

OPTIBIKE

High Performance Electric Bikes



OWNER'S MANUAL

V4.0



Opti-Bike, LLC.

U.S. PATENTS #6,296,072 #6,629,574

About the Manual

This is the owner's manual for your Optibike. Please read the entire manual carefully before riding your Optibike in order to ensure maximum safety and performance.

Opti-Bike, LLC. assumes no liability for any injury resulting from failure to read and comply with the information within this manual. The information and instructions within this manual are meant to be used as guidelines for safe operation. It is important to know and follow all the rules and laws pertaining to safety and transportation in your area.

Herein, Opti-Bike, LLC. will be referred to as Optibike.

For any immediate concerns, please do not hesitate to contact Optibike service personnel.

Contact Optibike

e-mail: Service@Optibike.com
phone: 303.443.0932

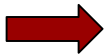



You can also find the Opticare
Service portal on Optibike.com

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IMPORTANT SYMBOLS AND TERMS

This manual provides many important instructions, as well as some specific operating precautions. The following symbols will help you navigate the manual:

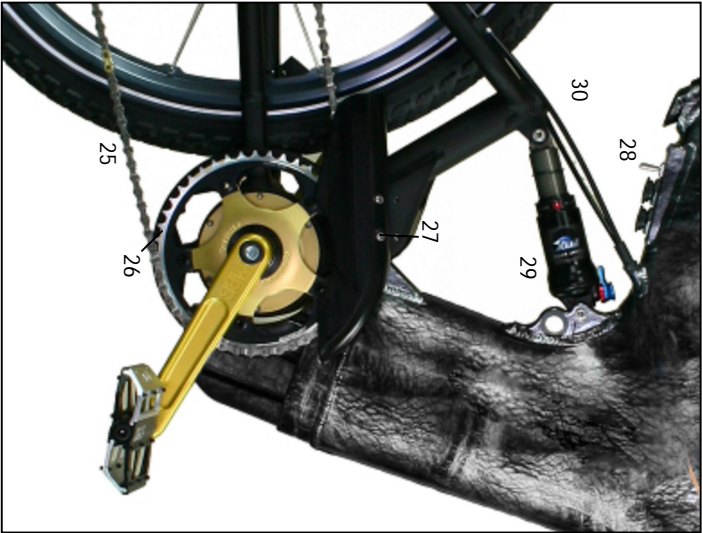
Symbol	Meaning
	Important: This symbol denotes a crucial detail to the specified task. Take extra time to read this point and follow it closely.
	Warning/Caution: This symbol denotes a potentially hazardous situation, which could lead to personal injury or bike malfunction. Be sure to heed and follow these instructions.
	Note: This symbol denotes additional useful information or text pertaining to the page in which it is contained.
	Tools: Look for this symbol to find a list of tools required for a specific task.

**KEY**

1. Motorized Bottom Bracket (MBB)
2. Monocoque Aluminum Frame
3. Front Fork Suspension
4. Front Fender
5. Front Wheel
6. Stem
7. Headset
8. Bicycle Computer
9. Rear Shock Suspension
10. Rear Fender
11. Rear Wheel
12. Derailleur
13. Triangular Swingarm
14. Crank Arm
15. Pedal
16. Headlight Body and Control Switches
17. Handlebars
18. Seat
19. Seat Post
20. Disc Brake

OPTIBIKE COMPONENTS

OPTIBIKE COMPONENTS



KEY

- 21. Brake Rotor
- 22. Brake Calipers
- 23. Front Brake Cable
- 24. Front Fork Suspension
- 25. Chain
- 26. Chain-ring
- 27. Chain Guard
- 28. Charge Port, External Battery Port, and Main Power Switch
- 29. Lock Port
- 30. Rear Shift and Brake Cables



1. INITIAL ASSEMBLY

After unpacking your Optibike according to the instructions packaged with your bike, you must complete the initial assembly process as illustrated in the following pages.



If, at any time, you feel the initial assembly is beyond your experience level or you are uncomfortable with assembling your Optibike, you should take the Optibike to a local bicycle shop. A trained bicycle mechanic will be able to complete the initial assembly process. This service is not included with the purchase of your Optibike.

1.1 INITIAL BIKE INSPECTION

Visually inspect your Optibike for signs of damage. The most obvious forms of damage will be scratches or dents to the frame or other components. If you find damage, contact Optibike service personnel immediately and DO NOT proceed with assembly.

Contact Optibike

e-mail: Service@Optibike.com
phone: 303.443.0932

You can also find the Opticare Service portal on [Optibike.com](https://www.optibike.com)

For increased safety and ease, it is recommended that two people perform initial assembly.

1.2 ROTATING STEM AND HANDLEBARS



Tools: bicycle multi-tool and/or torque wrench.

STEP 1:

Loosen the bolts on the side of the handlebar stem.



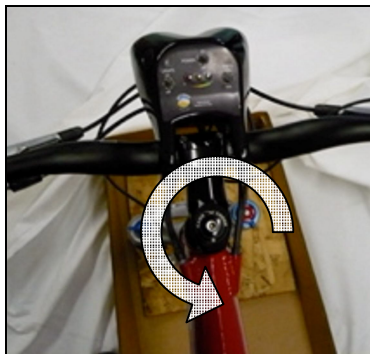
STEP 2:

Loosen bolt on top of stem.



