

MERIDA  
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# MERIDA

*USERS MANUAL*



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# MERIDA PowerCycle™

## OPERATIONAL INSTRUCTIONS

### 1. INTRODUCTION

Congratulations on the purchase of your new MERIDA PowerCycle™. Your bicycle is a high quality, environmentally friendly electric vehicle. This manual will provide you with the information needed to operate, maintain and enjoy it safely. Your new bicycle should provide you with years of healthy enjoyment provided you follow these steps.

For technical questions or customer service please contact Electric Wheels International at (408) 270-3724 or e-mail us at [info@electricwheelsintl.com](mailto:info@electricwheelsintl.com).

#### 1a. ABOUT THIS MANUAL

To prevent serious injury to yourself and others, and to prevent damage to the bike please read and understand these instructions completely before operating your PowerCycle™. Your new PowerCycle™ is a powerful, reliable electric bicycle. You should use caution and care while getting used to your bikes riding characteristics. The following manual will provide basic instructions regarding your bicycles care and maintenance, battery management, operating procedures, and other important information. You should read it thoroughly before riding your bike. If you have questions that aren't answered in this manual contact your local authorized MERIDA dealer or call Electric Wheels International at 408.270.3724.

#### 1b. IMPORTANT NOTICES

- **Make sure your bike is properly fitted to you as described in section 2b.**
- **Perform the mechanical safety check described in section 2d before each ride.**
- **Ensure the charger voltage switch, on the end of the charger, is set to the correct position: 115V for U.S.A. or 230V for most European countries.**
- **Please read the battery pack and charging instructions before charging the battery pack.**
- **If you haven't already done so, fully charge your battery according to the charging instructions.**
- **Always fully recharge the battery pack after each ride.**
- **Always store the battery pack in a cool and dry place.**
- **During periods of prolonged storage, the battery pack should be charged at least once every 2 months.**
- **Although your MERIDA PowerCycle™ can be ridden as a standard bicycle, it is strongly recommended that you do not ride without the battery pack in place as it may affect performance.**

#### 1c. GENERAL WARNING

Like any sport, bicycling involves risk of injury and damage. By choosing to ride a bicycle, you assume the responsibility for that risk, so you need to know — and to practice — the rules of safe and responsible riding and of proper use and maintenance. Proper use and maintenance of your bicycle reduces risk of injury.

This Manual contains many "Warnings" and "Cautions" concerning the consequences of failure to maintain or inspect your bicycle and of failure to follow safe cycling practices.

**⚠ The word **WARNING** indicates a potentially hazardous situation that, if not avoided, could result in serious injury or death.**

**⚠ The word **CAUTION** indicates a potentially hazardous situation, which, if not avoided, may result in minor or moderate injury, serious, damage to the bicycle or the voiding of your warranty or is an alert against unsafe practices.**

Many of the Warnings and Cautions say, "you may lose control and fall." Because any fall can result in serious injury or even death, we do not always repeat the warning of possible injury or death. Because it is impossible to anticipate every situation or condition that can occur while riding, this Manual makes no representation about the safe use of the bicycle under all conditions. There are risks associated with the use of any bicycle which cannot be predicted or avoided, and which are the sole responsibility of the rider.

#### 1d. A SPECIAL NOTE TO PARENTS

The MERIDA PowerCycle™ is intended for use by adult riders only. As a parent or guardian, you are responsible for the activities and safety of your minor child. That includes, making sure that your minor child can safely ride and control all of the operations of the bicycle, and fully understands all warnings as indicated in this User Manual.

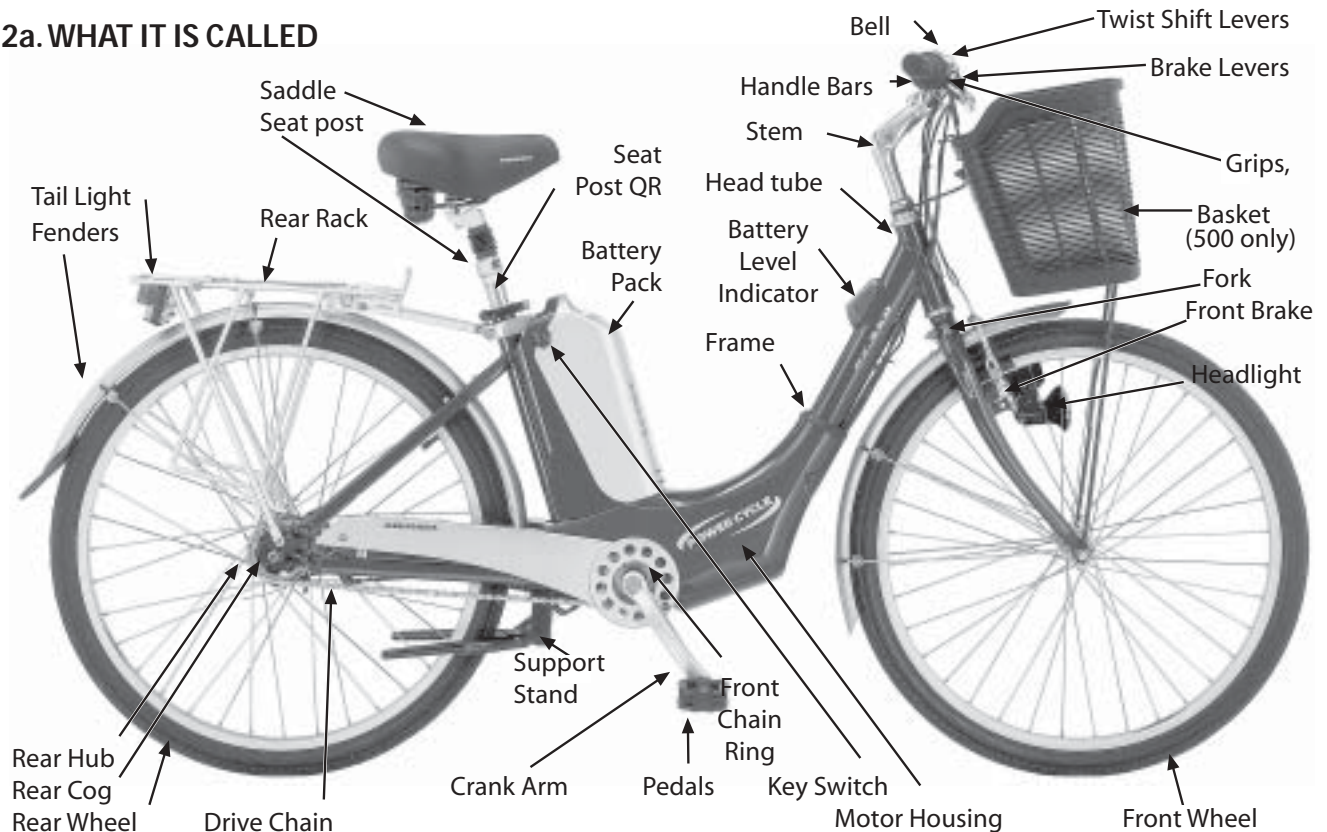
Please read on if you have determined that your minor child can safely ride and control all of the operations of the bicycle. That includes making sure that the bicycle is properly fitted to the child; that it is in good repair and safe operating condition; that you and your child have learned and understand the safe operation of the bicycle; and that you and your child have learned, understand and obey not only the applicable local motor vehicle, bicycle and traffic laws,

but also the common sense rules of safe and responsible bicycling. As a parent or guardian, you should read and understand this manual. Before letting any child ride the PowerCycle™, review with them all warnings as well as the information on the proper usage of your battery pack, charger and bicycle.

**⚠ WARNING: Make sure that your child always wears an approved bicycle helmet when riding; but also make sure that your child understands that a bicycle helmet is for bicycling only, and must be removed when not riding. A helmet must not be worn while playing, in play areas, on playground equipment, while climbing trees, or at any time while not riding a bicycle. Failure to follow this warning could result in serious injury or death.**

## 2. BASIC INSTRUCTIONS

### 2a. WHAT IT IS CALLED



### 2b. BIKE FIT

1. Is your bike the right size? To check, see Section 4. If your bicycle is too large or too small for you, you may lose control and fall. If your new bike is not the right size, ask your dealer to exchange it before you ride it.
2. Is the saddle at the right height? To check, see Section 4b. If you adjust your saddle height, make sure that you follow the Minimum Insertion instructions.
3. Are saddle and seat post securely clamped? A correctly tightened saddle will allow no saddle movement in any direction. See section 5f for details.
4. Are the stem and handlebars at the right height for you? If not, see section 4c on what you can do about it.
5. Can you comfortably operate the brakes? If not, you may

be able to adjust their angle and reach. See Section 4e and 5e for details.

6. Do you fully understand how to operate your new bicycle? If not, before your first ride, have your dealer explain any functions or features that you do not understand.

### 2c. SAFETY FIRST

1. Always wear an approved helmet when riding your bike, and follow the helmet manufacturer's instructions for fit, use and care of your helmet.
2. Do you have all the other required and recommended safety equipment? See Section 3. It's your responsibility to familiarize yourself with the laws of the areas where you ride, and to comply with all applicable laws.
3. Do you know how to correctly operate your wheel axle

nuts? Check Section 5 to make sure. Riding with an improperly adjusted wheel quick release or axle nut can cause the wheel to wobble or disengage from the bicycle, and cause serious injury or death.

5. Does your bike have suspension? Suspension can change the way a bicycle performs. Follow the suspension manufacturer's instructions for use, adjustment and care.

6. Do you have "toe overlap"? On smaller framed bicycles your toe or toe clip may be able to contact the front wheel when a pedal is all the way forward and the wheel is turned.

## 2d. MECHANICAL SAFETY CHECK

Check the condition of your bicycle before every ride.

**1. Nuts, bolts and straps:** Make sure nothing is loose. Lift the front wheel off the ground by two or three inches then let it bounce on the ground. Anything sound, feel or look loose? Do a quick visual and tactile inspection of the whole bike. Any loose parts or accessories? If so, secure them. If you're not sure, ask someone with experience to check.

**2. Tires and Wheels:** Make sure tires are correctly inflated (see section 5i). Check by putting one hand on the saddle, one on the intersection of the handlebars and stem, then bouncing your weight on the bike while looking at tire deflection. Compare what you see with how it looks when you know the tires are correctly inflated; and adjust if necessary. Tires in good shape? Spin each wheel slowly and look for cuts in the tread and sidewall. Replace damaged tires before riding the bike. Wheels true? Spin each wheel and check for brake clearance and side-to-side wobble. If a wheel wobbles side to side even slightly, or rubs against or hits the brake pads, take the bike to a qualified bike shop to have the wheel trued.

**⚠ CAUTION: Wheels must be true for the brakes to work effectively. Wheel truing is a skill that requires special tools and experience. Do not attempt to true a wheel unless you have the knowledge, experience and tools needed to do the job correctly.**

**3. Brakes:** Check the brakes for proper operation. Squeeze the brake levers. Are the brake quick-releases closed? All control cables seated and securely engaged? Do the brake pads touch the wheel rim within an inch of brake lever movement? Can you apply full braking force at the levers without having them touch the handlebar? If not, your brakes need adjustment. Do not ride the bike until the brakes are properly adjusted.

**4. Quick Releases:** Make sure seat post quick release is properly adjusted and in the locked position.

**5. Handlebar and saddle alignment:** Make sure the saddle

and handlebar stem are parallel to the bike's center line and clamped tight enough so that you can't twist them out of alignment. If not, align and tighten them.

**6. Handlebar ends:** Make sure the handlebar grips are secure and in good condition. If not, replace them. Make sure the handlebar ends and extensions are plugged. If not, plug them before you ride. If the handlebars have bar end extensions, make sure they are clamped tight enough so you can't twist them. If not, tighten them.

**7. Battery Pack Attachment:** Ensure your battery pack is firmly attached to your bicycle before riding. To test battery attachment, pull up on the battery pack handle after battery is locked in place. If attached properly you will be able to lift the bike off the ground. If not, the battery pack will come off the bike.

**8. Generator Powered Light:** Verify your front generator mounting bolt is tight prior to riding to ensure light does not interfere with your wheels.

**⚠ WARNING: Loose or damaged handlebar grips or extensions can cause you to lose control and fall. Unplugged handlebars or extensions can cut your body, and can cause serious injury in an otherwise minor accident.**

## 2e. BEFORE YOUR FIRST RIDE

Before your first ride study this manual. Then make sure you fully charge your battery with the appropriate charger. Be sure to firmly attach the battery to the bicycle. Lift the bike off the ground by the battery handle to ensure proper installation.

## 2f. FIRST RIDE

When you buckle on your helmet and go for your first familiarization ride on your new bicycle, be sure to pick a controlled environment, away from cars, other cyclists, obstacles or other hazards. Ride to become familiar with the controls, features and performance of your new bike.

