

RADROVER

ELECTRIC FAT BIKE

Welcome

Thank you for purchasing the RadRover from Rad Power Bikes™.

We take pride in bringing you a quality product that will offer years of enjoyment. Please read and understand this manual fully before assembling and riding your bike.

If you have questions after reading this manual, please reference the Rad Power Bikes Help Center, contact us by email, and/or give us a call on the phone.

We are here to help!

Rad Power Bikes Help Center: www.radpowerbikes.com/help.

Email: support@radpowerbikes.com

Phone: 1-800-939-0310 x 2

Thanks for Riding RAD!

Using This Manual

This manual contains details of the product, its equipment, and information on operation, maintenance, and other helpful tips for owners. Read it carefully and familiarize yourself with the RadRover before using it to ensure safe use and prevent accidents. Be sure to retain this manual as your convenient RadRover information source. An electronic copy of the latest version of this manual is available in the Help Center at www.radpowerbikes.com/help.

This manual contains many warnings and cautions concerning the safe operation and consequences if proper setup, operation, and maintenance are not performed. All information in this manual should be carefully reviewed and if you have any questions you should contact Rad Power Bikes immediately. The notes, warnings, and cautions contained within the manual and marked by the triangular Caution Symbol at the right of this page should also be given special care. Users should also pay special attention to information marked in this manual beginning with **NOTICE**.



Because it is impossible to anticipate every situation or condition which can occur while riding, this manual makes no representations about the safe use of bikes under all conditions. There are risks associated with the use of any bike which cannot be predicted or avoided and are the sole responsibility of the rider. You should keep this manual, along with any other documents that were included with your bike, for future reference, however all content in this manual is subject to change or withdrawal without notice. Visit <http://www.radpowerbikes.com/help> to download the latest version. Rad Power Bikes makes every effort to ensure the accuracy of its documentation and assumes no responsibility of liability if any errors or inaccuracies appear within. Assembly and first adjustment of your bike from Rad Power Bikes requires special tools and skills and it is recommended that this should be done by a certified, reputable bike mechanic if possible.

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General Info

Assembly and Fit

Correct assembly and fit are essential elements of ensuring your bicycling safety, performance, and comfort. Even if you have the experience, skill, and tools to complete these essential steps before your first ride, Rad Power Bikes recommends having a certified, reputable bike mechanic check your work.

NOTICE: If you do not have the experience, skill, and tools to complete assembly and fit, Rad Power Bikes highly recommends having a certified, reputable bike mechanic complete these procedures as well as any future adjustments or tuning.

NOTICE: A critical aspect of assembling your bike by Rad Power Bikes is securing the front wheel and checking the tightness of the rear wheel axle nuts. All bikes by Rad Power Bikes use a quick release front wheel mounting mechanism and the rear wheel is bolted on. Both wheels need to be properly secured before operating your bike.

Mandatory Equipment and Use Locations

Before all rides, ensure you have all required and recommended safety equipment and are following all laws pertaining to using an electric bike in your region. For example, these laws may specify the need for mandatory equipment, use of hand signals, and where you can ride.

Changing Components or Attaching Accessories

The use of non-original components or spare parts can jeopardize the safety of your RadRover, void your warranty and, in some cases, cause your RadRover to not conform with laws pertaining to your bike.



The replacement of original components or installation of third-party accessories or accessories from Rad Power Bikes not explicitly recommended for your bike model, is at your own risk. Using aftermarket accessories or components that have not been tested by Rad Power Bikes for safety and compatibility may void your warranty, create an unsafe riding condition, damage your bike by Rad Power Bikes, or result in serious injury and/or death.

Safety Check Before Each Ride

Always check the condition of your bike before you ride in addition to having regular maintenance performed. If you are unsure of how to conduct a complete check of the condition of your bike before every ride, you should consult a certified, reputable bike mechanic for assistance. See the Pre-Ride Safety Checklist for more information.