STEP 3:

Rotate stem to proper position: handlebars should be parallel to the top of the front fork.



STEP 4:

Tighten bolt lightly on top of the stem (see step 2) until headset can move freely without excessive play.

STEP 5:

Tighten bolts on the side of the stem (see step 1). Torque setting: 35-55 in-lbs; this value can be found on most bike stems.

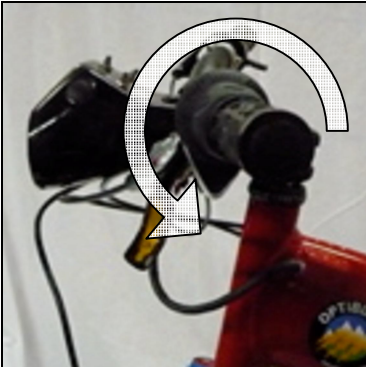
Rotate headlight body downward so that the headlights are aimed forward with a slight downward angle.

STEP 6:

Loosen four bolts on front of handlebar stem. Do not remove these bolts.


**STEP 7:**

Rotate handlebars within stem to a comfortable riding position.

**STEP 8:**

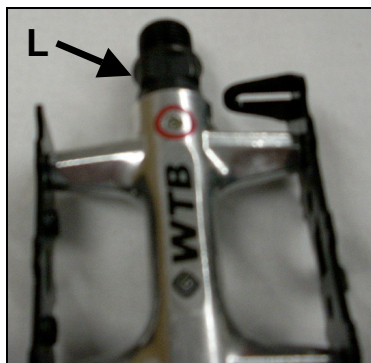
Tighten four bolts on the front of the stem. Using a criss-cross pattern, rotate each bolt a few turns at a time until all are tightened to 35 in-lbs. Rotate headlight body back to proper position.

1.3 ATTACHING PEDALS

 Tools: 15mm wrench, bicycle multi-tool and/or torque wrench.

STEP 1:

Determine the left pedal; it is engraved with an **L** on the axle.



STEP 3:

Tighten pedal using 15mm wrench.
Torque setting: 307 in-lbs.



STEP 2:

Screw left pedal onto left crank-arm by hand.



Axle is reverse-threaded: tighten counterclockwise.

STEP 4:

Repeat steps 1-3 with the right pedal. The right pedal has conventional threads: *tighten the right pedal clockwise.*



1.4 ATTACHING SEAT POST

🔧 Tools: Ruler, bicycle multi-tool and/or torque wrench.

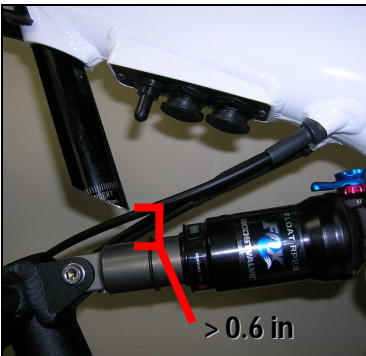
STEP 1:

Insert seat post into bike frame.



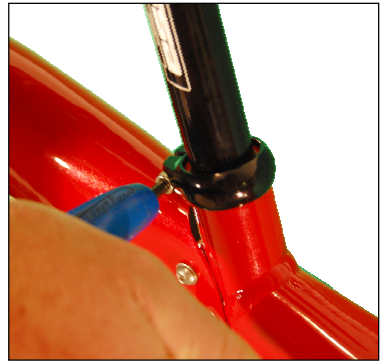
STEP 2:

Adjust seat to appropriate height. The bottom of the seat post should be greater than 0.6 inches (1.5cm) above the rear shock.



STEP 3:

Firmly tighten the seat clamp bolt. Minimal torque is required to prevent seat post from slipping.



1.5 ATTACHING FRONT WHEEL

 Tools: Sturdy scissors, safety goggles

STEP 1:



*Wear safety goggles.
This step is safer
with two people.*

One person should maintain weight on the front handlebars so as to slightly depress the front suspension. The other cuts the large cable-tie on the front fork. To prevent injury, place hand over the cable-tie as shown.




STEP 2:

Remove red spacer from the front brake caliper—it is positioned between the brake pads. Also remove the front skewer from its packaging.



STEP 3:

 *If your front fork has a 20mm axle, please skip to step 7. See the included fork manual for more information.* Insert skewer through the front axle as shown. One spring goes on each side of the axle with the smaller end inwards. The quick-release lever should be on the brake side of the wheel.



STEP 4:

Loosen quick release and lift bike off of the mount. Support the bike to prevent it from falling.

**STEP 5:**

Keep the fork raised off the ground and install the front wheel. The rotor must be on the left side of the bike and should slide cleanly into the caliper and between the break pads as shown.

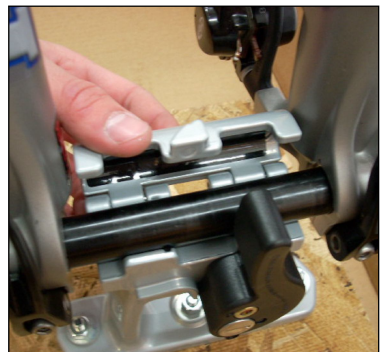
**STEP 6:**

The axle should sit in the fork mounts. Tighten the nut on the skewer so that the quick-release lever is tight when fully clamped. The lever should point up or back when secured. *Skip steps 7-10.*

**STEP 7:**

Steps 7-9 are for bikes with 20mm front axles.