1. Familiarize yourself with the braking action of the bike. Test the brakes at slow speed, putting your weight toward the rear and gently applying the brakes, rear brake first. Sudden or excessive application of the front brake could pitch you over the handlebars. Applying brakes too hard can lock up a wheel, which could cause you to lose control and fall (see section 5e).

2. If your bicycle has toe clips or clipless pedals, practice getting in and out of the pedals.

3. If your bike has suspension, familiarize yourself with how the suspension responds to brake application and rider weight shifts.



4. Practice shifting the gears. Remember to never move the shifter while pedaling backward.

5. Check out the handling and response of the bike; and check the comfort.

6. If you have any questions, or if you feel anything about the bike is not as it should be, take the bike back to your dealer for advice.

## 2g. RIDING AN ELECTRIC BIKE

Riding an electric bike is similar to riding a non-electric bike but there are some differences to note. An electric bike is heavier and requires more time to stop (see section 5e for information on braking). Your bike is also equipped with a powerful motor that provides a boost most noticeable when starting from a stop, riding uphill or into a headwind. The assist tapers off at approximately 15 mph. The boost is exhilarating, but you must be comfortable with the sensation before riding in crowded or congested areas. To maximize battery life pedal faster, to maximize boost pedal slower. Your battery is a finite resource and proper maintenance will prolong its performance and usability.

**⚠ CAUTION: The bike will accelerate rapidly from a stand still. Also, the motor will continue to drive the bike for 3 seconds after you stop pedaling. Leave extra room for all starts and stops.**

## 3. SAFETY

### 3a. THE BASICS



1. Always wear a cycling helmet, which meets the latest certification standards. Follow the helmet manufacturer's instructions for fit, use and care of your helmet. Most serious bicycle injuries involve head injuries that might have been avoided if the rider had worn a helmet.

**⚠ WARNING: Failure to wear a helmet when riding may result in serious injury or death.**

2. Always do the Mechanical Safety Check (Section 2d) before you get on a bike.

3. Be thoroughly familiar with the controls of your bicycle: brakes (Section 5e), pedals (Section 5h) and shifting (Section 5a)

4. Be careful to keep body parts and other objects away from the sharp teeth of chainrings; the moving chain; the turning pedals and cranks; and the spinning wheels of your bicycle.

5. Always wear:

- Shoes that will stay on your feet and will grip the pedals. Never ride barefoot or while wearing sandals.
- Bright, visible clothing that is not so loose that it can be tangled in the bicycle or snagged by objects at the side of the road or trail.

• Protective eyewear, to protect against airborne dirt, dust and bugs — tinted when the sun is bright, clear when it's not.

6. Don't jump with your bike. Jumping a bike, particularly a BMX or mountain bike, can be fun; but it puts incredible stress on everything from your spokes to your pedals. Riders who insist on jumping their bikes risk serious damage, to their bicycles as well as to themselves.

7. Ride at a speed appropriate for conditions. Increased speed means higher risk.

### 3b. RIDING SAFETY

1. Observe all local bicycle laws and regulations. Observe regulations about licensing of bicycles, riding on sidewalks, laws regulating bike path and trail use, and so on. Observe helmet laws, child carrier laws and special bicycle traffic laws. It's your responsibility to know and obey the laws.

2. You are sharing the road or the path with others — motorists, pedestrians and other cyclists. Respect their rights.

3. Ride defensively. Always assume that others do not see you.

4. Look ahead, and be ready to avoid:

- Vehicles slowing or turning, entering the road or your lane ahead of you, or coming up behind you.
- Parked car doors opening.
- Pedestrians stepping out.
- Children or pets playing near the road.
- Pot holes, sewer grating, railroad tracks, expansion joints, road or sidewalk construction, debris and other obstructions that could cause you to swerve into traffic, catch your wheel or otherwise cause you to lose control and have an accident.
- The many other hazards and distractions which can occur on a bicycle ride.

5. Ride in designated bike lanes, on designated bike paths or as close to the edge of the road as possible.

6. Stop at stop signs and traffic lights; slow down and look both ways at street intersections. Remember that a bicycle always loses in a collision with a motor vehicle; so be prepared to yield even if you have the right of way.

7. Use approved hand signals for turning and stopping.

8. Never ride with headphones. They mask traffic sounds and emergency vehicle sirens, distract you from concen-

trating on what's going on around you, and their wires can tangle in the moving parts of the bicycle, causing you to lose control.

9. Never carry a passenger, unless it is a small child wearing an approved helmet and secured in a correctly mounted child carrier or a child-carrying trailer.

10. Never carry anything which obstructs your vision or your complete control of the bicycle, or which could become entangled in the moving parts of the bicycle.

11. Never hitch a ride by holding on to another vehicle.

12. Don't do stunts, wheelies or jumps. They can cause you injury and damage your bike.

13. Don't weave through traffic or make any moves that may surprise people with whom you are sharing the road.

14. Observe and yield the right of way.

15. Never ride your bicycle while under the influence of alcohol or drugs.

16. If possible, avoid riding in bad weather, when visibility is obscured, at dusk or in the dark, or when extremely tired. Each of these conditions increases the risk of accident.

### 3c. OFF ROAD SAFETY

**⚠ WARNING: This bike is not designed for off road use.**

### 3d. WET WEATHER RIDING

Under wet conditions, the stopping power of your brakes (as well as the brakes of other vehicles sharing the road) is dramatically reduced and your tires don't grip nearly as well. This makes it harder to control speed and easier to lose control. To make sure that you can slow down and stop safely in wet conditions, ride more slowly and apply your brakes earlier and more gradually than you would under normal, dry conditions (see section 5e).

**⚠ WARNING: Wet weather impairs traction, braking and visibility, both for the bicyclist and for other vehicles sharing the road. The risk of an accident is dramatically increased in wet conditions.**

### 3e. NIGHT RIDING

Riding a bicycle at night is many times more dangerous than riding during the day. A bicyclist is very difficult for motorists and pedestrians to see. Therefore, children should never ride at dawn, at dusk or at night. Adults should not ride at dawn, at dusk or at night unless it is absolutely necessary.

**Bicycle reflectors are designed to pick up and reflect streetlights and car lights in a way that may help you to be seen and recognized as a moving bicyclist.**

**⚠ WARNING: Reflectors are not a substitute for required lights. Riding at dawn, at dusk, at night or at other times of poor visibility without an adequate bicycle lighting system and without reflectors is dangerous and may result in serious injury or death.**

**⚠ CAUTION: Check reflectors and their mounting brackets regularly to make sure that they are clean, straight, unbroken and securely mounted. Have your dealer replace damaged reflectors and straighten or tighten any that are bent or loose.**

**⚠ WARNING: Do not remove the front or rear reflectors or reflector brackets from your bicycle. They are an integral part of the bicycle's safety system.**

**⚠ WARNING: Removing the reflectors may reduce your visibility to others using the roadway. Being struck by other vehicles may result in serious injury or death.**

**⚠ WARNING: The reflector brackets may protect you from the brake straddle cable catching on the tire in the event of brake cable failure. If a brake straddle cable catches on the tire, it can cause the wheel to stop suddenly, causing you to lose control and fall.**

If you must ride under conditions of poor visibility, check and be sure you comply with all local laws about night riding, and take the following strongly recommended additional precautions:

- Make sure that your bicycle is equipped with correctly positioned and securely mounted reflectors.
- Make sure that your generator powered head and tail-lights meet all regulatory requirements and provide adequate visibility.
- Wear light colored, reflective clothing and accessories, such as a reflective vest, reflective arm and leg bands, reflective stripes on your helmet, flashing lights ... any reflective device or light source that moves will help you get the attention of approaching motorists, pedestrians and other traffic.
- Make sure your clothing or anything you may be carrying on the bicycle does not obstruct a reflector or light.

While riding at dawn, at dusk or at night:

- Ride slowly.
- Avoid dark areas and areas of heavy or fast-moving traffic.
- Avoid road hazards.
- If possible, ride on familiar routes.

### 3f. CHANGING COMPONENTS OR ADDING ACCESSORIES

There are many components and accessories available to enhance the comfort, performance and appearance of your bicycle. However, if you change components or add accessories, you do so at your own risk. The bicycle's manufacturer may not have tested that component or accessory for compatibility, reliability or safety on your bicycle. Before installing any component or accessory, including a different size tire, make sure that it is compatible with your bicycle by checking with your dealer. Be sure to read, understand and follow the instructions that accompany the products you purchase for your bicycle.

**⚠ WARNING: Failure to confirm compatibility, properly install, operate and maintain any component or accessory can result in serious injury or death.**

**⚠ CAUTION: Changing the components on your bike may void the warranty. Refer to your warranty, and check with your dealer before changing the components on your bike.**

#### 4. FIT

Make sure the bike fits. A bike that's too big or too small is harder to control and can be uncomfortable.



#### NOTE:

Correct fit is an essential element of bicycling safety, performance and comfort. Making the adjustments to your bicycle that results in correct fit for your body and riding conditions requires experience, skill and special tools. Always have your dealer make the adjustments on your bicycle; or, if you have the experience, skill and tools, have your dealer check your work before riding.

**⚠ WARNING: If your bicycle does not fit properly, you may lose control and fall. If your new bike doesn't fit, ask your dealer to exchange it before you ride it.**

#### 4a. STAND OVER HEIGHT

Stand over height is the basic element of bike fit.

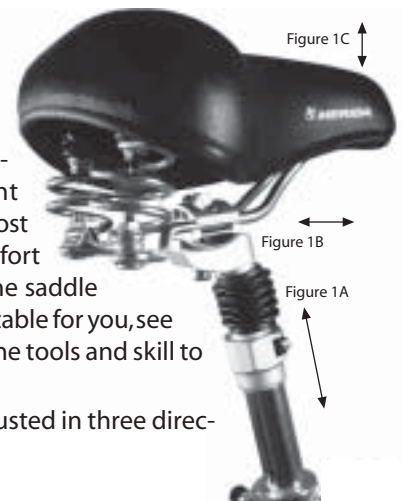
It is the distance from the ground to the top of the bicycle's imaginary top tube at that point where your crotch would be if you were straddling the bike and standing half way between the saddle and the handlebars. To check for cor-

rect stand over height, straddle the bike while wearing the kind of shoes in which you'll be riding, and bounce vigorously on your heels. If your crotch appears to touch the imaginary top tube, the bike is too big for you. Don't even ride the bike around the block. A bike that you ride only on paved surfaces and never take off-road should give you a minimum stand over height clearance of five centimeters. A bike that you'll ride on unpaved surfaces should give you a minimum of seven and a half centimeters of stand over height clearance.

#### 4b. SADDLE POSITION

Correct saddle adjustment is an important factor in getting the most performance and comfort from your bicycle. If the saddle position is not comfortable for you, see your dealer, who has the tools and skill to change it.

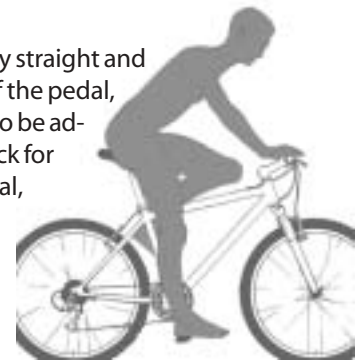
The saddle can be adjusted in three directions (figure 1):



1. Up and down adjustment (Figure 1A). To check for correct saddle height:

- Sit on the saddle
- Place one heel on a pedal
- Rotate the crank until the pedal with your heel on it is in the down position and the crank arm is parallel to the seat tube.

If your leg is not completely straight and just touching the center of the pedal, your saddle height needs to be adjusted. If your hips must rock for the heel to reach the pedal, the saddle is too high. If your leg is bent at the knee with your heel on the pedal, the saddle is too low.



Once the saddle is at the correct height, make sure that the seat post does not project from the frame beyond its "Minimum Insertion" or "Maximum Extension" mark. If you can read the markings on the seat post - go see your MERIDA Dealer.



**⚠ WARNING: If your seat post projects from the frame beyond the Minimum Insertion or Maximum Extension mark, the seat post may break, which could cause you to lose control and fall.**

2. Front and back adjustment (Figure 1B). The saddle can be adjusted forward or back to help you get the optimal position on the bike. Ask your dealer to set the saddle for your optimal riding position and to show you how to make further adjustments.

3. Saddle angle adjustment (Figure 1C). Most people prefer a horizontal saddle; but some riders like the saddle nose angled up or down just a little. Your dealer can adjust saddle angle or teach you how to do it.

Small changes in saddle position can have a substantial effect on performance and comfort. Only one directional change at a time, and only a small change at a time, should be made to your saddle position.

**⚠ WARNING: After any saddle adjustment, be sure that the saddle adjusting mechanism is properly tightened before riding. A loose saddle clamp or seat post binder can cause damage to the seat post, or can cause you to lose control and fall. A correctly tightened saddle adjusting mechanism will allow no saddle movement in any direction. Periodically check to make sure that the saddle adjusting mechanism is properly tightened.**

If, in spite of carefully adjusting the saddle height, tilt and fore-and-aft position, your saddle is still uncomfortable, you may need a different saddle design. Saddles, like people, come in many different shapes, sizes and resilience. Your dealer can help you select a saddle which, when correctly adjusted for your body and riding style, will be comfortable.

