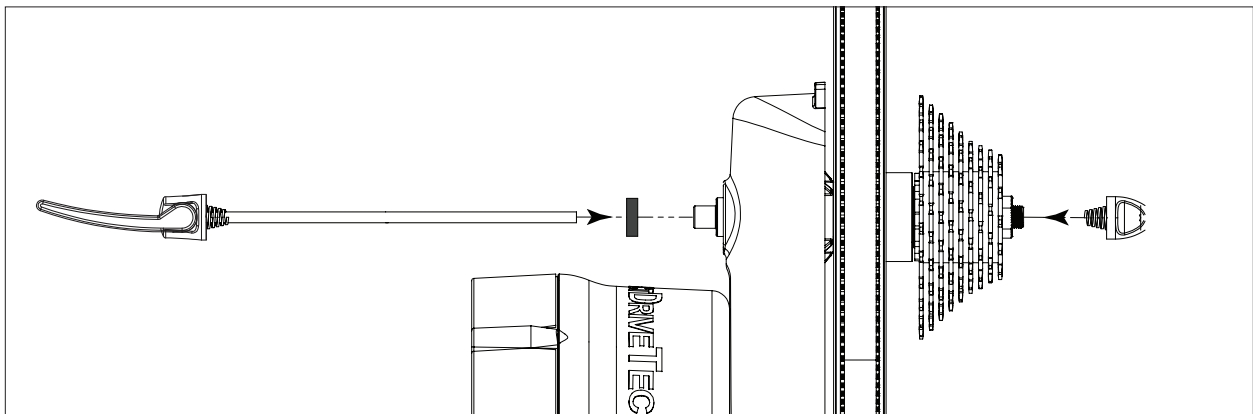


FIGURE 1.3

5. Place the entire unit on the floor where it will be used, and adjust the leveling feet to ensure stability. (Figure 1.4)

Note: Handle the unit by lifting from the base assembly, NOT the fan cover or the belt wheel.



WARNING: IF THE LEVELING FEET ARE NOT SET PROPERLY IT CAN RESULT IN AN UNSTABLE BASE FOR THE UNIT AND LEAD TO PROPERTY DAMAGE OR RIDER INJURY.

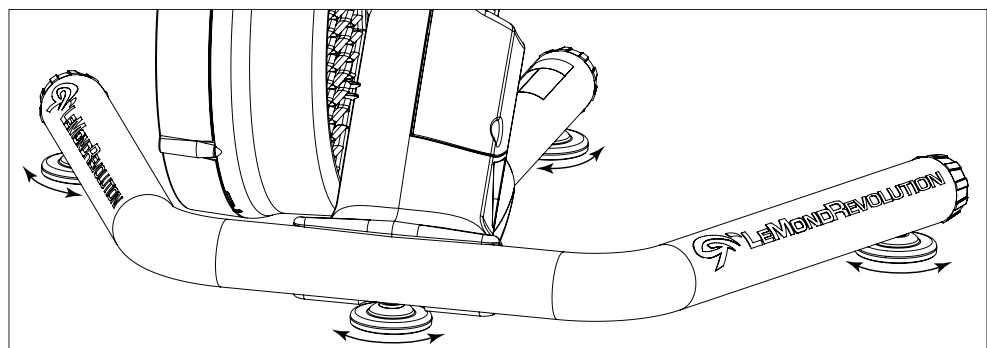


FIGURE 1.4

MOUNTING YOUR BICYCLE TO THE LEMOND REVOLUTION

Note: The LeMond Revolution is compatible with Shimano®/SRAM® 8/9/10/11-speed cassettes. If your bicycle is equipped with a Campagnolo® derailleur please follow the instructions on Pg. 12 to change cassettes and cassette adapter. If you are unsure about the type of derailleur installed on your bicycle please consult the documentation for your bicycle or visit your local bike specialist to ensure proper compatibility with the Revolution.

1. Shift the chain on your bicycle to the smallest sprocket on the rear cassette.
2. Open the rear brake calipers on your bicycle and remove the rear wheel.



WARNING: CONSULT THE MANUFACTURER'S DOCUMENTATION FOR YOUR BICYCLE OR YOUR LOCAL BIKE SPECIALIST IF YOU ARE UNSURE ABOUT THE CORRECT PROCEDURE FOR REMOVING THE REAR WHEEL OF YOUR BICYCLE.

3. Loosen the quick-release axle on the REVOLUTION and locate the axle spacer on the fan side of the axle. Be sure to position the spacer properly based on the type of bicycle you are using. (See Figure 2.1)

Note: If you are using a time trial bike with the REVOLUTION you will need to remove the skewer completely to install your bike.