Release the latch and open the fork mount as shown. Lift the bike off the mount. Support the bike to prevent it from falling.



STEP 8:

Unclamp the quick-releases on the bottom of the fork, unscrew the axle and slide the axle out of the fork.



STEP 9:

Place the wheel into the fork and ensure that the brake rotor slides cleanly into the front caliper—see *step 5*.


From the right side of bike, slide the axle through the fork, wheel, and then the brake-side of the fork.



Screw the axle into the fork and hand-tighten. Close both quick-releases so that they touch the fork.



1.6 ATTACHING REAR FENDER

 Tools: Bicycle multi-tool and/or torque wrench.

STEP 1:

Remove the four bolts and washers from the fender mounts below the seat post clamp.



STEP 2:

Place rear fender on back of the seat tube as shown. Align the four boltholes as closely as possible.



STEP 3:

Place the four bolts with washers through the mounting holes in the fender and hand-tighten into the frame.

STEP 4:

Using included multi-tool, tighten each bolt a few turns until all four are equally tight.

☒ While tightening the bolts, hold the fender straight and directly over the rear wheel. This will ensure proper alignment.



Do not over-tighten the fender bolts. The fender may break or crack under excessive force.



2. BEFORE YOU RIDE

To ensure a safe and comfortable ride on the Optibike, the rider must maintain a proper riding position. This includes setting the correct saddle height, handle bar reach and height, and maintaining proper physical stance on the bike.

2.1 FITTING YOUR OPTIBIKE

Saddle Height:

The seat height on the Optibike must be set to the correct length or damage to bike and components may occur. A correct saddle height also ensures a comfortable ride and prevents physical strain on the knees. The correct height of the saddle is set in relation to the length of the rider's leg.

To set the correct height, the rider should sit on bike while in a fixed position, using a stand. Rotate the pedals until one pedal is at the absolute bottom of the rotation. With the one pedal at this position and the ball of the foot on the pedal, the corresponding leg should have a slight bend at the knee (5%) for the optimal saddle height. If the leg is over-extended and there is no bend in the knee, the saddle must be lowered until there is a slight bend at the knee. If the bend at the knee is

greater than 5%, the seat must be raised until there is a slight bend at the knee.

An incorrect saddle height can cause damage to the Optibike and injury to the rider. If the saddle is set too high, the rider's hips will rock back and forth over the seat, causing physical strain. If the saddle is set too low, the rider's knees will be put under physical strain due to constant over bending.



IMPORTANT:

If the saddle is incorrectly set too high above the minimum insertion mark, there is a chance the seat post will crack and fail. This may cause the rider to crash and fall, possibly causing injury and damage to the Optibike. If the saddle is incorrectly set too low, damage may occur to the Optibike (see section 1.4). The rider must ensure that

when the rear suspension is totally compressed, the edge of the seat post does not make contact with the rear shock. If the seat post makes contact with the shock, the rear shock may be damaged during riding.

Handlebar Reach:

Setting the correct handlebar reach is imperative to the comfort of the rider and proper safety. The correct handlebar reach should be set in relation to the length of the rider's arms. In the optimal riding position, the rider must maintain a slight bend in the elbows. This position ensures that vibrations or bumps while riding are dissipated in the arms.

To set the handle bar reach, the saddle can be moved forward or backward on the support rails. Set the horizontal position of the saddle where the rider maintains a slight bend in the elbows while gripping the handlebars.

If adjusting the horizontal position of the saddle does not allow for the optimal riding position, a new stem of a different length may be

needed. A local bike shop will carry the correct size stem.



IMPORTANT: The horizontal position of the saddle must not deviate from the manufacturer's recommended adjustment area. If saddle is not situated in the recommended area, the seat rails may fail causing the rider to crash, possibly resulting in injury to the rider and damage to the bicycle.

Handlebar Height:

All Optibike models are fitted with threadless headsets, which do not allow for the height of the handlebars to be adjusted. If the height of the handlebars must be adjusted, a new stem of a different rising length may be needed. A local bike shop will carry the correct sized stem.

The height of the handlebars should be set where the rider is most comfortable. Too high or too low of handlebar height may cause physical strain on the back.

2.2 SAFETY CHECKLIST



It is imperative that the rider performs the following safety checklist before each ride. This safety checklist will ensure that the Optibike is safe to ride. If the Optibike fails any of the safety inspections listed below, DO NOT RIDE the bike. Take the bike to a local bicycle shop for professional inspection.

WHEELS & TIRES:

Ensure tires are inflated to the recommended air pressure as displayed on the tire sidewall. Ensure tires have tread and that there is no excessive wear or bulges in the tire. Ensure rims are true and have no dents, serious wobbles, or cracks. Ensure all spokes are evenly tight and not broken. Check that quick release levers are in the correct locked position and are tight.

BRAKES:

Ensure front and rear brakes work properly. Check the brake pads; pads should not be overly worn and must be correctly positioned inside the brake caliper. Ensure that the brake hose lines are not crimped or cut. Make certain that the brake levers are securely fastened to the handlebar. See the included

manufacturer's manual for additional information.