Electrical System

The electrical system on your RadRover offers various levels of power assistance and lighting for different operating conditions and user preferences. It is critical that you familiarize yourself with all aspects of your RadRover's electrical system and check to see that it is working correctly before every ride. The front and rear brake levers contain safety power cutoff switches, which disable the hub motor's assistance when applied, and both levers should be checked for correct operation. The throttle should provide smooth acceleration when gradually applied. If the throttle, brake lever cutoff switches, pedal assistance, or lighting is not functioning normally, intermittent, or not working, please discontinue using your RadRover immediately and contact the Rad Power Bikes Technical Support team for assistance.

Brakes

Ensure brakes are working correctly, all braking system components are free from damage, and properly secured. When you fully squeeze the brake levers, ensure neither the front nor rear brake levers touch the handlebar. Take your bike to a certified, reputable bike mechanic to have the brakes repaired if you find a problem.

Tires and Wheels

Your wheels should always spin straight and must be repaired or replaced if they wobble side to side or up and down when spinning. If your wheels become untrue or spokes loosen, which can happen with normal use, we recommend that a certified, reputable bike mechanic performs all wheel tuning and truing operations on your bike from Rad Power Bikes. Do not attempt to true wheels or tighten spokes unless you have adequate knowledge, tools, and experience. Ensure the tires and inner tubes are in good working condition without any visual damage and have the correct amount of air pressure. Always replace tires and inner tubes with punctures, cuts, or damage before you ride. Tires without the correct amount of air pressure can reduce performance, increase tire and component wear, and make riding your bike unsafe.

Quick Release Levers

Quick release levers are located throughout the RadRover for securing the seat post and the front wheel to the bike. These provide convenience to the user since they allow the front wheel to be removed and the seat post to be adjusted without tools. Since quick release levers can be loosened during transportation, or accidentally between or during rides, it is important that you regularly check to ensure these components are properly secured.

Accessories, Straps, and Hardware

Ensure all hardware is secured and all approved accessories are properly attached per the specific component manufacturer's instructions. It is good practice to look over all hardware, straps, and accessories before each ride and if you do discover something is wrong or find something you are not sure about, have it checked by a certified, reputable bike mechanic.

Suspension, Handlebar, Grips, and Seat Adjustments

The suspension fork on your RadRover will affect the handling of the bike so you **MUST** understand how it works before use. The suspension fork should be properly adjusted for your weight and terrain. Check to ensure the handlebar, handlebar stem, and seat post are properly fastened, aligned, and fitted to the user. Ensure all hardware securing the handlebars and seat are properly tightened including all quick release levers. Loose, worn, or damaged handlebar grips should be replaced before you ride.

Battery Charged, Secured, and Unplugged

Ensure the battery is adequately charged and operating properly. The battery gauge on the LCD display and battery mounted charge status indicator should read similarly. The battery **MUST** be locked onto the frame battery mount properly before use. Do not operate the electrical system if the battery is removed. Ensure the battery charger is unplugged from the outlet, battery, then stored in a safe location before you ride.



Assembly Instructions

NOTICE: The following assembly steps are only a general guide to assist in the assembly of your bike from Rad Power Bikes and are not a complete or comprehensive manual of all aspects of assembly, maintenance, and repair. We recommend you consult a certified, reputable bike mechanic to assist in the assembly, repair, and maintenance of your bike.

Step 1: Unpack bike from the carton and carefully set out all contents of the box. Remove packaging material protecting the bike frame and components. Please recycle packaging materials especially cardboard and foam (all EPE foam). Ensure all pieces are included in the package including:

- RadRover
- Front Wheel
- Quick Release (in fork protector plate)
- Manual(s)
- Charger
- Headlight
- Assembly Toolkit
- Pedals (marked left and right)
- Keys (two, identical)

If there are any missing parts, please contact Rad Power Bikes.

Step 2: Install handlebar onto stem as shown in the assembly video for the RadRover located in the Help Center at www.radpowerbikes.com/help. Be sure to center the handlebar and ensure stem clamp faceplate bolts are secured to the recommended torque value.