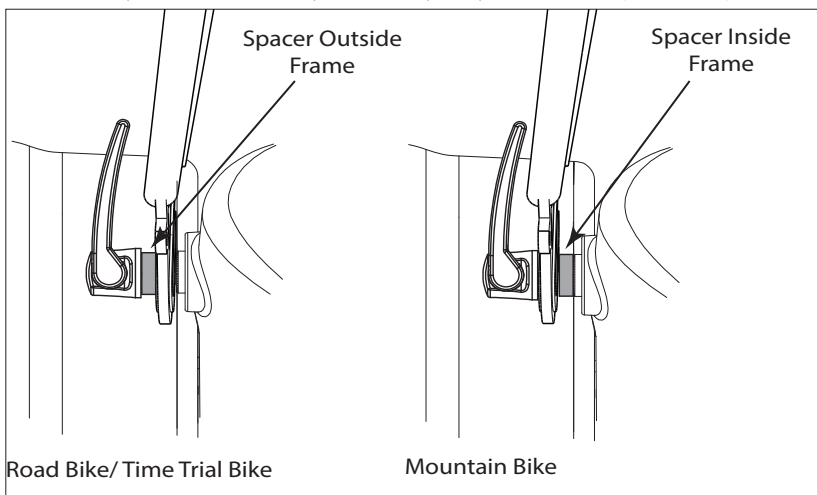


FIGURE 2.1

4. With the rear wheel removed guide the rear of your bicycle over top of the REVOLUTION and ensure that the chain rests on the smallest sprocket of the cassette on the REVOLUTION and the bicycle chain stays rest on the axle of the REVOLUTION. (Figure 2.2)

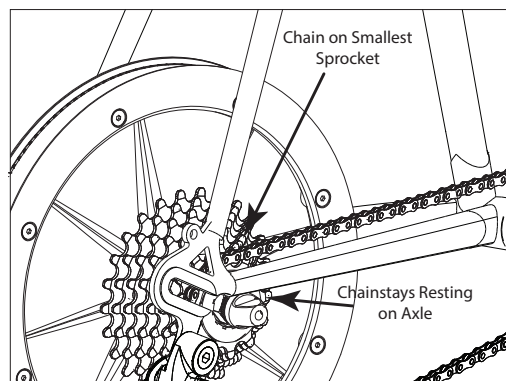


FIGURE 2.2

5. With the chain resting on the smallest sprocket and the chain stays resting on the REVOLUTION axle, press down gently on the bicycle seat and roll the bicycle forward. As the bicycle rolls forward it will drop about an inch as the dropouts seat onto the axle. (Figure 2.3)

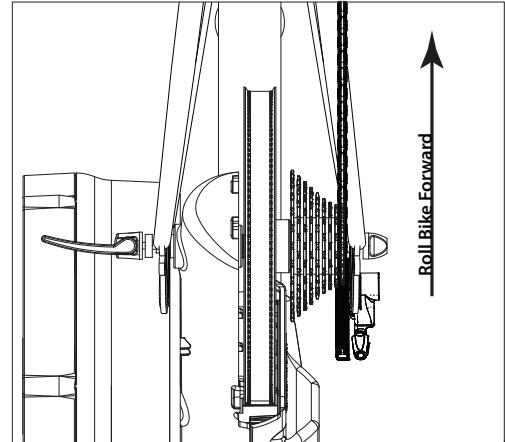


FIGURE 2.3

6. Continue holding the seat down and lift the front tire off the ground. This will ensure that the axle is seated squarely in the dropouts. Both the left and right dropouts should be in contact with the axle of the REVOLUTION.

Note: Before securing the quick release axle ensure that the bicycle is squarely seated onto the REVOLUTION by lightly pushing the seat from side to side. If the dropouts do not shift on the axle then the bicycle is secure and the axle can be tightened. If the bicycle seems unstable return to step 4 above and repeat the process.

7. Tighten the acorn nut on the quick release skewer while holding the lever on the opposite side and lock the skewer with the lever. (Figure 2.4)

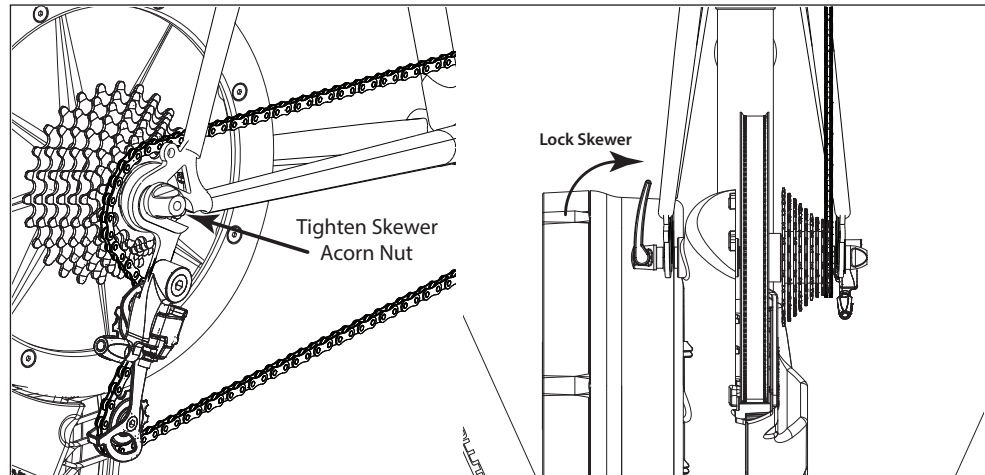


FIGURE 2.4

Note: The quick-release lever should be fully closed with enough effort to leave an impression in the palm of your hand. If the lever will not fully close, loosen the acorn nut to allow full closure of the lever.