STEERING:

Ensure handlebar, stem, and headset are correctly adjusted and tightened. The handlebar and stem must be correctly in-line with the fork and front wheel. If the Optibike is fitted with handlebar ends, ensure they are in the proper position and are tightened.

CHAIN:

Ensure the chain is clean and properly oiled. Make sure that the chain runs smoothly without jumping off of the chain ring or cogs. Check that the chain is not bent or broken in any area.

BEARINGS:

Ensure all bearings are properly lubricated. The bearings should run freely and have no excess play, grinding

or rattling. Check all bearings including those in the headset, wheels, and pedals.

CRANK ARMS & PEDALS:

Ensure pedals are properly and securely tightened to the crank arms. Crank arm bolts must be securely tightened to specified torque (see section 4.1). Check that crank arms are not bent or damaged.

DERAILLEUR:

Ensure that rear derailleur is properly adjusted and the grip shift is securely attached to the handlebars. The derailleur, grip shift, cables, and casings must be properly lubricated.

FRAME & FORK:

Ensure that the frame and fork are not bent or broken.

ACCESSORIES:

Ensure all accessories are securely fastened to the bike. Be certain that the rider knows how to operate accessories. Do not operate accessories unless the bike is at a complete stop.

HELMET:

It is strongly recommended that an ANSI or SNELL approved bicycle helmet be worn at all times when riding

an Optibike. Ensure the helmet is fitted properly to the rider and that the helmet is securely fastened.

REFLECTORS:

Check that front, rear, and wheel reflectors are mounted securely on the Optibike before riding.

3. OPERATING YOUR OPTIBIKE

Due to its greater speed and weight than a conventional bicycle, the Optibike requires extra care and attention from the rider. Because the Optibike looks like a conventional bicycle, cars and pedestrians may misjudge your speed, leading to accidents. Pay attention and ride defensively.



Wear a helmet at all times!

- ✓ *Laws concerning electric bicycles vary by city, state and country. It is your responsibility to determine the electric bicycle laws for the areas in which your bike is operated. Optibike assumes no liability for use of your bike in violation of local laws.*

3.1 RIDING SAFELY

GENERAL RULES:

When riding, obey the same road laws as all other road vehicles, including giving way to pedestrians and stopping at red lights and stop signs.

For further information, contact the road or traffic authority in your area.

Ride your Optibike predictably and in a straight line. Never ride against traffic.

Use correct hand signals to indicate turning or stopping.

Ride defensively. To other road users, you may be hard to see.

Concentrate on the path ahead. Avoid potholes, gravel, wet road markings, oil, curbs, speed-bumps, drainage grates and other obstacles.

Cross train tracks at a 90-degree angle or walk your bicycle across.

Expect the unexpected, such as opening car doors or cars

backing out of concealed driveways.

Be extra careful at intersections and when preparing to pass other vehicles.

Familiarize yourself with all of the Optibike's features. Practice shifting gears, braking, and the use of toe clips and straps (if equipped) before powering the bike.

If you are wearing loose pants, use leg clips or elastic bands to prevent them from being caught in the chain. Wear proper riding attire and avoid open toe shoes.

Do not carry packages that will interfere with your visibility or control of the

bicycle. Do not use items that may restrict your hearing. Never ride with more than one person on the Optibike.

Do not lock up the brakes. When braking, always apply the rear brake first, followed by the front. The front brake is more powerful and if it is not correctly applied, you may lose control and fall.

Maintain a comfortable stopping distance from all other riders, vehicles and objects.

Safe braking distances and forces are subject to the prevailing weather conditions.

3.2 OPERATING CONDITIONS

WET-WEATHER RIDING:



Riding in inclement weather is not recommended.

In wet weather, you need to take extra care:

- Brake earlier; the Optibike will take a longer distance to stop.
- Decrease your riding speed, avoid sudden braking and

take corners with additional caution.

- Be more visible on the road; wear reflective clothing and use safety lights.
- Pot holes and slippery surfaces such as line markings and train tracks all become more hazardous when wet.

NIGHT RIDING:

Riding at night is not recommended.

At night, extra care must be taken while riding:

- Ensure the bike is equipped with a full set of correctly positioned and clean reflectors/lights.

- Use a properly functioning lighting set comprising of a

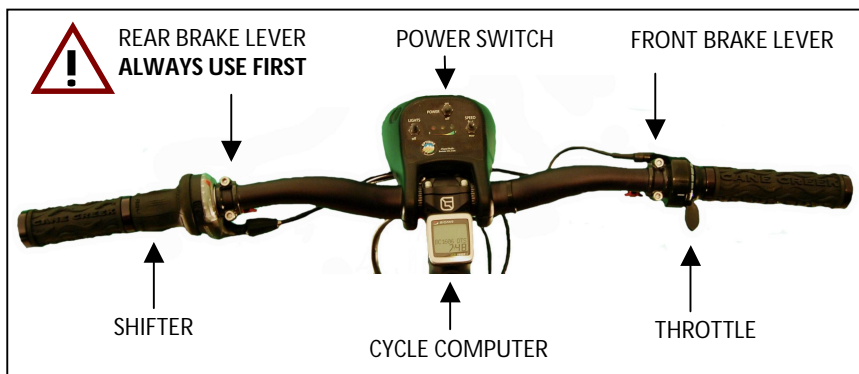
white front lamp and a red rear lamp. Both come standard on the Optibike.