Step 3: Install front wheel. For detailed instructions please view the RadRover Assembly video and Quick Release Installation video found in the Help Center at www.radpowerbikes.com/help. Ensure front wheel and quick release are properly secured before moving on to the next step. When properly installed, the front wheel should be fully seated in the dropouts of the front fork, and the quick release lever should be fully and properly secured as shown in the assembly and instructional videos.



Step 4: Inflate tires to desired PSI. Recommended pressure is 20 PSI (1.38 Bar) for the front and rear tires of the RadRover. Recommended tire pressure is indicated on the tire sidewall. Do not overinflate or underinflate tires.

Step 5: Install the pedals. Locate the pedal marked “R” with a smooth exterior of the pedal axle (1, at right), which is the right pedal. The right pedal goes on the crank on the right side of the bike (which has the drivetrain gears and is the same as a rider’s right side when riding). **The right pedal is threaded so that it is tightened by turning clockwise.** Carefully thread the right pedal onto the crank on the right side of the bike slowly and by hand. Do not cross thread or damage the threads.

The left pedal is reverse threaded and tightens counterclockwise. Ensure the pedal is marked with an “L” and has notches on the exterior of the pedal axle (2, at right), indicating it is the left pedal. Carefully thread the pedal onto the left crank by hand slowly. Do not cross thread or damage the threads. **Tighten each pedal securely using a pedal wrench to avoid damage caused by wider wrenches,** as shown in assembly video.



Step 6: Set desired seat height. Adjust the seat post up or down to a comfortable height, while ensuring the seat post is inserted into the frame past the minimum insertion point. Ensure the seat post clamp opening is centered over the gap in the seat tube and secure all hardware and the quick release lever to lock the seat post in place so it cannot move. Do not overtighten.



Step 7: Install Headlight as shown in assembly video from www.radpowerbikes.com/help. Carefully align and connect the waterproof connector joining the headlight to the wiring harness. The headlight should be adjusted to illuminate the road ahead and not blind oncoming traffic.



The headlight is equipped with a light sensor which will automatically dim the headlight when riding during day to save power. The sensor is covered by a switch on the back of the headlight (above, at right). When the small opaque sensor is covered, the headlight, when on, will be full brightness, daytime and nighttime. If the sensor is exposed as shown (above, at right), the headlight, when on, will automatically dim during the day, and be fully bright when it is dark out. Select either option based on preference.

Step 8: Review the remainder of the manual. Once the bike has been assembled per the above instructions and the assembly video available from www.radpowerbikes.com/help, read, understand, and follow the procedures outlined in the remainder of the manual before operating the bike.

Step 9: Always check that the battery is locked to the frame of the RadRover before riding. The Start-Up Procedure section of this manual has more information on the key positions of the battery; on and locked to the frame, off and locked to the frame, and off and unlocked (ready for removal from the frame). Operate the electrical system when the battery has been adequately charged and the battery is secured to the mounting receptacle on the frame.



NOTICE: If you have any questions regarding the assembly of your bike, contact Rad Power Bikes. If you are not able to ensure all the assembly steps in the assembly video are performed properly, or you are unable to view the assembly video, please consult a certified, reputable local bike mechanic for assistance in addition to contacting Rad Power Bikes for help.

NOTICE: Ensure all hardware is tightened properly following recommended torque values and all safety checks in the following sections are performed before the first use of the bike.



Do not extend any components including the handlebar stem, seat post, or seat saddle beyond any minimum insertion marking etched into the components. Ensure that all hardware is properly tightened (to the values in the Recommended Torque Values table) and components are secured before moving on to the next step, otherwise damage to the bike, property, serious injury, or death could occur.