8. Visually confirm that your bike sits vertically on the REVOLUTION. If it appears tilted repeat steps 5-7 to ensure that the dropouts are seated properly on the axle. If the bike still appears tilted use the leveling feet to adjust the bike to vertical.

CASSETTE ADAPTOR REMOVAL/INSTALLATION

We designed the Revolution to be compatible with both Shimano®/SRAM® and Campagnolo® components. However, the trainer ships from the factory configured for a 8/9/10/11-speed Shimano®/SRAM® derailleur. If you need to convert the equipment for the use with a Campagnolo® derailleur, follow the directions below.



WARNING: IF YOU ARE UNCERTAIN ABOUT YOUR ABILITY TO PERFORM THE PROCEDURE BELOW PLEASE CONTACT YOUR LOCAL BICYCLE MECHANIC. DAMAGE TO THE EQUIPMENT WHILE PERFORMING THIS PROCEDURE MAY VOID YOUR WARRANTY.

REQUIRED TOOLS

- Chain Whip
- Shimano®/SRAM® Lockring Tool
- Campagnolo® Lockring Tool (if changing to Campagnolo®)
- 16mm Socket and Socket Wrench (if changing to Campagnolo®)
- Torque Wrench

REQUIRED PARTS

- Shimano®/SRAM® 8/9/10/11-speed cassette or Campagnolo® 9/10/11-speed cassette.
- Campagnolo® Cassette Adaptor (P/N: 250094 or 250094-2) if changing to Campagnolo®

INSTRUCTIONS

1. Remove the axle skewer from the REVOLUTION using caution to retain the spacer on the fan side.
2. Using the chain whip and the Shimano® lockring tool remove the lockring on the cassette.
3. Remove the cassette rings from the cassette adaptor. (Figure 3.1)

Note: If you are NOT changing the cassette adaptor, leave it in place on the hub shaft and skip to step 8.

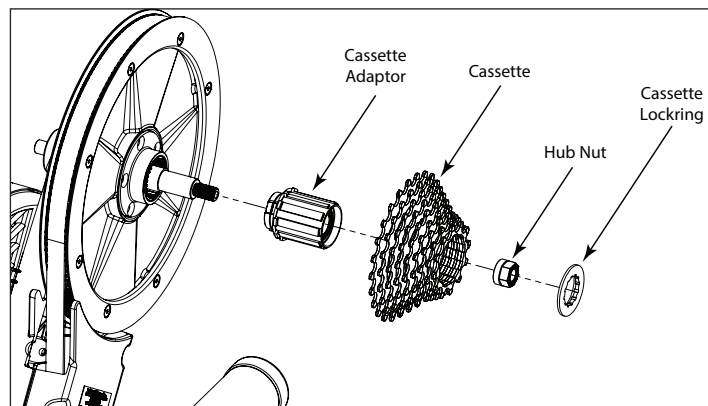


FIGURE 3.1

4. With the cassette removed, use the 16mm socket to remove the hub nut from the shaft at the center of the cassette adaptor. (Figure 3.2)

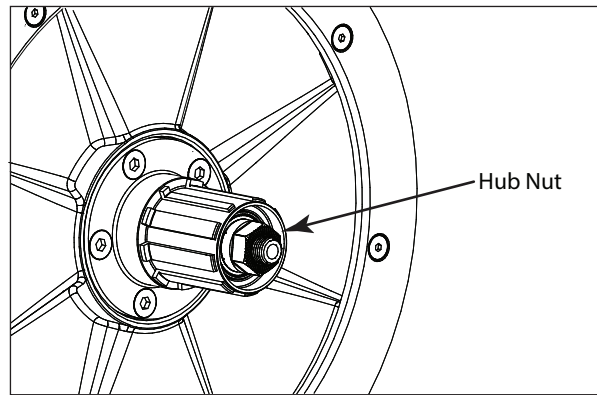


FIGURE 3.2

5. Remove the cassette adaptor assembly. (Figure 3.1)
6. Before proceeding make sure that the adaptor spacer is still present on the shaft in the hub recess. The adaptor spacer slides freely on the shaft and may have slid out during removal of the cassette adaptor. (Figure 3.3)