- If using battery-powered lights, make sure batteries are well charged.

- Wear reflective and light colored clothing.

- Ride at night only if necessary.

3.3 PROPER OPTI-BIKING TECHNIQUE



PEDALING TECHNIQUE:

Position the ball of your foot on the center of the pedal. When pedaling, ensure your legs are parallel to the bicycle frame. To absorb shock, keep your elbows slightly bent. Your Optibike may be pedaled as a normal bike and without assistance from the motor. Because the Optibike is heavier and balanced

differently than your ordinary bicycle, it is recommended that the user become acquainted with manual operation before using the motor assistance.

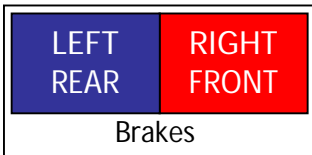
BRAKING:

Your Optibike is equipped with a front and rear brake, which are mounted in typical motocross fashion.



The brake lever on the **RIGHT** side of the handlebars operates the **FRONT** brake, while the brake lever on the **LEFT** operates the **REAR** brake. This is opposite of the brake set up on regular bicycles.

Remember:



SHIFTING GEARS

Optibikes are equipped with either a nine speed rear cassettes or internally geared hubs. There are a few differences between shifting with the rear cassette and the internal transmission hub.

Hand-grip shifter operation:

The shifting mechanism is operated by twisting the body of the shifter, which is located on the left side of the handlebars. A lower indicated gear decreases the gear ratio and makes it easier to pedal.

With a rear cassette:

To shift with the rear derailleur and cassette system, one must twist the grip shift on the left side of

the handlebars to the desired gear WHILE PEDALING with slight pressure. It is not possible to shift the derailleur when the bike is stopped or when pedaling backwards. When approaching an incline, shift to a lower gear before the cadence slows down significantly. When coming to a stop, shift to a lower gear before stopping, as it will be easier to pedal when starting again.

ALWAYS be sure to complete changing gears prior to applying full acceleration with the throttle.



If rubbing noises are heard from the gears, shifter adjustment might be necessary. See the included derailleur manual for further information. If you are not familiar with bicycle maintenance, see a local bike shop before attempting any adjustments

With an internally geared hub:

To shift with an internal-gear hub, one must twist the grip shifter on the left side of the handle bars to the desired gear WHILE THERE IS NO PRESSURE ON THE CHAIN. Neither the motor should be

running nor should the rider be pedaling while shifting the gears in such a hub. When approaching an incline, shift to a lower gear before the cadence slows down significantly. When at a stop, shift to a lower gear as it will be easier to pedal when starting off.

CLIMBING TECHNIQUE:

Gear down before a climb and continue gearing down as required to maintain pedaling speed. If you reach the lowest gear and require more force, stand up on your pedals. You will then obtain more power from each pedal revolution.

On the descent, use the high gears to avoid rapid pedaling.

Do not exceed a comfortable speed.

Maintain control and take additional care.

CORNERING TECHNIQUE:

-Brake slightly before cornering and prepare to lean your body into the corner. Maintain the inside pedal at the 12 o'clock position and slightly point the inside knee in the direction you are turning. Keep the other leg straight. Do not pedal through fast or tight corners.


3.4 POWERING YOUR OPTIBIKE

Optibike recommends that you become well acquainted with pedaling and operating your bike without motor assistance prior to using the full electric capabilities of your bike.

TURNING ON THE BIKE

Your Optibike has both a main power switch above the rear shock and a secondary power switch on the headlight body (see pages 5 and 6). To power the bike from the internal battery, the battery must be charged and the main power switch must be pushed forward towards the front of

the bike. The secondary power switch must also be in the ON position.

 *Do not hold the throttle while turning on your Optibike.*

THROTTLE OPERATION

The throttle is located on the right side of the handlebars.

The throttle engages the motor. The more the throttle is engaged, the more power is given to the motor. Before engaging the throttle and the motor, ensure the path of the Optibike is clear and not blocked. Optibikes are equipped with either a twist throttle or a thumb throttle. To activate the twist throttle, the rider must turn the body of the throttle. To activate the thumb throttle, the rider must use one's thumb to depress the throttle lever.

✓ *If the throttle is depressed as the bike is turned on, the headlight body will flash a safety code. As a safety mechanism, the bike will not function in this state. Release the throttle and the bike will return to its normal operating mode.*

MOTOR OPERATION

Depressing the throttle controls the speed of the motor and the amount of assistance the user receives. If you ride at a cadence of less than 70 pedal rotations per minute (rpm), the motor will be less efficient and will dissipate more power as heat. Optibike recommends that you maintain a cadence within the specified range of 70-100rpm.

DERIVATIVE POWER CONTROL (DPC™)

When accelerating from a stop and when shifting, the Derivative Power Control (DPC™) will boost your bike's power momentarily. This allows your Optibike to accelerate faster than ordinary electric bikes without sacrificing riding distance.