**⚠ WARNING: Some people have claimed that extended riding with a saddle which is incorrectly adjusted or which does not support your pelvic area correctly can cause short-term or long-term injury to nerves and blood vessels, or even impotence. If your saddle causes you pain, numbness or other discomfort, see your dealer.**

#### 4c. HANDLEBAR HEIGHT AND ANGLE

Your bike is equipped either with a “threadless” stem (550 LTD), which clamps on to the outside of the steerer tube, or with a “quill” stem (500/550), which clamps inside the steerer tube by way of an expanding binder bolt. If you aren’t absolutely sure which type of stem your bike has, ask your dealer. If your bike has a “threadless” stem, your dealer may be able to change handlebar height by adjusting the stem angle or moving height adjustment spacers from below the stem to above the stem, or vice versa. Consult your dealer. Do not attempt to do this yourself, as it requires special knowledge.

If your bike has a “quill” stem, you can ask your dealer to adjust the handlebar height a bit by adjusting the stem angle or stem height. Consult your dealer. Do not attempt to do this yourself, as it requires special knowledge.

A quill stem has an etched or stamped mark on its shaft which designates the stem’s “Minimum Insertion” or “Maximum extension.” This mark must not be visible above the headset. Your dealer can also change the angle of the handlebar or add bar end extensions. If these adjustments do not help, you’ll have to get a stem of different length or rise.

**⚠ WARNING: On some bicycles, changing the stem or stem height can affect the tension of the front brake cable, locking the front brake or creating excess cable slack that can make the front brake inoperable. If the front brake pads move in towards the wheel rim or out away from the wheel rim when the stem or stem height is changed, the brakes must be correctly adjusted before you ride the bicycle.**

**⚠ WARNING: The stem’s Minimum Insertion Mark must not be visible above the top of the headset. If the stem is extended beyond the Minimum Insertion Mark the stem may break or damage the fork’s steerer tube, which could cause you to lose control and fall.**

**⚠ WARNING: An insufficiently tightened stem binder bolt, handlebar binder bolt or bar end extension clamping bolt may compromise steering action, which could cause you to lose control and fall. Place the front wheel of the bicycle between your legs and attempt to twist the handlebar/stem assembly. If you can twist the stem in relation to the front wheel, turn the handlebars in relation to the stem, or turn the bar end extensions in relation to the handlebar, the bolts are insufficiently tightened.**

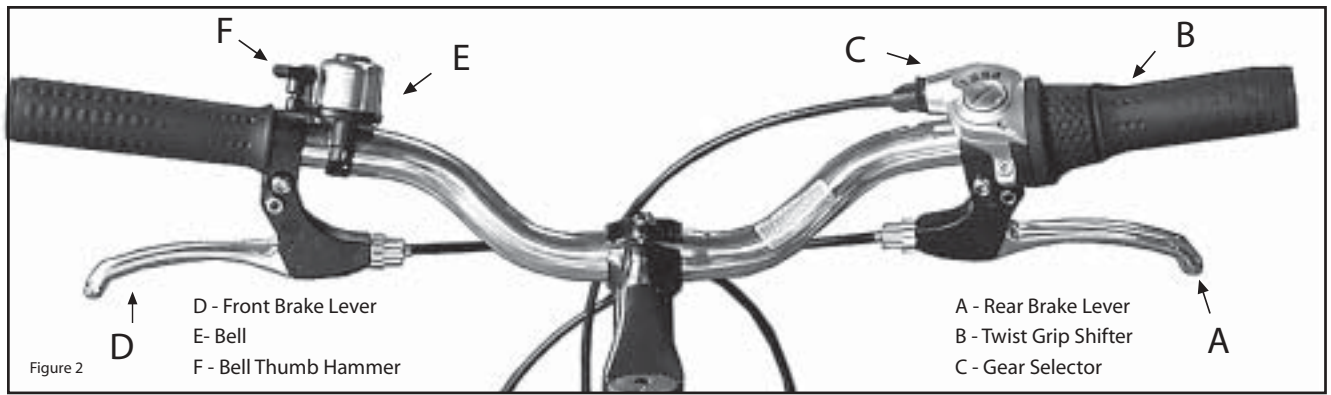
#### 4d. CONTROL POSITION ADJUSTMENTS

The angle of the controls and their position on the handlebars can be changed. Ask your dealer to make the adjustments for you.

#### 4e. BRAKE REACH

Your PowerCycle™ has brake levers that can be adjusted for reach. If you have small hands or find it difficult to squeeze the brake levers, your dealer can either adjust the reach or fit shorter reach brake levers.

**⚠ WARNING: The shorter the brake lever reach, the more critical it is to have correctly adjusted brakes, so that full braking power can be applied within available brake lever travel. Brake lever travel insufficient to apply full braking power can result in loss of control, which may result in serious injury or death.**



## 5. HOW THINGS WORK

### 5a. RIGHT HAND CONTROLS

#### Rear brake

Squeezing the right brake lever (figure 2A) actuates the rear brake. See the braking section of this manual for important information on brake usage before riding your bike.

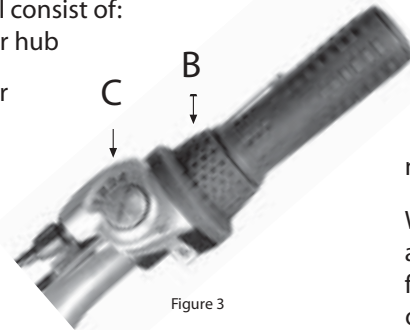
#### Twist grip gear selector

The PowerCycle™ uses a Shimano Nexus twist grip (figure 2B & 3B) to shift gears. The 4 speed gears are part of the rear internal gear hub. The indicator on the shifter body (figure 2C & 3C) points to the selected gear.

How an internal gear hub drivetrain works:

Your bicycle has an internal gear hub drivetrain, the gear changing mechanism will consist of:

- 4 speed internal gear hub
- One twist grip shifter
- One control cable
- One front chainring
- A drive chain
- A rear cog



#### Shifting internal gear hub gears

Shifting with an internal gear hub drivetrain is simply a matter of moving the shifter to the indicated position for the desired gear. After you have moved the shifter to the gear position of your choice, ease the pressure on the pedals for an instant to allow the hub to complete the shift.

#### Which gear should I be in?

The numerically lowest gear (1) is for the steepest hills. The numerically largest gear (4) is for the greatest speed. Shifting from an easier, “slower” gear (like 1) to a harder, “faster” gear (like 2 or 3) is called an upshift. Shifting from a harder, “faster” gear to an easier, “slower” gear is called a

downshift. It is not necessary to shift gears in sequence. Instead, find the “starting gear” for the conditions — a gear which is hard enough for quick acceleration but easy enough to let you start from a stop without wobbling — and experiment with upshifting and downshifting to get a feel for the different gears. At first, practice shifting where there are no obstacles, hazards or other traffic, until you’ve built up your confidence. If you have difficulties with shifting, the problem could be mechanical adjustment. See your dealer for help.

To shift to a higher gear, twist the shifter rearward (counterclockwise when viewed from the right side). To shift to a lower gear, twist the shifter forward (clockwise when viewed from the right side.) For example, you can downshift to a lower gear to make pedaling easier on a hill.

On the other hand, you may up shift to a higher gear when you wish to go faster. When downshifting, stop pedaling, operate the shifter to select the desired gear, and then resume pedaling. The Nexus system on your PowerCycle™ downshifts only if you are not pedaling.

When you are going uphill you will need to stop pedaling and pause 2-3 seconds (allowing the motor to cut out) before shifting the gears. In general, on flat ground, use 2nd or 3rd gear when starting from a complete stop. Shift to 3rd or 4th gear to increase your speed on flat ground. Use 4<sup>th</sup> gear when going downhill. When starting uphill, shift the bike into 1<sup>st</sup> gear to avoid undue stress on the motor.

For more information on the shift mechanism, please study the Shimano brochure that came with your bike, contact your PowerCycle™ dealer or call Shimano American Corporation @ 949-951-5003 (M-F, 8:00 am– 5:00 pm).

**⚠ CAUTION: Starting uphill in any gear other than 1<sup>st</sup> gear will put tremendous stress on the motor and battery causing excessive battery drain and potential damage.**

Recommended gear usage:

- 1st gear – for starting uphill and climbing hills

- 2nd gear – for starting on flat terrain or riding into a headwind
- 3rd gear – for normal everyday riding
- 4th gear – for flat terrain and riding downhill
- 3rd & 4th gear - not recommended for going uphill.

## 5b. LEFT HAND CONTROLS

### Front brake

Squeezing the left brake lever (figure 2D) actuates the front brake. See the braking section of this manual for important information on brake usage before riding your bike.

### Bell

Use the bell (figure 2E) to alert people who may not see you. Press down on the thumb hammer and release. Note: the thumb hammer (figure 2F) rotates to allow positioning it for your comfort.

## 5c. POWER ASSIST

Your PowerCycle™ is a pedal assist bike. That is, the motor supplies additional power to the rear wheel while you are pedaling. A computerized sensor measures both speed and torque to determine the amount of assist to provide. The assist is most noticeable when starting from a stop, riding into a headwind or climbing hills.

The motor automatically shuts off when: your speed exceeds approximately 15 mph, your pedaling cadence exceeds 62 rpm, (2-3 seconds) after you stop pedaling or battery voltage is low. The Battery must be fully charged with the Key Switch set to "ON" for the Electric Power Assist to function.

To engage Electric Power Assist

1. Install a fully charged battery.
2. Leave plenty of room for take off.
3. Turn the Power Mode Switch to the "ON" position (figure 4).
4. Climb onto your MERIDA PowerCycle™
5. As you begin pedaling, Electric Power Assist will automatically engage. You will hear the motor turn on and feel a sudden surge as if someone is pushing you along.
6. To attain higher or lower speeds, shift the rear hub into a lower or higher gear as described in the "Right Hand Controls Section".
7. To maintain power assist pedal below 15 mph and/or 62 rpm.
8. To maximize range turn off battery pack or pedal above 15 mph and/or 62 rpm.

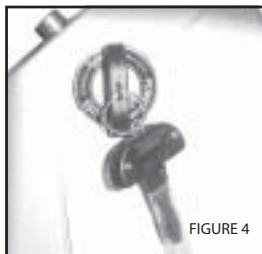


FIGURE 4

## 5d. WHEELS

It is sometimes necessary to remove either your front or rear wheel for storage or to change a tire & tube.

**⚠ WARNING:** *Riding with improperly adjusted wheel retention nuts can allow the wheel to wobble or disengage from the bicycle, causing serious injury or death to the rider. Therefore, it is essential that you:*

1. Ask your dealer to help you make sure you know how to install and remove your wheels safely.
2. Understand and apply the correct technique for securing your wheel in place with axle nuts.
3. Each time, before you ride the bike, check that the wheel is securely clamped.

### Removing a bolt on front wheel

1. Release the front brake as described in section 5E.
2. With a 15-mm box wrench, loosen the two axle nuts (figure 5A & 5B).

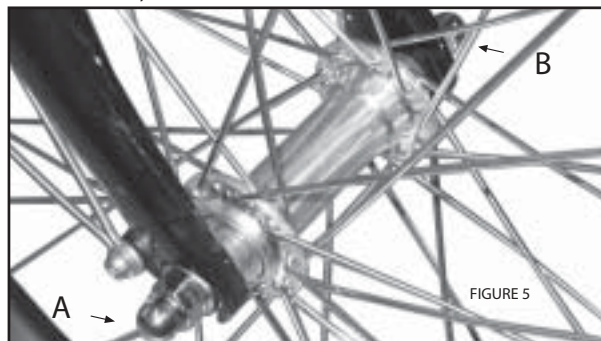


FIGURE 5

3. If your front fork has a clip-on type secondary retention device, disengage it and go to the next step. If your front fork has an integral secondary retention device, loosen the axle nuts enough to allow wheel removal; then go to the next step.
4. Raise the front wheel a few inches off the ground and tap the top of the wheel with the palm of your hand to knock the wheel out of the fork ends.