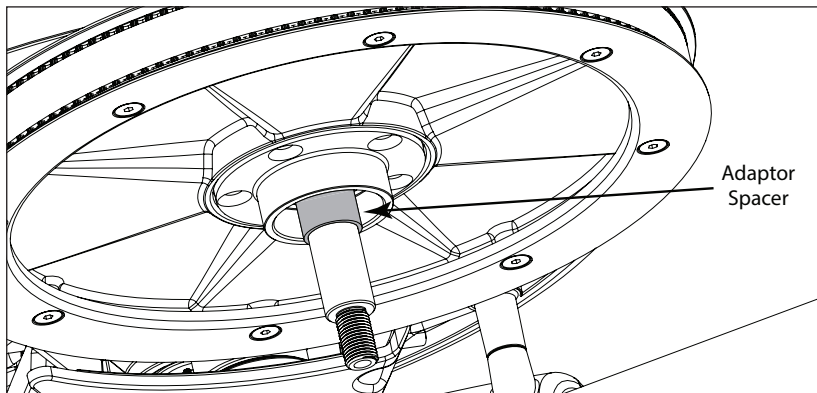


FIGURE 3.3

7. Install the replacement Campagnolo® adaptor onto the shaft and reinstall the 16mm hub nut. Tighten the nut to 2.5 N m (22 in-lb). (Figure 3.1)

Note: In some cases the bearing inside the adaptor will come loose during installation. If the bearing moves, be sure that the spacer between the bearings is still in place and push the bearing back into place by pressing around the outside edge of the bearing.

Note: It may be necessary to turn the adaptor counterclockwise or press the clutch tabs down with your finger or a flat head screwdriver to fully install the cassette adaptor. (Figure 3.4)

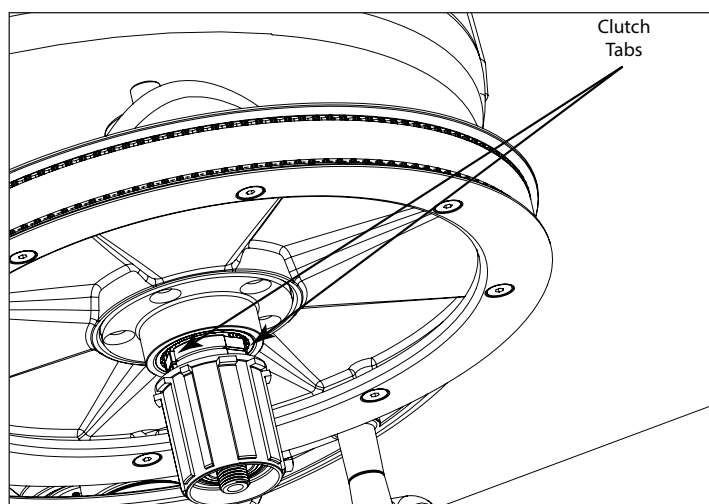


FIGURE 3.4

8. Load the new Shimano®/SRAM® or Campagnolo® cassette onto the adaptor. (Figure 3.1)

Note: Be sure to maintain the proper sprocket order. The sprockets will be keyed and only fit onto the adaptor in one orientation. However, it is possible to install them out of order. Before installing the locking make sure that the sprockets are in the correct order and the spacers are installed properly. Refer to the manufacturers documentation if necessary.

9. Install the locking onto the cassette and tighten with the appropriate locking tool to the specified torque stamped on the locking.

Note: Make sure that the cassette spins freely counter-clockwise. If the cassette does not spin freely remove the locking, loosen the hub nut, check that the adaptor spacer is installed, and repeat steps 7-9 above ensuring proper torque on all fasteners.

10. Reinstall the axle skewer with the quick release handle on the fan side and follow the instructions on page 15 to mount your bicycle onto the REVOLUTION.

BELT REMOVAL/INSTALLATION

REQUIRED TOOLS

- 4mm Hex Key or Hex Socket
- 3mm Hex Key or Hex Socket

REQUIRED PARTS

- Replacement Belt If Needed (P/N: 250122)

REMOVAL INSTRUCTIONS

1. Remove the body side cover by removing the three screws. (Figure 4.1)

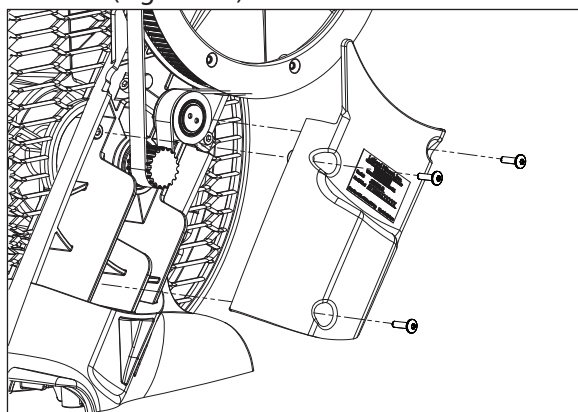


FIGURE 4.1

2. Loosen the lower belt tensioner screw (A), and then the upper belt tensioner screw (B). (Figure 4.2)

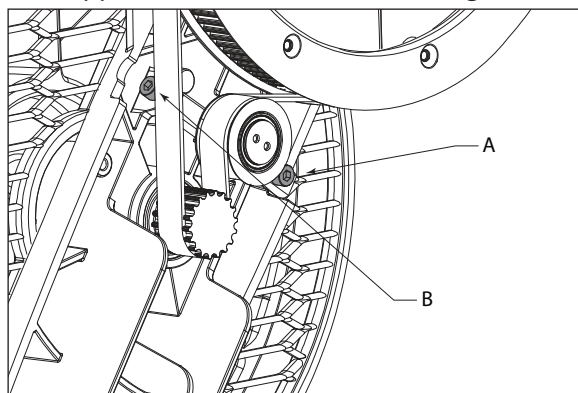


FIGURE 4.2

3. Slide the belt off the flywheel shaft gear and remove the belt.

INSTALLATION INSTRUCTIONS

1. Wrap the belt around the pulley assembly.
2. Guide the belt around the tensioner assembly and then onto the toothed flywheel gear. (See Figure 4.2 for proper belt route)