3.5 OPTIBIKE BATTERY AND CHARGING

THE BATTERY

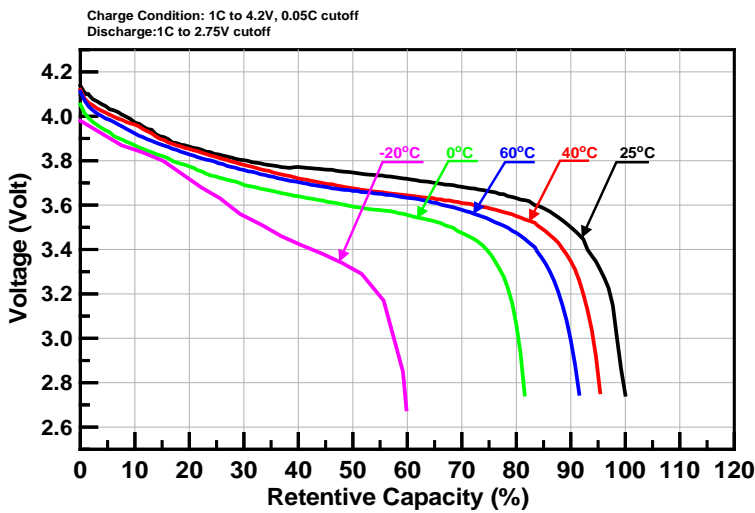
Your bike is equipped with some of the most advanced battery technology and software available. To extend the life of the battery and maintain its capacity, follow these guidelines:

- Do not store your bike in temperatures below -17°C (0°F) or above 27°C (80°F). Prolonged storage outside this temperature range may cause permanent damage to the battery

OPERATING YOUR OPTIBIKE

- Keep bike warm and indoors prior to riding for peak performance.
- Do NOT charge the battery if it is below 0°F (32°F) or above 450°C (113°F). This will cause permanent damage.
- Expect decreased capacity and range at lower operating temperatures; maximum capacity will be 80% of normal at temperatures near 0°C (32°F). See the table below for further information.

Battery Capacity Decreases at Colder Temperatures



This table illustrates the voltage vs. % charge for lithium batteries at various temperatures. Not that at freezing (0°C), the battery voltage will drop off by 80% of it's normal capacity.

CHARGING YOUR BATTERY

STEP 1

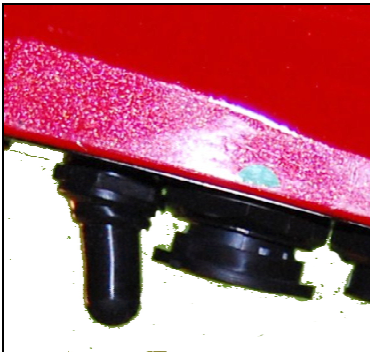
The charger can be set to operate with an input of 115 or 230 volts. Set the charger to the correct voltage by moving the inset switch on the side of the charger.

STEP 2

Place the bike and charger in a warm dry and safe setting. Ambient temperature should be in the range of 0°C to 45°C (32°F to 113°F). Be sure to position the bike so that it is well secured and will not fall.

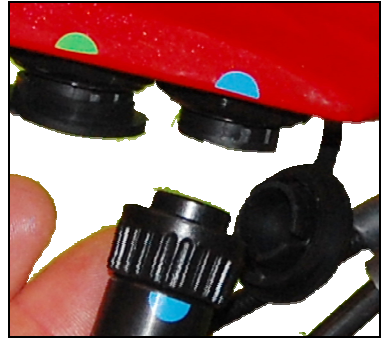
STEP 3

Make sure that the main power switch is pushed forward as shown.



STEP 4

Align the small charger connector with the bike's charger port and insert charger connector.



STEP 5

Plug the charger into the wall outlet and turn the charger on.

STEP 6

Turn the headlight body power switch to the ON position.

STEP 7

The red LEDs on the charger should glow, indicating that it is on and functional. This charger LED will glow yellow to indicate charging and green to indicate completion of a charge cycle.

The display LEDs on the headlight body should cycle from left to right, indicating a charge in process. If a charge is not initiated and the bike is cool, turn off the charger and wait 15 seconds; turn charger on. LEDs will stop cycling when charging is complete.

3.6 OPTIBIKE OPERATING MODES

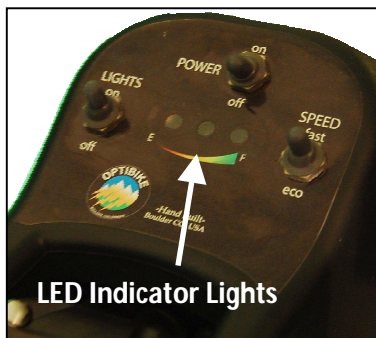
NORMAL MODE

For normal operation, the bike must be turned on both at the main power switch and at the headlight body. The main power switch should be pushed forward as shown on the previous page. The headlight body POWER switch should be in the ON position.

While biking, the three LEDs on the headlight body will indicate how much battery charge remains. See the LED Charge Indicator Table for further details.

HEADLIGHTS

When the bike is on, the LIGHTS switch will turn the headlights on and off. The efficient halogen bulbs consume 20 watts, or less than 3% of the total bike's output power. Using the headlights for an entire ride will reduce runtime by about 2½ minutes.



ECONOMY MODE






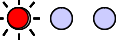



For maximum runtime, the SPEED switch may be set to ECO. The Optibike's economy mode limits the output power to approximately 300 watts and can extend runtime to 2½ hours.

SAFE MODE

When the bike's charge level drops below 15%, the bike will automatically enter safe mode. Safe mode is similar to economy mode and allows the user to travel farther on the little remaining charge.