### Installing a bolt on front wheel

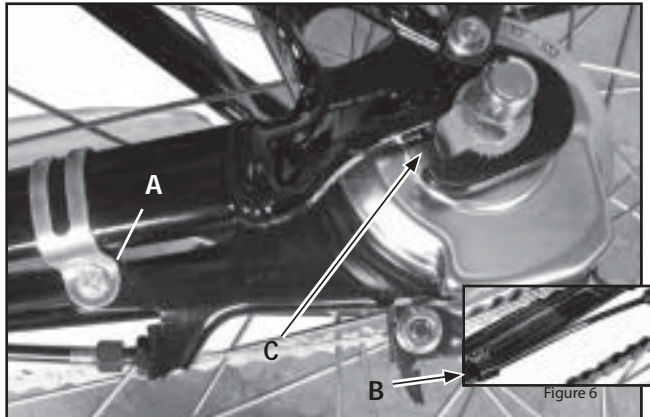
1. With the steering fork facing forward, insert the wheel between the fork blades so that the axle seats firmly at the top of the slots, which are at the tips of the fork blades. The axle nut washers should be on the outside, between the fork blade and the axle nut. If your bike has a clip-on type secondary retention device, engage it.
2. While pushing the wheel firmly to the top of the slots in the fork dropouts, and at the same time centering the wheel rim in the fork, use a 15-mm box wrench to tighten the axle nuts as tight as you can. (figure 5A & 5B).



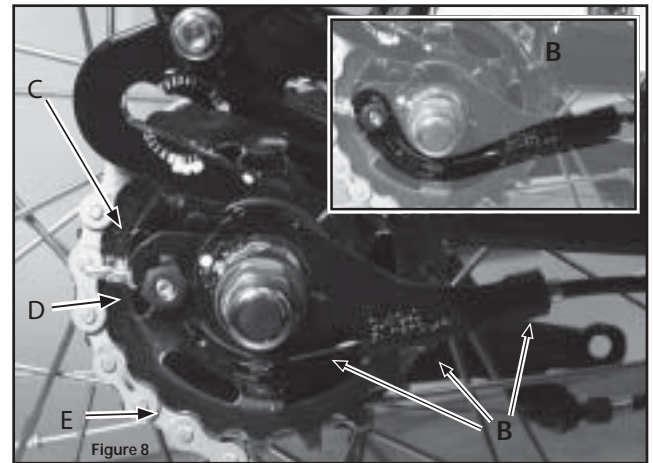
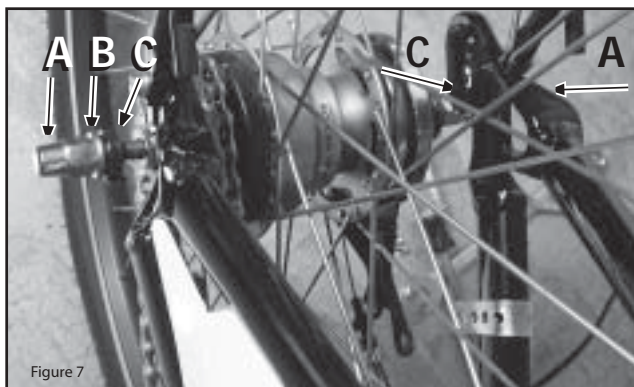
3. Re-engage the front brake as described in section 5E to restore correct brake pad-to-rim clearance; spin the wheel to make sure that it is centered in the frame and clears the brake pads; then squeeze the brake lever and make sure that the brakes are operating correctly.

### Removing a bolt on rear wheel

1. Stabilize the bike using its support stand.
2. Shift the PowerCycle™ into (#1) first gear.
3. With a #2 Philips screwdriver and 8-mm box wrench, loosen and remove the rear brake arm retainer screw and nut (figure 6,A).



4. With a 15-mm box wrench, loosen the axle nut (figure 7A) on each side of the bike, and pull the silver washer (figure 7B) and each retainer washer (figure 7C) out from the dropout.
5. Push the wheel forward until the axle comes out of the rear dropouts. If necessary, deflate the tire slightly so it will not hit the frame cross member behind the bottom bracket.
6. Remove the shifter cable from the retainer (figure 6B) on the inside of the right chain stay.
7. Note how the shift cable is routed through the guides on the shift arm (Figure 8B). The cable will have to be



rerouted along the same path during assembly.

8. Rotate the shift arm (figure 8C) counterclockwise until it stops.



9. Use needle nose pliers to pull the inner cable fixing bolt assembly (figure 8D) down past the flats of the shift arm linkage and disconnect the pinch bolt assembly from the shift arm.
10. Remove the chain from the rear sprocket (figure 8E).
11. With a 17-mm box wrench, loosen the brake housing retainer nut (figure 9A), remove the nut and brake housing from the axle. (figure 9B)
12. Remove the wheel from the frame. If necessary, deflate the tire completely so it will not hit the frame cross member behind the bottom bracket.

### Installing a bolt on rear wheel

1. Stabilize the bike using its support stand.
2. Fit the wheel into place between the chain stays.
3. Put the brake housing onto the hub and chain on the rear sprocket. If necessary, deflate the tire completely so it will not hit the frame cross member behind the bottom bracket.
4. Replace the 17-mm brake housing retainer nut (figure 9A) and tighten with a box wrench.
5. Rotate the shift arm counterclockwise until it stops.



6. Turn the cable fixing bolt assembly so the flats on the cable-fixing bolt align with the flats on the shift arm linkage, and press the cable fixing bolt assembly up into the linkage. (figure 8D)
7. Be sure the shift cable is properly routed through the shift arm guides, (figure 8B) and release the shift arm.
8. Pull the rear wheel rearward so the axle slides into the rear dropouts. Each retainer washer (figure 7C) must sit between the axle nut and frame, and the tab on each washer must engage the inside of its dropout (figure 6C). The black washer goes on the right (drive side) and the gray washer (figure 6C) goes on the left (non-drive) side of the frame.
9. Replace the silver washer (figure 7B) on the drive side.
10. Replace the two-axle nuts (figure 7A) and rotate several turns by hand.
11. Pull the wheel rearward until the chain is taut. Center the wheel between the two stays. Use a 15mm wrench to tighten each axle nut to 350-500 kg-cm (25-36 ft.-lb.). Alternate between left and right side as you tighten the nuts to assure proper alignment.
12. Press the shift cable (figure 6B) into its retainer on the right chain stay.
13. Attach the rear brake arm and replace the retainer arm screw and nut (figure 6A). Tighten the screw with a #2 Phillips screwdriver while holding the nut with a 8mm box wrench.
14. Spin the wheel. Be sure the wheel is centered in the frame and that it clears the stay.
15. Test the function of the rear brake and gear shifter before riding the bike.

## 5e. BRAKES

For most effective braking, use both brakes and apply them simultaneously.

**⚠ WARNING: Sudden or excessive application of the front brake may pitch the rider over the handle-bars, causing serious injury or death.**



**⚠ CAUTION: PowerCycle™ brakes, such as direct pull brakes (figure 10) and roller brakes (figure 11), are extremely powerful. You should take extra care in becoming familiar with these brakes and exercise particular care when using them.**

## How brakes work

It's important to your safety that you instinctively know which brake lever controls, which brake. On your PowerCycle™ the left brake lever controls the front brake. The right brake lever controls the rear brake.

The braking action of a PowerCycle™ is a function in the rear of the rollers on the disc or in the front of the brake pads and the wheel rim. To make sure that you have maximum friction available: In the front you must keep your wheel rim and brake pads clean and free of lubricants, waxes or polishes. In the rear you must keep your brake properly lubricated. See your MERIDA Dealer for more information on rear brake lubrication.

Make sure that your hands can reach and squeeze the brake levers comfortably. If your hands are too small to operate the levers comfortably, consult your dealer before riding the PowerCycle™. The lever reach is adjustable (see section on brake lever reach adjustment).

Brakes are designed to control your speed, not just to stop the PowerCycle™. Maximum braking force for each wheel occurs at the point just before the wheel locks up (stops rotating) and starts to skid. Once the tire skids, you actually lose most of your stopping force and all steering control. You need to practice slowing and stopping smoothly without locking up a wheel. The technique is called progressive brake modulation. Instead of jerking the brake lever to the position where you think you will generate appropriate braking force, squeeze the lever, progressively increasing the braking force. If you feel the wheel begin to lock up, release pressure just a little to keep the wheel rotating just short of lockup. It is important to develop a feel for the amount of brake lever pressure required for each wheel at different speeds and on different surfaces. To better understand this, experiment a little by walking your PowerCycle™ and applying different amounts of pressure to each brake lever until the wheel locks.

When you apply one or both brakes, the PowerCycle™ begins to slow, but your body wants to continue at the speed at which it was going. This causes a transfer of weight to the front wheel (or, under heavy braking, around the front wheel hub, which could send you flying over the handlebars).

A wheel with more weight on it will accept greater brake pressure before lockup; a wheel with less weight will lock up with less brake pressure. So, as you apply brakes and your weight shifts forward, you need to shift your body toward the rear of the PowerCycle™, to transfer weight back onto the rear wheel. At the same time, you need to both

decrease rear braking and increase front braking force. This is even more important on steep descents, because descents shift weight forward.

Two keys to effective speed control and safe stopping are controlling wheel lockup and weight transfer. This weight transfer is even more pronounced if your bike has a front suspension fork (550 LTD). Front suspension “dips” under braking, increasing the weight transfer. Practice braking and weight transfer techniques where there is no traffic or other hazards and distractions.

Everything changes when you ride on loose surfaces or in wet weather. Tire adhesion is reduced, so the wheels have less cornering and braking traction and can lock up with less brake force. Moisture or dirt on the brake pads reduces their ability to grip. The way to maintain control on loose or wet surfaces is to go more slowly to begin with.

### Rear brake

Your PowerCycle™ is equipped with a Shimano Inter-M Roller Brake (figure 11). You received a set of service instructions for the brake. Please refer to document #SI-4R35A for detailed information regarding this brake.



Figure 11

**WARNING: Hard-braking operation will cause the internal brake parts to become very hot, and this may weaken braking performance. It may also cause a reduction in the amount of brake grease inside the brake, and this can lead to problems such as abnormally sudden braking.**

If any of the following occur while using the brakes, stop riding immediately and ask your MERIDA Dealer to carry out inspection and repairs.

1. If abnormal noise is heard when the brakes are applied.
2. If braking force is abnormally strong.
3. If braking force is abnormally weak.

In the case of #1 and #2, the cause might be not enough brake grease, so ask your MERIDA Dealer to grease the mechanism with special Shimano roller brake grease.

### Brake cable free play adjustment (Rear Roller Brake)

If the right brake lever fails the mechanical safety check, restore brake lever travel by adjusting the brake lever free play as described below.

1. Pull the brake lever to simulate a panic stop, and then release the brake lever. Repeat this at least ten times. This assures that all components are properly seated.
2. Pull the brake lever until it stops (Figure 12B).
3. The amount of lever travel from A to B should be 15 mm / 0.59 in. (figure 12).

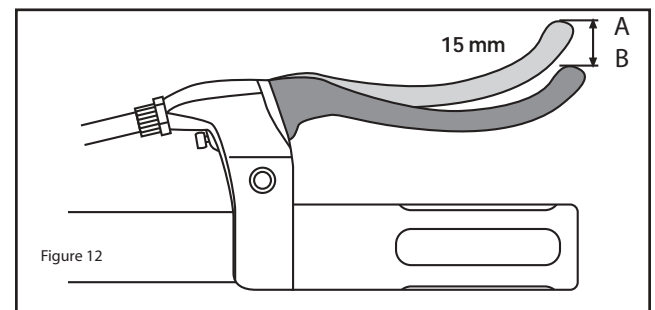


Figure 12

4. Loosen the adjuster locknut (figure 13, A), and turn the barrel adjuster (figure 13, B) as necessary to adjust clearance to within specification. (Turning the adjuster out tightens the inner wire; turning the adjuster in loosens the wire.) When the brake lever is within specification, tighten the adjuster locknut.



Figure 13

### Front brake release

The brake pads of the V-brakes can be quickly opened so the pads can clear the tire when the wheel is removed or installed. To open the front brake pads, perform the following:

1. Squeeze the caliper arms together (figure 14A).
2. Disconnect the cable guide on the brake cable from the bracket on the left caliper arm (figure 14D).

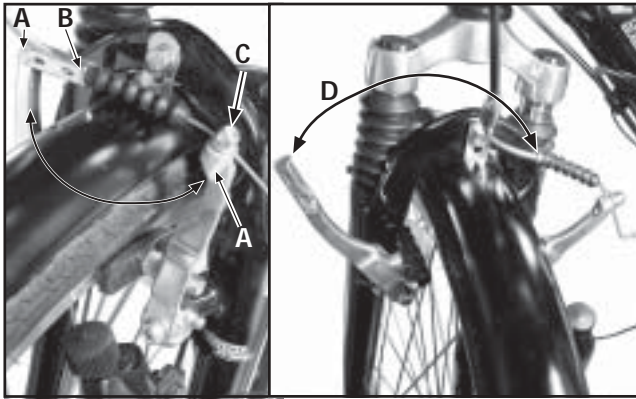


Figure 14

Figure 14D

Once the wheel is reinstalled, close the brake pads by performing the following:

1. Squeeze the caliper arms together (figure 14A).
2. Connect the cable guide to the bracket on the left caliper arm (figure 14B).
3. Test brake function before riding bike.