Recommended Torque Values

Hardware Location	Hardware	Torque Required (Nm)
Handlebar Area	Handlebar Stem Clamp Bolts	15
Handlebar Area	Stem Faceplate Bolts	10
Handlebar Area	Brake Lever Clamp Bolt	6
Handlebar Area	Shifter Clamp Screw	6
Brakes	Caliper Adapter to Frame	6-8
Brakes	Caliper to Adapter	6-8
Brakes	Brake Cable to Caliper Clamp	6-8
Brakes	Disc Brake Rotor to Hub	7
Seat Post Area	Seat Angle Adjustment Bolt	20
Rear Dropout Area	Rear Axle Nuts	40
Rear Dropout Area	Rear Torque Arm Bolt	5
Rear Dropout Area	Derailleur Bash Guard Mounting Bolts	5
Rear Dropout Area	Derailleur Hanger Mounting Bolt	6
Rear Dropout Area	Derailleur Mounting Bolt	10
Rear Dropout Area	Derailleur Cable Pinch Bolt	6-8
Rear Dropout Area	Kickstand Mounting Bolts	8
Bottom Bracket and Crank Area	Bottom Bracket and Lockring	60
Bottom Bracket and Crank Area	Crank Arm Bolt into Bottom Bracket Spindle	35
Bottom Bracket and Crank Area	Pedal into Crank Arm	35
Bottom Bracket and Crank Area	Chainring Bolts	10
Bottom Bracket and Crank Area	Controller Mounting Bolts	6
Fenders	All Fender Mounting Bolts and Hardware	6
Rear Rack	Mounting Hardware for Rear Rack	7

Adjusting the Seat Height

For most users, the seat height should be set by placing the ball of their foot on the pedal when the crank is at its lowest point. In this orientation their leg should almost be fully extended, with a slight bend at the knee. To adjust the seat height:

- 1) Open the quick release lever by swinging the lever open and outwards fully (depicted below, left).
- 2) Move the seat up and down by sliding the seat post in or out of the seat tube. Set the desired seat height.
- 3) After tightening the adjustment nut (opposite the quick release lever) on the seat post quick release properly, close the quick release lever fully so it looks like the image below (at right) and the seat cannot move up, down, to the left, or right.



Quick release fully open



Quick release fully closed



Before using the bike, always check to ensure all latches, levers, and quick releases are properly secured and undamaged. Check that they are correctly secured before every ride and after every time the bike is left unsupervised, even for a short time. Otherwise, the handlebar stem and/or seat post may come loose and can result in loss of control, damage to the bike, property, serious injury, and/or death.

NOTICE: Ensure seat post and seat are properly adjusted before riding. DO NOT raise the seat post beyond the minimum insertion marking etched into the seat post tube (as shown at right). If the seat post projects from the frame beyond these markings (shown far right), the seat post or frame may break, which could cause a rider to lose control and fall. Ensure the minimum insertion markings on the seat post are inside the seat tube of the frame (like pictured above).



Adjusting the Seat Position and Angle

To change the angle and horizontal position of the seat:

- 1) Use a 6 mm Allen wrench to loosen the seat adjustment bolt (pictured at right) on the clamp positioned immediately underneath the seat, above the rear wheel. Do not remove the bolt during adjustment.
- 2) Move the seat backwards or forwards in the guide and adjust the angle of the seat. A seat position horizontal to flat ground is desirable for most riders. Do not exceed the limit markings on the seat rail, which show the minimum and maximum horizontal movement allowed for the seat.
- 3) While holding the seat in the desired position, use an Allen wrench to tighten the seat adjustment bolt securely to the recommended torque value.



NOTICE: Prior to first use, be sure to tighten the seat clamp via the seat adjustment bolt properly. A loose seat clamp or seat post adjustment bolt can cause damage to the bike, property, loss of control, a fall, serious injury, or death. Regularly check to make sure that the seat clamp is properly tightened.

Adjusting the Suspension Fork

The RadRover comes equipped with an adjustable front suspension fork. This suspension fork can move up and down up to 80 mm to cushion bumps in the riding surface, which can make riding on a rough road or trail smoother and more comfortable. Depending on a rider's preference, the suspension fork can be locked out as a rigid fork, which will typically yield higher efficiency while pedaling.