SLEEP MODE

If your bike is turned on but the throttle is not in use for an extended period of time, the bike will automatically enter sleep mode. The LEDs will not light and the bike will appear to be off. To exit sleep mode, toggle the POWER switch.

LED Charge Indicator Table				
Charge Level		LED		
		Red	Yellow	Green
85%-100%		On	On	On
70-85%		On	On	Flashing
55-70%		On	On	Off
40-55%		On	Flashing	Off
15-40%		On	Off	Off
Safe Mode		Flashing	Off	Off
Bike Empty		Fast Flashing	Off	Off
<div>KEY:  Flashing  Fast Flashing</div>				

SAFETY CODES

The Optibike has a number of built-in safety measures to protect it from misuse or possibly damaging conditions. The LEDs on the headlight body will indicate these safety codes if such conditions arise.

Possible conditions include high motor temperature and low or high battery temperature.

The Optibike motor and battery may overheat after prolonged climbing without assistive pedaling from the rider. Extremely hot weather may also predispose the components to overheating. To remedy these conditions, release the throttle and allow



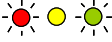
the bike to cool until the safety codes are no longer displayed.

In the case of low battery temperature, the bike has likely been improperly stored. Your bike should be stored in a warm dry place and not in

below-freezing temperatures for an extended period of time.

In the case of a throttle error, ensure that the throttle is released. This code indicates that the throttle has been activated while the bike was turned on.

See the LED Safety Codes table for further details.

LED Error Codes				
When displaying safety codes, all three LEDs flash quickly several times, followed by a solid glow. The solid LED indicates the bike's condition. This sequence will repeat until the condition is remedied.				
		LED		
		Red	Yellow	Green
High Motor Temp		On	Off	Off
High Battery Temp		On	On	Off
Throttle Error		Flashing	On	Flashing


4. MAINTENANCE

Your Optibike is equipped with some of the highest quality components on the market today. Proper maintenance will extend the life of these components and ensure that your bike is operating at maximum performance.

4.1 TORQUE SPECIFICATIONS:

Below are important torque settings for fasteners found throughout your Optibike.


All figures are given in inch-pounds.

 *Contact the relevant manufacturer for the most up to date specifications.*

Stem handlebar binder (4 bolts):	35-50
Seat rail binder:	174-347
Seat post binder:	Note: Seat posts require only minimal tightening to not slip downward. Avoid over-tightening.
Pedal into crank:	307, minimum
Crank bolt:	305-391
Chainring bolt –steel:	70-95
Chainring bolt- aluminum:	44-88
Shift lever- “twist grip” type:	17
Rear derailleur mounting bolt:	70-85
Rear derailleur cable cinch bolt:	35-45
Quick release at wheel:	Measured torque not typically used. Common industry practice is resistance at lever half-way through swing from open to fully closed.
Cassette sprocket lockring:	310-350
Disc rotor to hub:	55
Caliper mount:	80-90
Bottom Bracket Bolts	50


4.1 SCHEDULED MAINTENANCE

LUBRICATION SCHEDULE:

 Tools: chain lubricant, specifically for bike chains.

The chain should be lubricated with oil every month at the least, or after use in wet, muddy, or dusty conditions. After lubrication, wipe off excess oil. Ensure that any oil spatter is immediately removed. Be sure to lubricate all moving pivots and parts on the rear derailleur when the chain is lubricated—use bike oil.

SERVICE SCHEDULE:

 Tools: Allen wrench tool set, 15mm pedal wrench, 8mm-15mm hex wrenches, standard flat head and Phillips screwdrivers, pliers, tire pump.

FREQUENCY	PART	ACTION
Before every ride	Chain	Ensure chain is properly lubricated
	Tires	Check inflation and ensure tires are at correct pressure
Weekly	Chain	Check for wear
	Rear cassette (not applicable to all bikes)	Check for wear
Semimonthly	Chain-ring	Check for wear
	Shocks, front and rear	Ensure shocks are at correct pressure for rider
Monthly	Brakes	Ensure brakes are properly adjusted—see included manufacturer’s manual for additional information
	Brake pads	Check for wear
	Tires	Check for wear and correct inflation pressure
	Derailleur	Check adjustment—see included manufacturer’s manual for additional information

FREQUENCY	PART	ACTION
Monthly	Bearings	Ensure hub and headset bearings move freely and are properly adjusted.
	Handlebars	Ensure handlebars are tight
	Seat & seat post	Ensure parts are tight and will not move during operation
	Pedals	Ensure that pedals are tight
	ALL nuts & bolts	Ensure all nuts and bolts are tightened to correct torque specifications
Yearly	ENTIRE OPTIBIKE	The entire bike should be professionally tuned and inspected—your local bike shop can provide this service
Mfrgr. Dependent	Brakes	See manufacturer's additional recommended service schedule in provided manual
	Shocks	See manufacturer's additional recommended service schedule in provided manual
	Internally geared rear hub (not applicable to all bikes)	See manufacturer's additional recommended service schedule in provided manual

4.2 STORAGE

Keep your bicycle in a warm dry location away from wet weather conditions and the sun. Ultraviolet rays may cause paint to fade or rubber and plastic parts to crack. Before storing your bicycle for a long period of time, clean and lubricate all components and clean the frame. Deflate the tires to half pressure and

hang the bicycle off the ground if possible. Please notice that your bicycle warranty does not cover paint damage, rust, corrosion, dry rot or theft. Do not store the bike in conditions below -17°C (0°F) or above 27°C (80°F); this will shorten the life of the battery.