### Brake cable free play adjustment (Front Brake)

If the left brake lever fails the mechanical safety check, restore brake lever travel by adjusting the brake lever free play as described below.

1. Pull the brake lever to simulate a panic stop, and then release the brake lever. Repeat this at least ten times. This assures that all components are properly seated.
2. Pull the brake lever until the brake pads just touch the rim. Note lever position (Figure 15B).
3. The amount of lever travel from A to B should be 25 mm / 0.98 in. (figure 15).

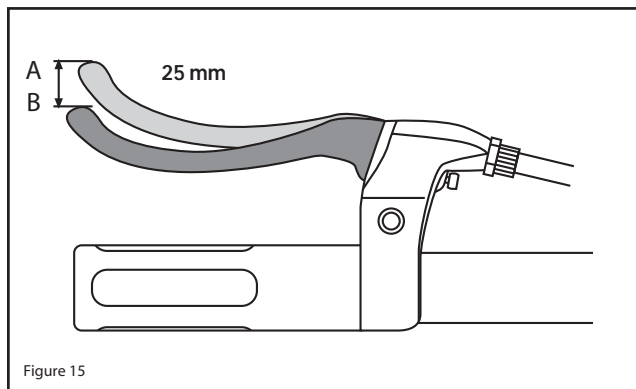
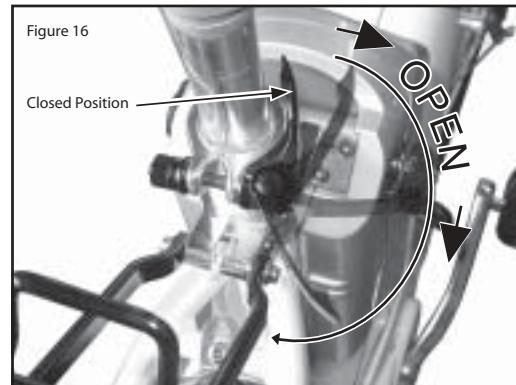


Figure 15

4. Loosen the adjuster locknut, (figure 13A) and turn the barrel adjuster (figure 13B) as necessary to adjust clearance to within specification. (Turning the adjuster out tightens the inner wire; turning the adjuster in loosens the wire.) When the brake lever is within specification, tighten the adjuster locknut.
5. Squeeze the caliper arms together (figure 14A), and remove the cable guide from the bracket on the left caliper arm (figure 14B). The brake lever free play is properly adjusted if the cable guide can be easily removed from the bracket.
6. If you cannot easily release the cable guide from the bracket, perform the following:
  - a. Turn the adjusting barrel at the brake lever in (clockwise) one full turn. Try to remove the cable guide again.
  - b. If you still cannot release the cable guide, turn the adjusting barrel in an additional turn.
  - c. If the cable guide still does not release, loosen the pinch bolt (figure 14C) and release 2-3 mm (0.079 - 0.118 in.) of inner wire from the pinch mechanism.
  - d. Tighten pinch bolt (figure 14C).
  - e. Repeat the adjusting procedure.

### 5f. SEAT POST QUICK RELEASE

PowerCycle's™ are equipped with a quick-release seat post binder. While a quick release looks like a long bolt with a lever on one end and a nut on the other, the quick release uses a cam action to firmly clamp the seat post (figure 16).



**⚠ WARNING: Riding with an improperly tightened seat post can allow the saddle to turn or move and cause you to lose control and fall. Therefore:**

1. Ask your dealer to help you make sure you know how to correctly clamp your seat post.
2. Understand and apply the correct technique for clamping your seat post quick release.
3. Before you ride the bike, first check that the seat post is securely clamped.



## Adjusting the seat post quick release mechanism

The action of the quick release cam squeezes the seat collar around the seat post to hold the seat post securely in place. The tension-adjusting nut controls the amount of clamping force. Turning the tension-adjusting nut clockwise while keeping the cam lever from rotating increases clamping force, turning it counterclockwise while keeping the cam lever from rotating reduces clamping force. Less than half a turn of the tension-adjusting nut can make the difference between safe and unsafe clamping force.

**⚠ WARNING:** *The full force of the cam action is needed to clamp the seat post securely. Holding the nut with one hand and turning the lever like a wing nut with the other hand until everything is as tight as you can get it will not clamp the seat post safely.*

**⚠ WARNING:** *If you can fully close the quick release without wrapping your fingers around a frame tube for leverage, and the lever does not leave a clear imprint in the palm of your hand, the tension is insufficient. Open the lever; turn the tension-adjusting nut clockwise a quarter turn; then try again. Repeat until tight.*

## 5g. BICYCLE SUSPENSION

Your bicycle has a suspension system including a seat post (figure 18) & fork (550 LTD Only) (figure 17). Be sure to read and follow the suspension manufacturer's setup and service instructions regarding care and maintenance. If you do not have the manufacturer's instructions, see your dealer or contact EWI directly.



**⚠ WARNING:** *Failure to maintain, check and properly adjust the suspension system may result in suspension malfunction, which may cause you to lose control and fall. If your bike has suspension, the increased speed you may develop also increases your risk of injury. For example, when braking, the front of a suspended bike dips. You could lose control and fall if you do not have experience with this system. Learn to handle your suspension system safely.*

**⚠ WARNING:** *Changing suspension adjustment can change the handling and braking characteristics of your bicycle. Never change suspension adjustment unless you*

*are thoroughly familiar with the suspension system manufacturer's instructions and recommendations, and always check for changes in the handling and braking characteristics of the bicycle after a suspension adjustment by taking a careful test ride in a hazard-free area.*

Suspension can increase control and comfort by allowing the wheels to better follow the terrain. This enhanced capability may allow you to ride faster; but you must not confuse the enhanced capabilities of the bicycle with your own capabilities as a rider. Increasing your skill will take time and practice. Proceed carefully until you have learned to handle the full capabilities of your bike.

**⚠ CAUTION:** *Not all bicycles can be safely retrofitted with some types of suspension systems. Before retrofitting a bicycle with any suspension, check with the bicycle's manufacturer to make sure that what you want to do is compatible with the bicycle's design.*

## SUSPENSION SEAT POST

Your PowerCycle™ comes equipped with a suspension seat post to maximize your comfort. You will find several Allen bolts (figure 18, A, B ... C) that can be used for fine adjustments.

### Seat post adjustments

1. To adjust the seat post's spring tension (preload):
  - a. Mark the seat height on the post with a felt tip pen or piece of tape.
  - b. Release the QR Binder and remove the seat post from the frame.
  - c. Use a 6mm Allen wrench to turn the preload adjuster at the bottom of the seat post. Bolt A (figure 18A).
  - d. Turn the adjuster counterclockwise to decrease the preload, which softens the suspension or turn the adjuster clockwise to increase the preload, which hardens the suspension.
  - e. Insert the seat post into the frame, adjust the seat height and tighten the Quick Release Binder as described in section 5f.

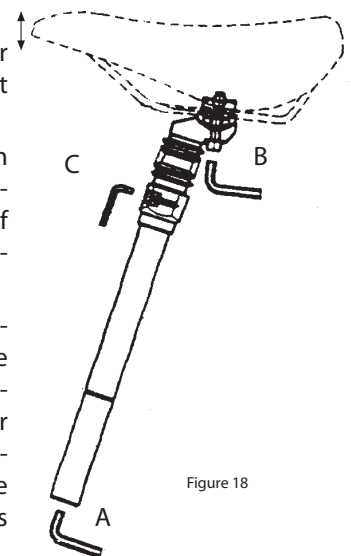


Figure 18



2. To adjust the seat angle, or fore and aft positioning.
  - a. Using a 6 MM Allen Wrench – turn Bolt B counterclockwise to loosen the saddle clamping mechanism (do not remove the bolt).
  - b. Once the bolt is loose you may slide the seat fore and aft and/or tilt it up and down to your desired position. Slide the seat on its rails inside the clamp.
  - c. Hold the seat in place & tighten bolt B by turning it clockwise until tight.
  - d. Push up and down on the seat to confirm that the clamp is tight.
3. To lockout the suspension (no flex), turn the two 4 MM Allen Bolts\* clockwise until tight. \*Bolts C (figure 18C).

**⚠ WARNING: After any saddle adjustments, be sure that the saddle adjusting mechanism is properly tightened before riding. A loose saddle clamp or seat post binder can cause damage to the seat post, or can cause you to lose control and fall. A correctly tightened saddle adjusting mechanism will allow no saddle movement in any direction. Periodically check to make sure that the saddle adjusting mechanism is properly tightened.**

**⚠ WARNING: If your seat post projects from the frame beyond the Minimum Insertion or Maximum Extension mark, the seat post may break, which could cause you to lose control and fall.**

**⚠ CAUTION: Some people have claimed that extended riding with a saddle which is incorrectly adjusted or which does not support your pelvic areas correctly can cause a short-term or long term injury to nerve and blood vessels, or even impotence. If your saddle causes you pain, numbness or other discomfort, see your dealer.**

**⚠ WARNING: Keep seat post bolts properly tightened at all times.**

**⚠ WARNING: Riding with an improperly tightened seat post quick-release binder can allow the saddle to turn or move and cause you to lose control and fall. Therefore:**

1. Ask your dealer to help you make sure you know how to correctly clamp your seat post.
2. Understand and apply the correct technique for clamping your seat post quick release.
3. Before you ride the PowerCycle™, first check that the seat post is securely clamped.

## SUSPENSION FORK (550 LTD Only)

Your PowerCycle™ (550 LTD Only) comes equipped with a suspension fork to maximize your comfort. Your dealer gave you a small plastic tool (figure 21) and instruction sheet for the fork.



Figure 21

The tool is used to adjust the forks dampening rate. See the instruction sheet for additional information.

## 5h. PEDALS

1. Toe Overlap (figure 22) is when your toe can touch the front wheel when you turn the handlebars to steer while a pedal is in the forward most position. This is common on small-framed bicycles, and is avoided by keeping the inside pedal up and the outside pedal down when turning.

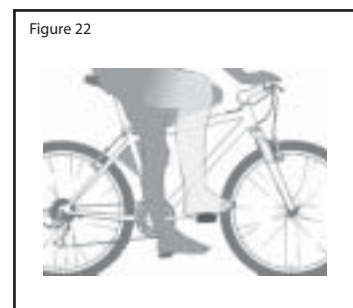


Figure 22

**⚠ WARNING: Toe Overlap could cause you to lose control and fall. If you have toe overlap, exercise extra care when turning.**

## 5i. TIRES AND TUBES

### Tires

Bicycle tires are available in many designs and specifications, ranging from general-purpose designs to tires designed to perform best under very specific weather or terrain conditions. If, once you've gained experience with your new bike, you feel that a different tire might better suit your riding needs; your dealer can help you select the most appropriate design.

The size, pressure rating, and on some high-performance tires the specific recommended use, are marked on the sidewall of the tire (fig. 23). The part of this information, which is most important to you, is Tire Pressure.

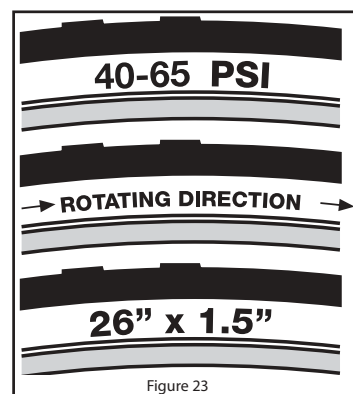


Figure 23

**⚠ WARNING: Never inflate a tire beyond the maximum pressure marked on the tire's sidewall. Exceeding the recommended maximum pressure may blow the tire off the rim, which could cause damage to the bike and injury to the rider and bystanders.**

The best and safest way to inflate a bicycle tire to the correct pressure is with a bicycle pump that has a built-in pressure gauge.

**⚠ WARNING: There is a safety risk in using gas station air hoses or other air compressors. They are not made for bicycle tires. They move a large volume of air very rapidly, and will raise the pressure in your tire very rapidly, which could cause the tube to explode.**

Tire pressure is given either as maximum pressure or as a pressure range. How a tire performs under different terrain or weather conditions depends largely on tire pressure. Inflating the tire to near its maximum recommended pressure gives the lowest rolling resistance; but also produces the harshest ride. High pressures work best on smooth, dry pavement.

Very low pressures, at the bottom of the recommended pressure range, give the best performance on smooth, slick terrain such as hard-packed clay, and on deep, loose surfaces such as deep, dry sand.

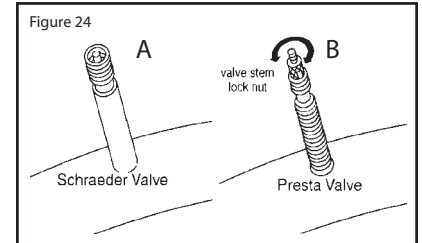
Tire pressure that is too low for your weight and the riding conditions can cause a puncture of the tube by allowing the tire to deform sufficiently to pinch the inner tube between the rim and the riding surface.