WARNING: DO NOT FORCE THE BELT ONTO THE FLYWHEEL GEAR. IF THE BELT DOES NOT EASILY SLIDE ONTO THE GEAR, LOOSEN SCREW B TO MAKE INSTALLATION EASIER. FORCING THE BELT CAN CAUSE DEFORMATION OF THE TENSIONER PULLEY AND MAKE THE EQUIPMENT INOPERABLE.

3. Follow the belt tensioning instructions. (p.16)

BELT TENSIONING INSTRUCTIONS

REQUIRED TOOLS

- 4mm Hex Key or Hex Socket
- 3mm Hex Key or Hex Socket

INSTRUCTIONS

1. Remove the body side cover. (Figure 5.1)

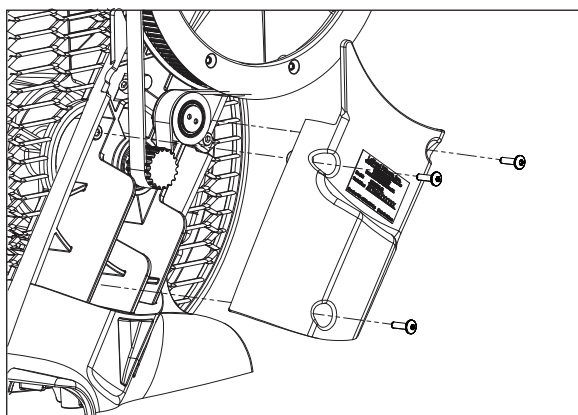


FIGURE 5.1

2. Loosen the belt tensioner lock screw 1/4 to 1/2 turn. (A in Figure 5.2)
3. Loosen the adjustment screw (B in Figure 5.2).

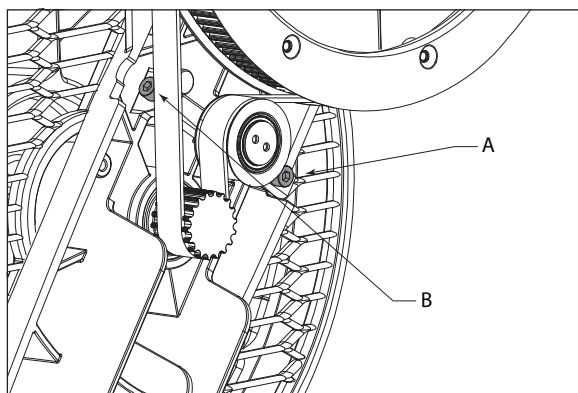


FIGURE 5.2

4. Spin the pulley to ensure proper belt alignment, and tighten the adjustment screw (B) until the belt is perfectly straight between the pulley and the flywheel gear.



WARNING: USE CAUTION NOT TO OVER-TIGHTEN THE BELT. STOP TIGHTENING AS SOON AS THE BELT IS STRAIGHT.

5. Tighten the belt tensioner lock screw to secure the belt tension. (A in Figure 5.2)
6. Reinstall the body side cover. (Figure 5.1)

PULLEY REMOVAL/INSTALLATION

REQUIRED TOOLS

- Chain Whip
- Shimano®/SRAM® or Campagnolo® Lockring Tool
- 16mm Socket and Socket Wrench
- Torque Wrench
- 4mm Hex Key or Hex Socket

REQUIRED PARTS

- N/A

REMOVAL INSTRUCTIONS

1. Remove the belt. (p. 15)
2. Remove the Cassette and Cassette Adaptor (p. 12)
3. Slide the Pulley assembly off the shaft. (Figure 6.1)

INSTALLATION INSTRUCTIONS

1. Slide the Pulley assembly onto the shaft. (Figure 6.1)
2. Install the Cassette and Cassette Adaptor (p. 12)
3. Install the belt. (p. 15)
4. Tension the belt. (p. 16)

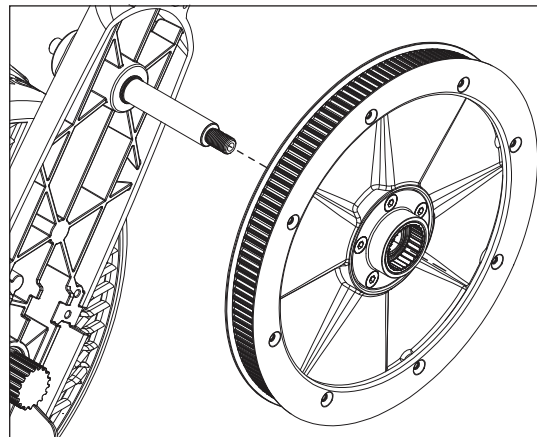


FIGURE 6.1

PULLEY HUB ASSEMBLY REPLACEMENT

REQUIRED TOOLS

- Chain Whip
- Shimano®/SRAM® or Campagnolo® Lockring Tool
- 16mm Socket and Socket Wrench
- Torque Wrench
- 4mm Hex Key or Hex Socket