The lockout lever, located on top of the right side of the suspension fork (1, at right), can be turned counterclockwise until it stops to completely lock out the suspension fork's travel. To unlock the lockout lever, turn the knob clockwise until it stops.



When the lockout lever is unlocked, resistance can be adjusted by turning the preload adjustment knob, located on the top of the left side of the suspension fork (2, in the image above). To soften the ride, subtract resistance by turning the preload adjustment knob counterclockwise, in the direction of the small “-” on the knob. To make the suspension stiffer when going over bumps, add resistance by turning the preload adjustment knob clockwise, in the direction of the small “+” on the knob.

Rider Comfort

To obtain maximum comfort, riders should not overextend their arms' reach when riding. For the most comfortable riding position and best possible pedaling efficiency, the seat height should be set correctly in relation to the rider's leg length, allowing the knee to be slightly bent with the ball of the foot on the pedal and the pedal at the lowest point at the bottom of the pedal stroke. The correct seat height should not allow leg strain from over extension and the hips should not rock from side to side when pedaling. A bike fitting professional, such as a certified, reputable bike mechanic who specializes in bike fit, should be consulted to ensure you have good fit.

Battery Charging

Basic Charging Procedure

Follow these steps for charging your bike from Rad Power Bikes:

1. **Ensure the battery is off** by inspecting the key port markings (1, below). If needed, align the key port with the “OFF” icon (the small circle with an “X” inside) by inserting the key into the key port and rotating to align the key with the OFF icon as shown (at right).
2. **Remove the rubber cover on the charging port** (2, below) on the opposite side of the battery from the key switch.
3. **Plug the charger into the battery’s charging port.** With the battery on or off the bike, place the charger in a flat, secure place, and connect the DC output plug from the charger (round barrel connector) to the charging port on the side of the battery (2, below).
4. **Plug the charger into a power outlet.** Connect the charger input plug (110/220-volt plug) to the power outlet. Charging should initiate and will be indicated by the LED charge status lights on the charger illuminating as two red lights.
5. **Unplug the charger from the outlet, then the charging port.** Once fully charged, indicated by one charging indicator light turning green (and one remaining red), unplug the charger from the wall outlet first and then remove the charger output plug from the battery charging port.



Always charge your battery in temperatures between 50 °F – 77 °F (10 °C – 25 °C) and ensure the battery and charger are not damaged before initiating charge. If you notice anything unusual while charging, please discontinue charging and use of the bike and contact Rad Power Bikes Technical Support for help.



Battery Charging Best Practices

- **Check the charger, charger cables, and battery for damage** before beginning each charge.
- **Always charge in a safe area** that is cool*, dry, indoors, away from direct sunlight, dirt, or debris, in a clear area away from potential to trip on the charging cords, or for damage to occur to the bike, battery, or charging equipment while parked and/or charging. *Always charge your battery in temperatures between 50 °F – 77 °F (10 °C – 25 °C).
- **The battery can be charged on or off the bike.** To remove the battery, turn the key to the off and unlocked position (see the Start-Up Procedure section for details) and then carefully pull the battery forward and up until the battery detaches from the receptacle. See the When the Battery is Removed section for more information for off-bike battery handling.
- **The battery should be recharged after each use**, so it is ready to go the full range per charge next ride. There is no memory effect, so charging the battery after short rides will not cause damage.
- **Charging the battery normally takes 3-7 hours.** In rare cases, it may take longer to allow the battery management system to balance the battery, particularly when the bike is new or after long periods of storage. Balance the battery during the first three charges. See the Balancing the Battery section for more information.
- **The charge indicator lights** will show two red lights while the battery charges. When charging is complete, one indicator light will turn green, so one green, and one red will be illuminated. Ensure the lights face upward when charging.
- **Remove the charger from the battery within one hour of the green light indicating a complete charge.** The charger is designed to automatically stop charging when the battery is full, but unnecessary wear of the charging components could occur if the charger is left attached to the battery and a power source for longer than 12 hours. Detach the charger within one hour, or as soon as possible, once the green light indicates a complete charge to avoid unnecessary wear of charging components.
- **Never charge a battery for more than 12 hours at a time.**
- **Do not leave a charging battery unattended.**



Failure to follow Battery Charging Best Practices could result in unnecessary wear to the charging components, battery, and or charger, and could lead to an underperforming or non-functional battery and replacement will not be covered under warranty.