**⚠ CAUTION: Pencil type automotive tire gauges can be inaccurate and should not be relied upon for consistent, accurate pressure readings. Instead, use a high quality dial gauge.**

Ask your dealer to recommend the best tire pressure for the kind of riding you will most often do, and have the dealer inflate your tires to that pressure. Then, check inflation as described in Section 1.C so you'll know how correctly inflated tires should look and feel. Some tires may need to be brought up to pressure every week or two. Some special high-performance tires have unidirectional treads: their tread pattern is designed to work better in one direction than in the other. The sidewall marking of a unidirectional tire will have an arrow showing the correct rotation direction. If your bike has unidirectional tires, be sure that they are mounted to rotate in the correct direction.

## Tire valves

There are primarily two kinds of bicycle tube valves: The Schraeder Valve and the Presta Valve. The bicycle pump you use must have the fitting appropriate to the valve stems on your bicycle. Your bike uses Schraeder valves.



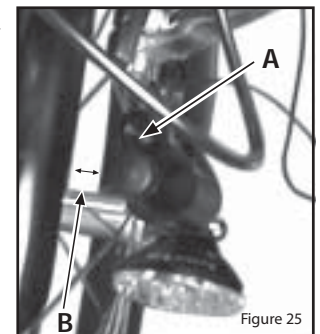
The Schraeder valve (figure 24A) is like the valve on a car tire. To inflate a Schraeder valve tube, remove the valve cap and clamp the pump fitting onto the end of the valve stem. To let air out of a Schraeder valve, depress the pin in the end of the valve stem with the end of a key or other appropriate object.

The Presta valve (fig. 24B) has a narrower diameter and is only found on bicycle tires. To inflate a Presta valve tube using a Presta headed bicycle pump, remove the valve cap; unscrew (counterclockwise) the valve stem lock nut; and push down on the valve stem to free it up. Then push the pump head on to the valve head, and inflate. To inflate a Presta valve with a Schraeder pump fitting, you'll need a Presta adapter (available at your bike shop) which screws on to the valve stem once you've freed up the valve. The adapter fits into the Schraeder pump fitting. Close the valve after inflation. To let air out of a Presta valve, open up the valve stem lock nut and depress the valve stem.

**⚠ WARNING: Patching a tube is an emergency repair. If you do not apply the patch correctly or apply several patches, the tube can fail, resulting in possible tube failure, which could cause you to lose control and fall. Replace a patched tube as soon as possible.**

## 5j. LIGHTING SYSTEM

Your PowerCycle™ comes equipped with a generator-powered headlight and taillight. To use the lighting system press down on the bull's eye (figure 25A) molded into the top of the generator's housing. The generator will flip into the wheel and contact the sidewall of the tire (figure 26A). As the wheel rotates, the dynamo spins, generating power for the lights. When done riding pull the housing away from the wheel until it



snaps into place (figures 25B & 27A).

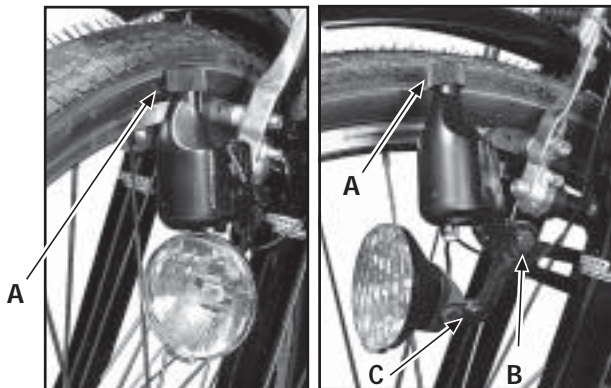


Figure 26

Figure 27

From time to time you may need to adjust the headlight's beam path. To do so, simply grasp the headlight and pull it up or press it down until you achieve your desired beam placement. You may need to adjust the nut and bolt (figure 27C) before and after moving the headlight. This is done with two 10mm box wrenches.

You may also need to adjust the generator's contact patch. The dynamo needs to contact the tire as shown (figure 26A). To adjust, simply grasp the housing and pull it up or press it down until you achieve the proper positioning. You may need to adjust the nut and bolt before and after moving the generator. This is done with two 10mm box wrenches. (figure 27B).

**⚠ WARNING: Never make adjustments to your lights while riding. Keep bolts properly tightened at all times.**

## 6. BATTERY MANAGEMENT

- Your PowerCycle™ utilizes a Lead Acid (LA) or Nickel Metal Hydride (NiMH) battery. Please read the instructions below to maximize your battery's life and performance.
- Always fully charge your battery pack after each ride. It is best to let the battery pack cool to room temperature before charging.
- During long periods of storage, your battery pack should be charged at least once every 2 months.

### 6a. BATTERY WARNINGS & CAUTIONS

**⚠ WARNING: Risk of electrical shock. The charger is intended for indoor, dry location use only.**

**⚠ WARNING: With Lead Acid Battery, use only the manufacturer supplied Lead Acid charger. With NiMH**

**Battery, use only the manufacturer supplied NiMH charger. Use of different chargers may cause serious injury to you and may damage the battery pack.**

**⚠ WARNING: Charge only MERIDA Battery Packs with MERIDA Charger. Other types of batteries may burst causing personal injury and damage.**

**⚠ WARNING: Do not charge MERIDA Battery Packs with any other charger. Other types of chargers may cause the battery pack to burst causing personal injury and damage.**

**⚠ CAUTION: Do not touch charger while charging is taking place as charger can reach temperatures up to 104°F/40°C.**

**⚠ CAUTION: Do not attempt to charge a MERIDA PowerCycle's™ battery in temperatures below 32°F/0°C or above 104°F/40°C.**

**⚠ CAUTION: For continued protection against risk of fire, replace fuse with same type and rating of installed fuse. Fuse specifications can be found on the charger.**

### 6b. PRIOR TO CHARGING

1. Charging area should be non-flammable, dry, level, with good ventilation, and in an area that cannot be reached by children or animals. Do not place battery and charger in direct sunlight, near a heat source (water heater, furnace, fireplace, etc.), or in contact with moisture while charging.
2. Be sure the charger cooling fan vents are unrestricted when charging to prevent the charger from overheating.
3. For the NiMH battery pack, be sure the cooling fan vents (on bottom of battery pack) are unrestricted when charging to provide good ventilation.
4. Make sure the power cord; battery cable and battery terminals are in good condition.
5. Do not attempt to charge PowerCycle's™ battery in temperatures below 32°F/0°C or above 104°F/40°C.
6. Do not plug into outlets with multiple sockets with other power cords inserted.
7. Do not use any power source other than 110V - 115V North America or 220V - 230V most European countries.
8. For safety reasons, we highly recommend that you use only GFCI outlets, or use an adapter to convert standard outlets to GFCI. These adapters are available at most hardware stores.

9. Do not cover the battery while charging.
10. Always place charger and battery/bike on a non-flammable dry surface for charging.
11. If you notice a strange smell, vapors or smoke - unplug charging cord immediately! Take your battery pack and charger to your Authorized Merida Dealer for service.

### 6c. CHARGING INSTRUCTIONS

1. Stabilize the bike using its support stand. Make certain that the stand is locked in place on flat, solid, dry ground.
2. Remove the battery pack as described in section 6h and place the battery pack on its back (figure 28, A) in the charging area described in section 6b.

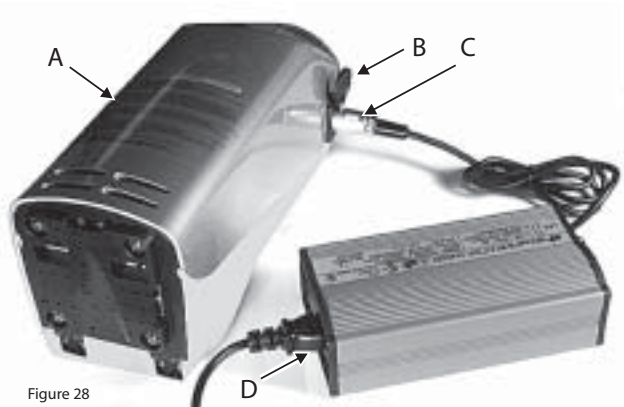


Figure 28

3. Be sure the charger switch is turned to O (OFF) (figure 29, A).
4. Be sure the charger voltage selector (figure 29, B) is set to the proper output (115V for U.S.A. and 230V for most European countries).
5. Slide the cover (figure 28, B) away from the battery charge port on the left side of the battery pack.
6. Plug the charger output plug (figure 28, C) into the charge port on the battery pack.

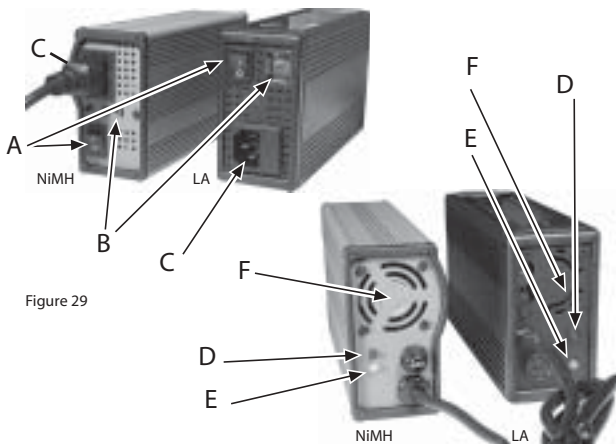


Figure 29

7. Plug the wall cord into the charger (figure 28D & 29C), and then plug the other end into an electrical outlet.
8. Turn the charger switch to I (ON) (figure 29, A). The red LED, The green / yellow or orange LED and the cooling fan (figure 29D, E & F) will turn on.

**CAUTION:** The charger fan should always be on when the yellow/orange LED is on to prevent the charger from overheating. If the cooling fan does not operate within 10 seconds after it is turned on, immediately turn the charger off and unplug the cord from the electrical socket. Contact your MERIDA dealer for service.

#### NOTE:

When the yellow LED turns to green (after approximately 2.5 hours / NiMH or 4 hours / LA for an empty battery), the battery charge level is about 90%. Continuing to trickle charge the battery for (4.5 hours / NiMH or 6 hours / LA) will increase the charge level to 100%. Do not charge the battery for more than 10 hours.

9. Once the battery is fully charged, turn the charger switch to O (OFF), and disconnect the charger cords from the electrical socket and the battery pack.
10. Install the battery into the PowerCycle™ as described in section 6h.

### 6d. CHARGER LED'S

The two LED's (figure 29, D ... E) on the end of the charger provide important information.

1. The Power LED (D) provides information about the charger. It glows RED when the charger is turned ON. This LED indicates that the charger is powered up and ready to charge your battery.
2. The Charge LED (E) provides information about the battery. This light will change color as the batteries charge condition changes.

- YELLOW (NiMH) / ORANGE (LA) - the battery is charging.
- GREEN - the battery is 90% charged once it turns green.
- GRAY - the plug is disconnected from the battery pack.

### LED TROUBLESHOOTING TIPS

- Power LED (D) is off (Dark Red when off. Illuminated when on):
1. Check to make sure the chargers electrical cord is plugged in properly.



2. Check to make sure your outlet is providing power.
3. Check the charger fuse. If blown, replace with same type of fuse.
4. If light is still off, turn off charger and bring your battery & charger to your local MERIDA dealer for service.

- **Charge LED (E) is off (Gray color when off. Green/ yellow or orange when on):**

1. Make sure the charger is plugged completely into the battery's charger port.
2. Check to make sure the charger's electrical cord is plugged in properly.
3. Check to make sure your outlet is providing power.
4. Check the battery and charger fuses. If blown replace with same type of fuse.
5. If light is still off, turn off charger and see your local MERIDA dealer for service.

- **Yellow/Orange Light (E) won't turn Green:**

1. Leave charger plugged into battery pack for 10 hours.
2. There is a problem with your charger and/or battery pack. Turn off charger, unplug and see your local MERIDA dealer for service.

- **Yellow/Orange Light (E) turns green immediately:**

1. The battery cannot be charged. See your local MERIDA dealer for service.

- **Yellow/Orange Light (E) is flashing:**

This indicates an abnormal condition.

1. If battery pack is hot (40° C, 104° F), let it cool, then try to charge again.
2. If flashing yellow LED persists after 2 days or after battery pack has cooled, a problem exists in the charger or battery pack.
3. Turn off charger, disconnect the charger from the battery pack and wall socket. Bring your battery & charger to your local MERIDA dealer for service.

## 6e. CHARGE TIMES

Battery Type:	NiMH	Lead Acid
Fully Charged	7 hours	10 hours
90% Charged	2.5 hours	4 hours

\*Actual charging times depend on level of discharge, age of battery and number of times it has been charged/discharged. Longer charging times may be necessary with older batteries.