REQUIRED PARTS

- Pulley Hub Assembly (P/N: 250068 or 250069-2)

REMOVAL INSTRUCTIONS

1. Remove the belt. (p.15)
2. Remove the cassette and cassette adaptor. (p.12)
3. Pull the pulley assembly from the pulley shaft. (Figure 7.1)
4. Place the pulley on a shop towel or other soft surface and remove the 5 screws from the hub assembly. (Figure 7.2)

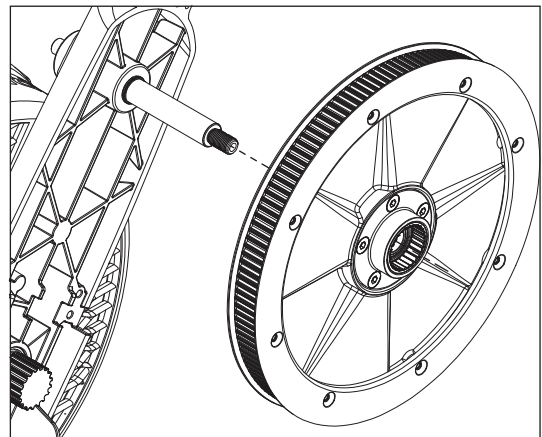


FIGURE 7.1

INSTALLATION INSTRUCTIONS

1. Install the replacement hub assembly and be sure to tighten the screws in a star pattern.
2. Install the pulley assembly back onto the shaft. (Figure 7.1)
3. Reinstall the cassette adaptor and cassette. (p.12)
4. Reinstall the belt. (p.15)

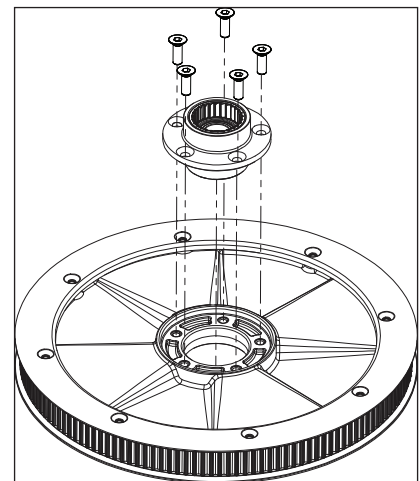


FIGURE 7.2

OUTER PULLEY FLANGE REPLACEMENT

REQUIRED TOOLS

- 2.5mm Hex Key or Hex Socket or Phillips Head Screwdriver

REQUIRED PARTS

- Drive Pulley Flange (P/N: 250071)

Note: The Outer (Cassette side) Flange can be replaced without removing the pulley from the unit.

REMOVAL INSTRUCTIONS

1. Remove the 8-4mm screws from the perimeter on the flange using a 2.5mm hex key. (Figure 8.1)
2. Remove the flange from the pulley. (Figure 8.1)

INSTALLATION INSTRUCTIONS

1. Install the new flange and be sure to tighten the screws in a star pattern.

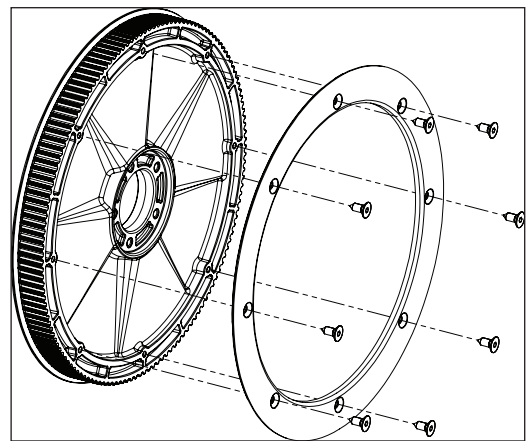


FIGURE 8.1

INNER PULLEY FLANGE REPLACEMENT

REQUIRED TOOLS

- Chain Whip
- Shimano®/SRAM® or Campagnolo® Lockring Tool
- 16mm Socket and Socket Wrench
- Torque Wrench
- 4mm Hex Key or Hex Socket
- 2.5mm Hex Key or Hex Socket or Phillips Head Screwdriver

REQUIRED PARTS

- Inner Pulley Flange (P/N: 250145)

INSTRUCTIONS

1. Remove the belt. (p.15)
2. Remove the cassette and cassette adaptor. (p.12)
3. Remove the pulley. (p.17)
4. Place the pulley on a shop towel or other soft surface and remove the 8 screws from the inner flange with a 2.5mm hex key or Phillips head screwdriver. (Figure 8.2)
5. Install the replacement flange and be sure to tighten the screws in a star pattern.
6. Reinstall the pulley. (p.17)
7. Reinstall the cassette adaptor and cassette. (p.12)
8. Reinstall the belt. (p.15)