When the Battery Is Removed

- Ensure the battery is turned off whenever it is being removed or off the bike.
- Be careful not to drop or damage the battery when lifting the battery off the frame or while loose from the bike.
- Do not touch or damage the “+” and “-” terminal contacts on the bottom of the battery and keep them clear of debris.
- Do NOT operate the bike with the electrical system in the on position, or damage to the electrical system can occur.



Use caution to avoid damage to battery connector terminals, which are exposed when the battery is unlocked and removed from the frame of the bike. In the case of damage to the terminals or battery mounts, please discontinue use and contact Rad Power Bikes Technical Support immediately.

When Installing the Battery onto the Bike

- Ensure the battery is turned off before sliding the battery onto the frame mount receptacle.
- Do not force the battery onto the receptacle; slowly align and gently push the battery down into the receptacle.
- Ensure the battery has been properly secured to the bike before each use by carefully pulling upwards on the battery with both hands to test the security of the attachment of the battery to the mount once locked.

Charging Time

When the input and output plugs of the charger are connected properly, the two red charging indicator lights should illuminate; when charging is complete, one red and one green light should illuminate. The time the charger takes to fully charge the battery is dependent on various factors including distance traveled, riding characteristics, terrain, payload, and battery age. The following table provides an estimate of charge time based on most common distances traveled in regular operation:

Distance Traveled	Estimated Time to Fully Recharge
5 mi (8 km)	1 hour
10 mi (16 km)	1.5 hours
15 mi (24 km)	2.5 hours
20 mi (32 km)	3.5 hours
25 mi (40 km)	4.5 hours
30 mi (48 km)	5.5 hours
45 mi (72 km)	7 hours

Notice: The battery may take longer to charge when fully depleted, when very new, and after 3-5 years of regular use. If your battery does not seem to be charging normally, taking longer to charge than expected, or you are experiencing substantial reduction in range, please discontinue use and contact Rad Power Bikes immediately.

Charger Safety Information

- The charger should only be used indoors in a cool, dry, ventilated area, on a flat, stable, hard surface.
- Avoid charger contact with liquids, dirt, debris, or metal objects. Do not cover the charger while in use.
- Store and use the charger in a safe place away from children and where it cannot suffer damage from falls or impact.
- Fully charge the battery before each use to ensure it is ready to go the full range per charge, to extend the life of the battery, and help reduce the chance of over-discharging the battery.
- Do not charge the battery with any chargers other than the one originally supplied from Rad Power Bikes or a charger designed for use with your specific bike purchased directly from Rad Power Bikes.
- The charger works on 110/220 V 50/60 Hz standard home AC power outlets and the charger automatically detects and accounts for incoming voltage. Do not open the charger or modify voltage input.
- Do not yank or pull on the cables of the charger. When unplugging carefully remove both the AC and DC cables by pulling on the plastic plugs directly, not pulling on the cables.
- The charger will get hot when operating as designed. If the charger gets too hot to touch, you notice a strange smell, or any other indicator of overheating, discontinue charger use immediately and contact Rad Power Bikes Technical Support.



Charge the battery only with the charger originally supplied with the bike from Rad Power Bikes, or a charger purchased directly from Rad Power Bikes, designed for use with your specific bike serial number, as approved by Rad Power Bikes. Never use an aftermarket charger, which can result in damage, serious injury, or death.



Please take special care in charging your bike from Rad Power Bikes in accordance with the procedures and safety information detailed in this manual. Failure to follow proper charging procedures can result in damage to your bike, the charger, personal property, and/or serious injury or death.