4.3 SECURITY

Optibike advises that the following steps be taken to prepare for and help prevent possible theft:

1. Maintain a record of the bicycle's serial number, located on the frame just above the bottom bracket.
2. Register the bicycle with the local police department.
3. Invest in a high quality bicycle lock that will resist

hack-saws and bolt cutters. Always lock your bicycle to an immovable object if it is left unattended.

4. Buy insurance for your bike. This can often be obtained for little cost through an insurance agent and should also provide coverage in case of a crash or fall.

5. TROUBLESHOOTING

If any major repairs are required or a problem cannot be solved with the following troubleshooting guide, please contact Optibike immediately.

You may also use the OptiCare online service portal, which allows you to:

- Search for solutions to known problems
- Log a new warranty/service case for rapid resolution
- Check the status of an existing case
- Download service documents and updates
- Download manuals and technical tips
- View service and technical videos.

You can access the Opticare portal online at <http://optibike.com>.

Contact Optibike

e-mail: Service@Optibike.com

phone: 303.443.0932 ext. 203

You can also find the Opticare Service portal on Optibike.com

PROBLEM	CAUSE	REMEDY
Bike won't turn on	Misaligned battery switch	The main power switch should be in the forward position to use the internal battery or the rear position for the external battery external battery. The middle position is off.
	Dead battery	Connect the bike to the charger and verify that the bike is charging.
	Sleep mode	Turn main power switch to the off position, wait several seconds, and then turn the bike on.

PROBLEM	CAUSE	REMEDY
Bike charges fully but ride time is shortened	Riding style	In order to maximize range and speed, avoid excessive acceleration. Accelerating at full throttle will activate the DPC™ system, giving the Optibike maximum power. However, utilizing this system will result in shorter ride times.
	Worn battery	The internal battery in the Optibike should retain significant capacity for 3 years or 30,000 miles. Under normal operating conditions, lithium battery capacity (and the range of the bike) will be reduced by 5-10% per year.
	Cold temperatures	Cold weather will significantly decrease run times. See section 3.5.
Bike has little power	Low battery	Connect the battery to the charger and verify that the bike is charging. Fully charge the bike.
Internal battery charger is plugged in but bike's LEDs do not indicate charge	No power at outlet	Make sure that the charger indicator lights when charger is turned on. If not, use another working outlet.
	Misaligned battery switch	Flip the switch to the forward position to charge the internal battery.
	Obstructed or dirty charger	Clean the charger port with compressed air specifically designed for cleaning electronics. Do not use a liquid solvent or other cleaner.
	Blown charger fuse	Check and install the proper replacement fuse
	Battery overheat	In the case of an overheated battery, it must be allowed to cool sufficiently before it will accept a charge.

PROBLEM	CAUSE	REMEDY
Chain skips between gears	Misadjusted derailleur	See included manual for instructions on derailleur adjustment
	Worn parts	Please contact Optibike or your local bike shop to discuss replacement parts.
Speedometer does not work or is inaccurate	Dead battery	Change the cycle computer battery. See manufacturer's manual for further information.
	Incorrect programming or Misaligned sensor	See the included manufacturer's manual for information on reprogramming your bike's cycle computer and checking the sensor position.
Rear shock is too soft	Low air pressure	See the included manufacturer's manual for information on correctly adding air to your rear shock.
Motor is skipping, not operating smoothly	Overheated motor	The Motorized Bottom Bracket™ in your Optibike contains integrated high temperature protection. This system reduces the active phases of the motor from 3 to 2 when the motor gets too hot. This is normal. To reduce motor overheating: Use the proper gear, especially when riding uphill. Also, by maintaining a pedaling cadence of 70-90 you will maximize the efficiency of your bike, reduce overall motor heat, and increase your range and speed.

6. BICYCLE WARRANTY

OPTIBIKE 90 DAY WARRANTY

We are committed to building the absolute best electric bikes available. If, for any reason, during the first 90 days after your bike is delivered you feel your Optibike is not up to your standards simply return it for a refund. *

Contact Optibike

e-mail: Service@Optibike.com
phone: 303.443.0932 ext. 203

You can also find the Opticare Service portal on Optibike.com

For additional warranty information specific to your purchase, please see the paperwork included with your bike.

* 90 DAY WARRANTY: TERMS AND CONDITIONS

There will be no refunds on custom parts/accessories/paint. Custom parts include anything that is not normally stocked by Optibike.

All products returned must be in original packaging; please keep your box. Failure to do so will affect your refund and the customer will pay the cost of repackaging for shipping.

Cost of shipping and shipping insurance is the responsibility of the shipper/customer. In the event of damage in return shipping, it is the responsibility of the customer to file insurance claims. Optibike will deduct damages from your refund.

Customer must call for RA number before return.

Returned bikes will be assessed for "normal" wear and tear; a nominal charge applies.

Any damage to returned bikes is the responsibility of the customer and will affect your refund.

All refunds are paid by check and mailed by first class post. Refunds take 6-8 weeks for processing.

*Subject to terms and conditions.

NOTES