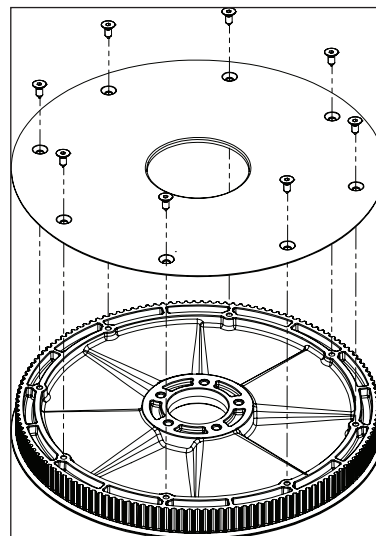


FIGURE 8.2

FLYWHEEL REMOVAL

REQUIRED TOOLS

- 3mm Hex Key or Hex Socket
- Flathead Screwdriver or Pliers
- 17mm Socket and Socket Wrench
- Gear/Sheave Puller or Flywheel Puller Tool (P/N 250143)

INSTRUCTIONS

1. Remove the six socket head screws with a 3mm hex key from the outer fan shroud and remove the fan shroud. (Figure 9.1)

Note: It may be necessary to loosen or remove the base assembly to access the lower fan shroud screw.

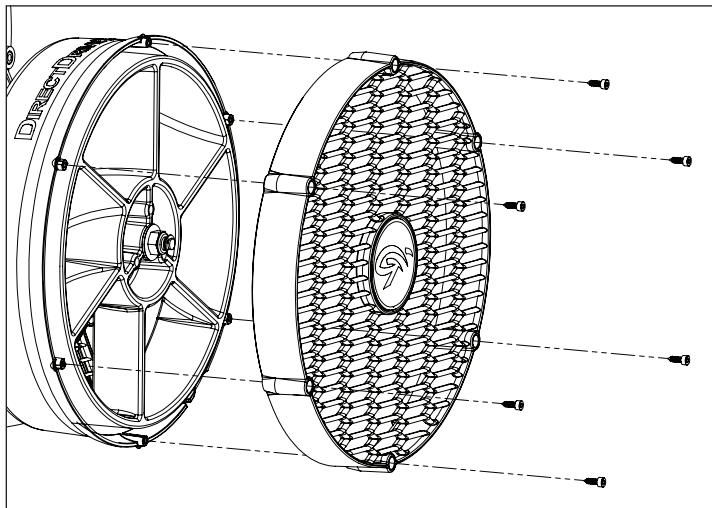


FIGURE 9.1

2. Carefully remove the 8mm E-Clip from the flywheel shaft using the flathead screwdriver or pliers. (Figure 9.2)

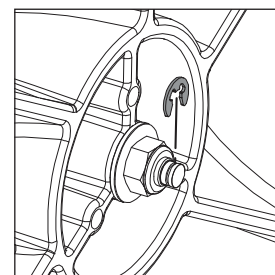


FIGURE 9.2

3. Hold the flywheel firmly with one hand and use a 17mm socket to remove the nylock hub nut and the washer from the shaft. (Figure 9.3)

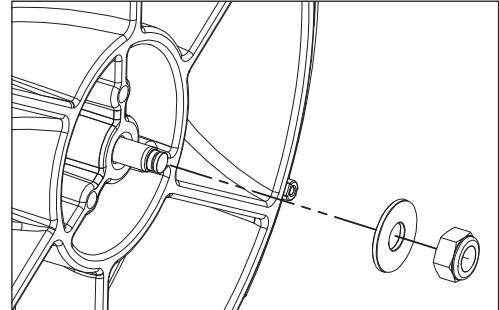


FIGURE 9.3

4. Using the Flywheel Puller (P/N 250143) or a gear/sheave puller remove the flywheel from the shaft.

Note: The flywheel is press fit onto the shaft during manufacturing and will be difficult to remove.

FLYWHEEL PULLER INSTRUCTIONS

REQUIRED TOOLS

- Flywheel Puller Tool (P/N 250143)
- 6mm Hex Key or Hex Socket
- 10mm Hex Key or Hex Socket

INSTRUCTIONS

1. Pass the 6mm socket head screws through the service puller plate and thread them into the three holes on the flywheel. (Figure 9.4)
2. Thread the 10mm bolt through the center of the service puller plate and seat it firmly against the hub shaft. (Figure 9.4)
3. Tighten the 10mm bolt to force the flywheel to pull away from the shaft.