## 6f. POWER ON/OFF KEY SWITCH

1. Insert the key into the switch (figure 30, A) on the side of the battery pack.
2. Turn the key clockwise to the "ON" position (figure 30, B). Do not push in.
3. The five state-of-charge LED's (figure 31) flash once simultaneously and one beep sounds to indicate the Power Assist System is ready for operation. The relevant LED then turns on to display the current battery charge level.
4. Press down on the outside edge of the black key cap to fold the cap against the battery pack (figure 32). This will prevent your leg from hitting the key while riding.
5. Turn the switch counterclockwise to the "OFF" position (figure 30, C), and remove the key when not using the PowerCycle™.

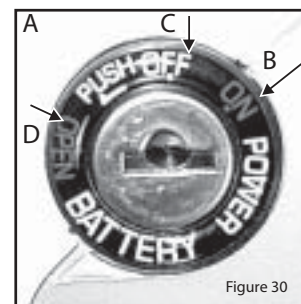


Figure 30

**CAUTION: When leaving MERIDA PowerCycle™ unattended, turn Battery Key Switch to the "OFF" position and remove key. Leaving Battery Key Switch in the "ON" position while parked will result in more rapid battery discharge, and the potential for theft.**



Figure 32

If you haven't already done so – place your spare key in a safe, secure place and write the key number down in the space provided on your warranty registration card and users manual. If you ever need to order a replacement key we will ask for this number.

## 6g. BATTERY LEVEL INDICATOR

Five LED's (figure 31) found on the bicycle frames down tube indicates the approximate charge remaining while the bicycle is at rest.

### For Lead Acid Batteries:

- The first LED (figure 31, A) (counting from the top) indicates full charge. The battery is 75% to 100% charged when this LED is on.
- The second LED (figure 31, B) indicates the battery is 50% to 75% charged.
- The third LED (figure 31, C) indicates the battery is 20% to 50% charged.

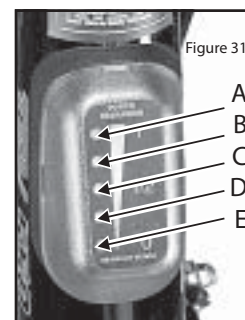


Figure 31

- The fourth LED (figure 31, D) indicates the battery is less than 20% charged or near empty.

**⚠ Caution: The unit is approaching automatic motor shut off.**

- The fifth LED (figure 31, E) indicates 0 or empty. The battery is fully discharged and must be charged. When this LED is on, power to the motor is automatically shut off. Turn the key to "OFF" immediately. A warning beep sounds continuously until the key is turned OFF.

**For NiMH Batteries:**

- The first LED (figure 31, A) (counting from the top) indicates full charge. The battery is 75% to 100% charged when this LED is on.
- The second LED (figure 31, B) indicates the battery is 30% to 50% charged.
- The third LED (figure 31, C) indicates the battery is 10% to 30% charged.

**⚠ Caution: The unit is approaching automatic motor shut off.**

- The fourth LED (figure 31, D) indicates the battery is near empty.
- The fifth LED (figure 31, E) indicates 0 or empty. The battery is fully discharged and must be charged. When this LED is on, power to the motor is automatically shut off. Turn the key to "OFF" immediately. A warning beep sounds continuously until the key is turned OFF.

**NOTE:**

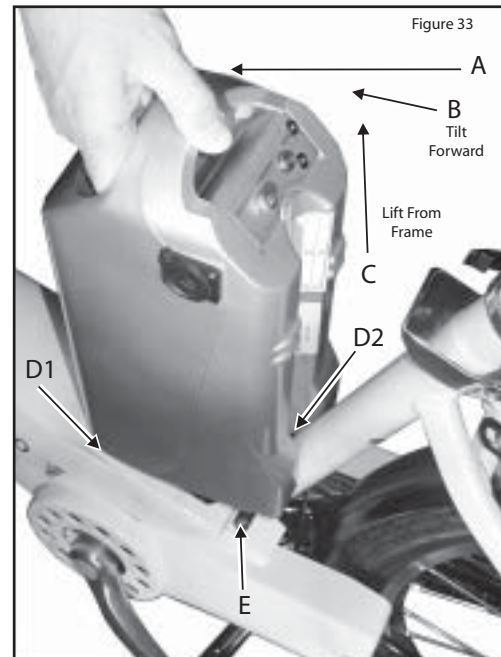
*The amount of time it takes for the lights to change varies considerably from one ride to the next due to: Rider weight, tire pressure, terrain, wind speed, wind direction, temperature, road surface, gears used, etc. It is advisable to return home before the third LED lights up. Keep track of the time it takes for you to complete various rides. After many rides you will have a better understanding of how the lights relate to battery run time.*

**6h. BATTERY PACK INSTALLATION AND REMOVAL**

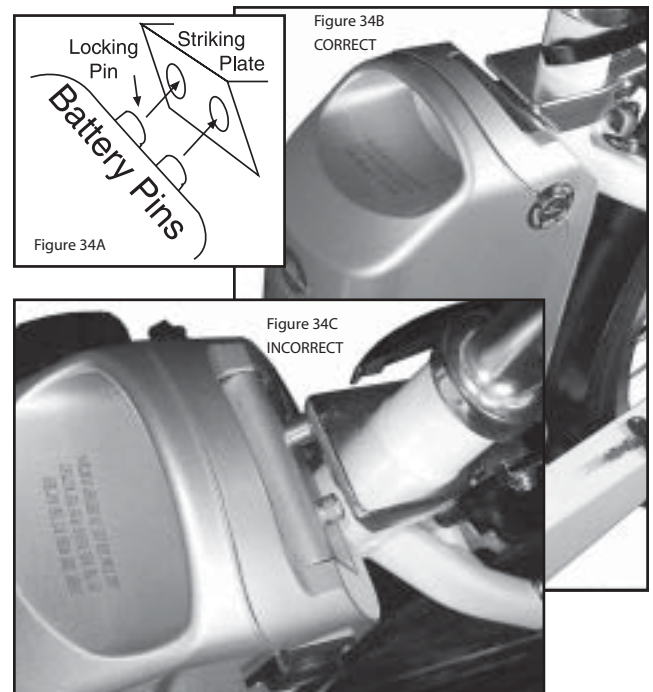
**⚠ Caution: The PowerCycle's™ electronic components will retain a small bit of energy, even when the battery has been removed. To avoid electric shock, turn the Battery Key Switch to the "ON" position to discharge any remaining energy that may be in the system, before you**

**attempt to remove the battery. You will hear an audible beep and the LED string will flash briefly to indicate discharge.**

**a. Removing the battery pack**



1. Stabilize the bike using its support stand.
2. Press the key into the battery pack, and turn the key counterclockwise to the "OPEN" position (figure 30, D).



3. Grasp the handle (figure 33, A), tilt the battery pack forward (figure 33, B) and lift it from the frame (figure 33, C).
4. Refer to Section 6c - 6e for charging instructions.
5. Refer to section 6i below for storage instructions.

#### **b. Installing the battery pack**

1. Be sure the key is turned to the "OPEN" position (figure 30, D).
2. Set the front edge of the battery pack on the frame (D1) and align the cutout (D2) with the seat tube.
3. Tilt the battery pack rearward until the contacts in the battery rest on the terminals (figure 33, E) in the frame.
4. Press down and lock the battery pack into place by turning the key clockwise to the "OFF" position. The locking pin should engage the striking plate (figure 34, A). You may need to wiggle the pack to get the locking pin to engage the striking plate. Lift up on the handle to be sure the battery pack is securely locked before riding the bike.

**⚠ WARNING: Study figure 34 to see the difference between correct (B) and incorrect (C) Battery Pack attachment.**

5. Press down on the outside edge of the black key cap to fold the cap against the battery pack (figure 32, A). This will prevent your leg from hitting the key while riding.

**⚠ WARNING: Before each ride you need to verify that the battery pack is securely attached to your bicycle. If the pack isn't properly attached it may fall off the bike causing injury and damage to the battery pack and bicycle**

#### **6i. BATTERY PACK STORAGE**

Before storing, charge the battery to its maximum capacity. The battery will discharge automatically and completely after two months. If you store the battery for longer than two months without charging, recharge to maximum capacity to continue storage, or before attempting to use the battery as a power source for MERIDA PowerCycle™.

**⚠ CAUTION: Leaving the battery in a discharged state may affect the long-term life of the battery. Always store your MERIDA PowerCycle™ battery fully charged, in the "OFF" position.**

**⚠ CAUTION: Store the battery in a cool, dry, level, secure area with good ventilation and away from any heat source. If storing your MERIDA PowerCycle™ with battery in place, turn Battery Key Switch to "OFF" position. Leaving Battery Key Switch in the "ON" position while stored or parked will result in more rapid battery discharge.**

#### **6j. TRANSPORTING YOUR BICYCLE**

When transporting your MERIDA PowerCycle™, it is best to remove the battery, as it is easier to lift and maneuver the bicycle. When transporting your bike it is best to cover the battery compartment to prevent dirt and other foreign matter from getting into the housing.

**⚠ WARNING: Keep the battery pack and charger away from water to prevent electrical shock and damage to the charger or batteries.**

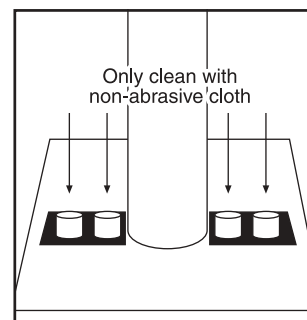
**⚠ CAUTION: Do not lay your MERIDA PowerCycle™ on its side, as doing so can cause damage to the control components, motor housing, pedals, crank arms, and wheels.**

#### **6k. BATTERY CARE and MAINTENANCE**

There are no user-serviceable parts in the battery. If you suspect a problem, take your MERIDA PowerCycle™, charger and battery to your MERIDA Dealer.

MERIDA PowerCycle's™ Lead Acid (LA) battery can be charged over 300 times and Nickel Metal Hydride (NiMH) can be charged over 500 times before the capacity drops below 80% of original (with good care according to the instructions in this manual).

Remove the battery pack before washing your PowerCycle™. Clean the PowerCycle™ with a mild soap and a sponge. DO NOT use a power hose or washer. Gently rinse with water. Avoid spraying water directly onto the battery level indicator, control switches, motor, and the front or rear hub bearings. Do not spray water directly at the battery junction (figure 33, E) on the frame. Dry the frame-mounted electrical terminals, with a non-abrasive cloth before reinstalling the battery pack. Use automotive wax to protect painted surfaces. Lubricate the chain periodically to help prevent corrosion and minimize wear.



**⚠ CAUTION: Please read the following general safety tips for care and maintenance of your MERIDA PowerCycle's™ battery pack:**

- Do not place battery into a fire or near intense heat source as it can explode and cause serious injury or death.
- When cleaning the battery pack's casing, use a dry cloth only. Do not use solvents or cleaning solutions of any kind.

- Do not attempt to open battery pack's case or charging unit. There are no user-serviceable parts in the battery or charger.
- Do not hammer or pound battery pack for any reason as it can cause it to explode, causing severe injury and death.
- Do not drop battery pack for any reason as it can cause it to explode, causing severe injury and death.
- Do not swing battery pack in such a manner that it could strike another object, as it can cause it to explode, causing severe injury and death.
- Inspect the battery pack periodically for cracks, unusual residue, or other abnormal appearance. Do not operate battery with cracks or breaks in the casing.
- Do not attempt to use battery as a power supply for anything other than your MERIDA PowerCycle™.

## 6I. BATTERY DISPOSAL

**DISPOSE OF PROPERLY. DO NOT DISASSEMBLE OR DISPOSE OF USED BATTERIES!** MERIDA PowerCycle's™ battery must be disposed of or recycled properly. Most states have recycling programs for Lead Acid and Nickel Metal Hydride batteries, and we encourage you to find one and use it. Your MERIDA Dealer is also equipped to dispose of the battery according to local and other laws. For additional information call EWI at 408.270.3724.

## 6m. BATTERY REPLACEMENT

Register and Save! Mail your warranty registration card to Electric Wheels, Inc. within 30 days from purchase date and qualify for a 10% discount on Merida battery pack replacements after the warranty period ends. When its time to replace your battery pack, please see your authorized Merida Dealer or contact EWI at 408-270-3724.

## 7. BICYCLE CARE AND MAINTENANCE

Your MERIDA PowerCycle™ will provide you with many years of enjoyment provided you study and follow the maintenance schedule. You can perform many of these operations yourself, but we recommend that you see your MERIDA dealer for the more technical "tune up" work. If you have questions about the following procedures please contact your MERIDA dealer for assistance.

### 7a. SERVICE INTERVALS

Some service and maintenance can and should be performed by the owner, and require no special tools or knowledge beyond what is presented in this manual.

The following are examples of the type of service you should perform yourself. A qualified bicycle mechanic, using the correct tools and procedures specified by the manufacturer, should perform all other service, maintenance and repair in a properly equipped facility.

1. Break-in Period: Your bike will last longer and work better if you break it in before riding it hard. Control cables and wheel spokes may stretch or "seat" when a new bike is first used and may require readjustment by your dealer. Your Mechanical Safety Check (Section 2d) will help you identify some things that need readjustment. But even if everything seems fine to you, it's best to take your bike back to the dealer for a checkup. Dealers typically suggest you bring the bike in for a 30-day checkup. Another way to judge when it's time for the first checkup is to bring the bike in after 10 to 15 hours of use. But if you think something is wrong with the bike, take it to your dealer before riding it again.
2. Before every ride: Mechanical Safety Check (Section 2d)
3. After every long or hard ride: if the bike has been exposed to water or grit, or at least every 100 miles: Clean the bike and lightly oil the chain. Wipe off excess oil. Lubrication is a function of climate. Talk to your dealer about the best lubricants and the recommended lubrication frequency for your area.
4. After every long or hard ride or after every 10 to 20 hours of riding:
  - Squeeze the front brake and rock the bike forward and back. Everything feel solid? If you feel a clunk with each forward or backward movement of the bike, you probably have a loose headset. Have your dealer check it.
  - Lift the front wheel off the ground and swing it from side to side. Feel smooth? If you feel any binding or roughness in the steering, you may have a tight headset. Have your dealer check it.
  - Grab one pedal and rock it toward and away from the centerline of the bike; then do the same with the other pedal. Anything feel loose? If so, have your dealer check it.
  - Take a look at the brake pads. Starting to look worn or not hitting the wheel rim squarely? Time to have the dealer adjust or replace them.
  - Carefully check the control cables and cable housings. Any rust? Kinks? Fraying? If so, have your dealer replace them.
  - Squeeze each adjoining pair of spokes on either side of each wheel between your thumb and index finger. Do they all feel about the same? If any feel loose, have your dealer check the wheel for tension and trueness.



- Check the frame, particularly in the area around all tube joints; the handlebars; the stem; and the seat post for any deep scratches, cracks or discoloration. These are signs of stress-caused fatigue and indicate that a part is at the end of its useful life and needs to be replaced.
- Check to make sure that all parts and accessories are still secure, and tighten any that are not.

**⚠ WARNING: Like any mechanical device, a bicycle and its components are subject to wear and stress. Different materials and mechanisms wear or fatigue from stress at different rates and have different life cycles. If a component's life cycle is exceeded, the component can suddenly and catastrophically fail, causing serious injury or death to the rider. Scratches, cracks, fraying and discoloration are signs of stress-caused fatigue and indicate that a part is at the end of its useful life and needs to be replaced. While the materials and workmanship of your bicycle or of individual components may be covered by a warranty for a specified period of time by the manufacturer, this is no guarantee that the product will last the term of the warranty. Product life is often related to the kind of riding you do and to the treatment to which you submit the bicycle. The bicycle's warranty is not meant to suggest that the bicycle cannot be broken or will last forever. It only means that the bicycle is covered subject to the terms of the warranty.**

5. As required: If either brake lever fails the Mechanical Safety Check (Section 2D), don't ride the bike. Have your dealer check the brakes. If the chain won't shift smoothly and quietly from gear to gear, the rearhub is out of adjustment. See your dealer.

6. Every 50 hours of riding: Take your bike to your dealer for a complete checkup.

This maintenance schedule is based on normal usage - several rides per week. If you ride your bike more often or in inclement weather, you will want to increase the frequency of the following procedures.

### 7b. IF YOUR BICYCLE SUSTAINS AN IMPACT

First, check yourself for injuries, and take care of them as best you can. Seek medical help if necessary. Next, check your bike for damage, and fix what you can so you can get home. Then, take your bicycle to your dealer for a thorough check.

**⚠ WARNING: A crash or other impact can put extraordinary stress on bicycle components, causing them to fatigue prematurely. Components suffering from stress fatigue can fail suddenly and catastrophically, causing loss of control, serious injury or death.**

### 7c. ELECTRICAL COMPONENTS

Your electric power assist system includes the: battery pack, battery level indicator, motor, controller and several sensors. Other than battery charging, there are no user-serviceable parts in the PowerCycle™. If you suspect a problem, take your MERIDA PowerCycle™ battery and charger to your Authorized MERIDA Dealer.

### 7d. CLEANING

Remove the battery pack before washing your PowerCycle™. Clean the PowerCycle™ with a mild soap and a sponge. DO NOT use a power hose or washer. Gently rinse with water. Avoid spraying water directly onto the battery

After Each Ride	✓	Charge battery
Before Each Ride	✓	Perform the mechanical safety check
Once a week	✓	Wipe dirt off your bike with a damp cloth
	✓	Check the tire pressure (60 – 65 psi)
	✓	Check for any loose nuts or bolts
Once a month	✓	Lubricate moving parts: cables, chain, rear brake, shift levers, derailleur, etc.
	✓	Check tires for wear and replace if needed
Every 3 Months	✓	Check for any loose nuts or bolts
	✓	Check wheels for alignment – bring to your MERIDA dealer if adjustment is required
	✓	Check brake pads for wear - bring to your MERIDA dealer if replacement is required
	✓	Clean bike and all moving parts
	✓	Lubricate moving parts: cables, chain, rear brake, shift levers, derailleur, etc.
	✓	Adjust gear shifter as needed
	✓	Check tires for wear and replace if needed
	✓	Clean and Wax Frame
Every Year	✓	Bring bike into MERIDA dealer for a major tune up.

level indicator, control switches, motor, and the front or rear hub bearings. Do not spray water directly at the battery junction on the frame. Dry the frame-mounted electrical terminals (figure 33E) with a non-abrasive cloth at the bat-

tery junction before reinstalling the battery pack. Use automotive wax to protect painted surfaces. Lubricate the chain periodically to help prevent corrosion and minimize wear.

## 8. IMPORTANT STUFF

### 8a. CONTACTING EWI

To contact Electric Wheels International please call 408.270.3724 or e-mail us at [info@electricwheelsintl.com](mailto:info@electricwheelsintl.com). Our office hours are Monday – Friday, 8:00a.m. – 5:30p.m. Pacific Standard Time. Our mailing address is:

Electric Wheels International  
2240 Quimby Road  
San Jose, CA 95122

### 8b. LIMITED WARRANTY

#### WHAT IS COVERED AND FOR HOW LONG?

MERIDA PowerCycle's™ represent the finest in design, engineering, and quality and are warranted to be free from manufacturing and material defects. All warranties are extended to the original owner from the date of purchase.

The Merida aluminum frame is warranted for five years. The bicycle components, including aluminum rims and spokes, are warranted for one year. The battery & charger carry a 90 day factory warranty, extended to 6 months by Electric Wheels International (EWI).

#### WHAT IS NOT COVERED?

This warranty does not cover any damage, failure, or loss due to:

- Normal wear and tear
- Accident, misuse, neglect, abuse, or improper installation
- Failure to follow instructions in the owner's manual

Electric Wheels Intl. (EWI), the exclusive U.S.A. distributor of MERIDA PowerCycle's™, will have sole discretion to determine whether the damage, failure, or loss is due to defect or otherwise.

#### WHAT WILL WE DO IF YOUR MERIDA PowerCycle™ FAILS?

We will, at our sole option and expense, repair or replace any defective Merida product subject to the stated warranty periods.

#### HOW DO YOU GET WARRANTY PERFORMANCE?

If your MERIDA PowerCycle™ is not working properly because of a defect, you may return it to the place of pur-

chase, or any authorized Merida retailer. You may direct your questions to an authorized Merida retailer, or Electric Wheels Intl. (EWI), at 408-270-3724.

#### DO YOU HAVE ANY OTHER REMEDIES?

No. THIS REMEDY IS THE SOLE AND EXCLUSIVE REMEDY AND IS IN LIEU OF ALL OTHER REMEDIES, INCLUDING CONSEQUENTIAL AND INCIDENTAL DAMAGES.

#### HOW DOES STATE LAW APPLY?

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights that may vary from state to state.

### 8c. WARRANTY REGISTRATION CARD

Please fill out your warranty registration card and return it to EWI within 30 days from the date of purchase:

Date mailed \_\_\_\_\_.

### 8d. RECORDING YOUR DATE OF PURCHASE

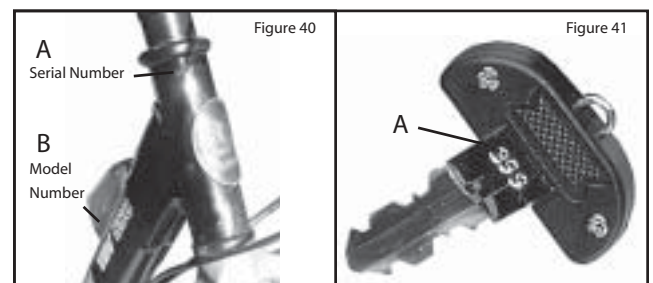
Record your date of purchase here:

Date of Purchase \_\_\_\_\_.

### 8e. RECORDING YOUR SERIAL & MODEL NUMBERS

The serial number (figure 40A) for your MERIDA PowerCycle™ is stamped into the bicycle's head-tube. Record your serial number here:

Serial Number \_\_\_\_\_.



The model number (figure 40B) 2-3 letters plus 3 numbers, is on the down-tube next to the Battery Level Indicator. Record your model number here:

Model Number \_\_\_\_\_.

These numbers are required for warranty and replacement parts purposes.

**8f. RECORDING YOUR KEY NUMBER** (figure 41 A)

Your Battery Pack Keys have numbers stamped into them. The number is on one side of the silver key just below the black plastic cap. Record your key number here:

Key Number \_\_\_\_\_.

If you should lose your keys or need a replacement you will need this number. Your bike has no other markings to identify your keys.

**8g. BATTERY REPLACEMENT**

When the time comes to replace your battery pack please see your Merida dealer or contact EWI. Mail your warranty registration card to EWI within 30 days from purchase date

and you qualify for a 10% discount on Merida battery replacements after the warranty period ends.

**8h. RECORDING YOUR DEALER INFORMATION**

You may need this information for future reference.

Dealer Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_

State \_\_\_\_\_ Zip: \_\_\_\_\_

Telephone: \_\_\_\_\_

Email: \_\_\_\_\_

Contact: \_\_\_\_\_

**8 i. SPECIFICATIONS**

Feature	500	550	550 LTD	Benefit
Tig-welded Aluminum Frame	X	X	X	Light, Rust Proof, Durable
SR Suntour Suspension Fork			X	Added Comfort & Control
Lead Acid Battery (18.75 lbs.)	X	X	X	Good Range, Low Replacement Cost
NiMH Battery (10.25 lbs.)	X	X	X	Lighter, Longer Range, Quicker Recharge
DC24-volt 400 Watt Peak Output Motor	X	X	X	Direct Drive, Good Climbing Power
Charger (115/230 volt) off-board	X	X	X	Transportable, Works everywhere you go
Alex Alloy Rims with Stainless Spokes	X	X	X	Rust Proof, Sturdy, Light
Aluminum Adjustable Bar/Stem	X	X	X	Allows Custom Fit for maximum comfort
Shimano Nexus 4 Speed Hub/Shifter	X	X	X	No Exposed Gears, Smooth, Precision Shifting
Kalloy Suspension Seatpost	X	X	X	Added Shock Absorption - Adjustable
Comfort Spring Saddle	X	X	X	Ride Longer, Smooths Out the Bumps
Front/Rear Generator Lights	X	X	X	No Batteries Required
Two Foot Kickstand	X	X	X	Sturdy and Stable
Rear Rack / Full Fenders	X	X	X	Carry Cargo and Keep Clean
Front Basket (2.5 lbs.)	X	X		Great for running errands
Quick Release Seatpost Clamp	X	X	X	Allows fast, easy seat height adjustment
All Weather Tires 26" x 1.50"	X	X	X	Durable, Comfortable, Low Rolling Resistance
Tektro Direct Pull Brake, Front				
Shimano Roller Brake, Rear	X	X	X	Quality Brakes from top brands
Weight (without battery & basket)	47 lbs	47 lbs	49 lbs	Not bad for a bike with a motor!
Approximate Range Lead Acid	19 miles	19 miles	19 miles	Range Exceeds Most Electric Bicycles
Approximate Range NiMH	24 miles	24 miles	24 miles	Range Exceeds Most Electric Bicycles
Top Speed (Assisted)	15 mph	15 mph	15 mph	Automatically Delivers Power When You Need It
Approximate Charge Time - LA	4/10 hours	4/10 hours	4/10 hours	1st number 90% charge. 2nd number 100%
Approximate Charge Time - NiMH	2.5/7 hours	2.5/7 hours	2.5/7 hours	1st number 90% charge. 2nd number 100%
Maximum Load	240 lbs	240 lbs	240 lbs	Strength you can rely on
Tire inflation pressure	40-65 psi	40-65 psi	40-65 psi	Best performance @ 60 - 65 psi







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