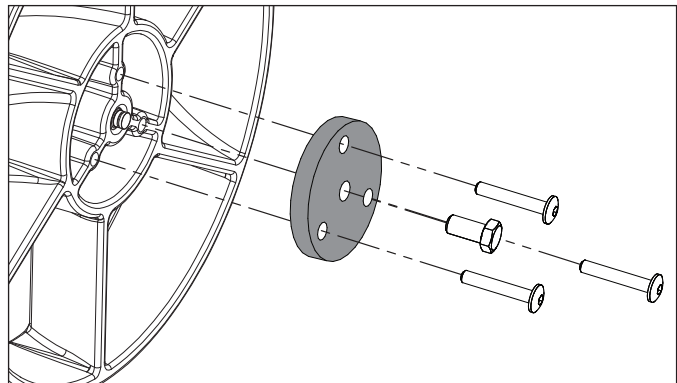


FIGURE 9.4

FLYWHEEL INSTALLATION INSTRUCTIONS

1. Slide the flywheel onto the shaft and firmly press it in place.
2. Place the flat washer onto the shaft and start the nylock nut onto the shaft threads. (Figure 9.5)

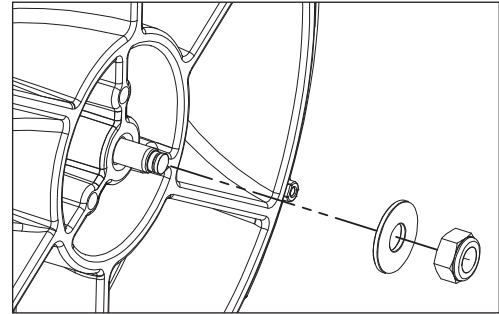


FIGURE 9.5

3. Firmly hold the pulley and begin tightening the nylock nut. After the flywheel has started to press onto the shaft hold the flywheel and finish tightening the nylock nut onto the shaft.

Note: *There will be a fair amount of resistance while tightening the nut. Make sure that the flywheel is fully seated onto the shaft and the nut cannot travel any further onto the shaft prior to operation.*

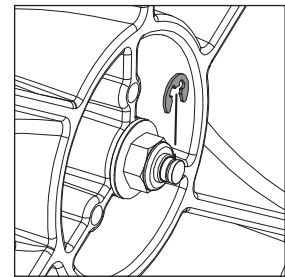


FIGURE 9.6

4. Reinstall the 8mm E-clip onto the flywheel shaft. (Figure 9.6)
5. Spin the flywheel to ensure that rotation is true. If not, ensure that the nylock nut is as tight as possible.
6. Install the outer fan shroud onto the unit with the socket screws.



WARNING: DO NOT ATTEMPT TO OPERATE THE UNIT WITHOUT THE FAN SHROUD FULLY INSTALLED.

Difficult to install bike

1. Loosen the quick release skewer and ensure that there is enough space for the dropouts to fit onto the axle. (p. 15)
2. Check to make sure that the spacer is present on the skewer and that it is positioned properly for your bicycle type. (p. 15 Figure 3.1)

Unstable in some or all riding positions

1. Check to make sure that the REVOLUTION and bicycle are located on a level floor.
2. Ensure that the leveling feet on the REVOLUTION base are level and secure. (p. 14 Figure 1.3)
3. Check that the base screws are secure. (p. 13 Figure 1.2)
4. Check that the bicycle is mounted properly following the instructions in this manual. (p. 15)
5. If the unit still feels unstable please contact the LeMond Service Department.

Excessive vibration while riding

1. Check that the bicycle is mounted properly following the instructions in this manual. (p. 15)
2. Check that the base screws are secure. (p. 13 Figure 1.2)
3. If you have removed and reinstalled the cassette or cassette adaptor ensure that the instructions in this manual were followed precisely and that all fasteners have been tightened to the specified torque. (p. 22)
4. If you have removed and reinstalled the flywheel, ensure that all instructions were followed precisely.

Cannot shift to largest rear sprocket

Note: In some cases the largest sprocket on the rear cassette is not accessible due to variations in derailleur style and setup. We DO NOT recommend modifying your bicycle for use with the Revolution as alterations will effect road performance as well. If access to the largest sprocket is absolutely necessary please follow the steps below.

1. Readjust your derailleur to access the largest sprocket.
2. Remove 1-3 links from your chain to decrease the downward throw of your rear derailleur.

Rear derailleur skips shifts while riding

Note: We designed the Revolution to be compatible with a large variety of bicycles, however, there are some cases where the derailleur may not be fully compatible with the cassette. If skipped and missed shifts are limiting the effectivity of your workout please follow the steps below.

1. Check that the bicycle is mounted properly according to the instructions in this manual. (p. 15)
2. Check that the derailleur and cassette styles match (Shimano®/SRAM® with Shimano®/SRAM® or Campagnolo® with Campagnolo®). If they do not match, follow the steps in this manual to change the cassette. (p. 22)
3. Check that the derailleur and cassette are set up for the same number of shifts (i.e. 10-speed derailleur with 10-speed cassette).
4. Check for lateral play in cassette adaptor. If you installed a new cassette, make sure that all spacers were installed properly.
5. Make small adjustments to your derailleur to fine tune derailleur throw.
6. Check for chain stretch by measuring from the center of one rivet (pivot point) to the center of the rivet 12 rivets away. If the distance is more than 3 1/16" you have a worn chain, and it should be replaced. The cassette on your bicycle wheel should be inspected for wear as well.