Balancing the Battery

When you first receive your bike and for the first three times you charge your battery from Rad Power Bikes, follow the procedure outlined below to ensure the cells that power the battery are balanced and operating as efficiently as possible.

Note: Since the battery should arrive with between 50-75% of a charge, it should be able to be ridden without initially charging once assembled and verified as safe by a certified, reputable bike mechanic. Charging normally before the first ride is also fine.

1. **After the first, second, and third ride**, regardless of distance ridden or the amount of battery used, charge the battery and leave the charger attached to the battery and the outlet for **as close to 12 hours as possible (but not longer than 12 hours)**. **Note:** this may require leaving the charger attached to the battery and outlet even after the charger illuminates one green (and one red) light indicating the battery is full.
2. **Disconnect the charger from the outlet then the battery once the first balance charge (long charge as close to, but not longer than, 12 hours) is complete** and store the bike until you are ready for your next ride.
3. **Ride the bike again** with power assistance as normal, and discharge part (or all) of the battery capacity.
4. **Repeat steps 1-3 for a total of three balance charging sessions (as close to, but not longer than, 12 hours)**.
5. **After the third balance charge and fourth ride, begin normal charging procedures** including:
 - Charging the battery after each ride according to the Battery Charging Best Practices section.
 - Removing the charger from the battery as close to the green charge light indicating the battery is full, which will typically occur between 3-7 hours.
 - Never leaving the battery charging for longer than 12 hours.
 - Never leaving the battery/charger unattended while charging.

Repeat battery balancing steps 1-5 only after a period of long-term battery storage (see the Long-Term Battery Storage section), if experiencing noticeable range decline, when instructed to do so by Rad Power Bikes Technical Support, or up to once per month with frequent use as proactive battery maintenance. Do not perform battery balancing more than once per month.

Long-Term Battery Storage

If storing your bike from Rad Power Bikes for longer than two weeks at a time, follow the instructions below to maintain the health and longevity of your battery.

- Charge (or discharge) the battery to approximately 75% charged.
- Power off the battery either locked to the frame or unlocked and removed from the frame for storage (see Start-up Procedure Section for key-position details).
- Store the battery in a dry, climate controlled, indoor location between 50 °F – 77 °F (10 °C – 25 °C).
- Check the battery every month, and if necessary, use the Rad Power Bikes charger to charge the battery to 75% charged.



Please follow the above instructions for storing your bike and battery from Rad Power Bikes. Failure to follow proper battery storage procedures can result in a non-functional battery and replacement will not be covered under warranty.



If the battery is physically damaged, non-functional, performing abnormally, or was dropped or involved in a crash, with or without obvious signs of damage, please discontinue use and charging and contact Rad Power Bikes immediately.



Do not cover up the charger when plugged in or charging. The charger air cools and needs to be on a hard, flat surface in an open space. Use the charger with the indicator light facing upwards. Do not use with the charger inverted, which can inhibit cooling and reduce charger lifespan.



Do not open the battery housing, which will void the warranty and can result in damage to the battery, property, serious injury, and/or death.

Operation

NOTICE: Do not perform any of the steps in the Operation section of this manual until you have read this entire manual, since there are important details related to safety in the following sections.



Read and understand all sections of this entire manual before operating the bike for the first time. There are important safety warnings throughout the whole manual that must be followed to prevent dangerous situations, accidents, and possible injury and/or death.



Users must follow the instructions and warnings contained in this manual for safety. Do not attempt to operate your bike from Rad Power Bikes until you have adequate knowledge of its control and operation. Damage caused by failing to follow instructions is not covered under warranty and could result in personal injury to you and others, and damage to property and/or your bike from Rad Power Bikes. Contact Rad Power Bikes if you have any questions about assembly or operation.



Users must become accustomed to the bike's power control system before operating. The throttle mechanism allows full power to be activated from a stop and inexperienced users should take extra care when first applying the throttle. The pedal assistance feature is also a powerful option and users should fully research and understand how to operate it before first use. Not taking care to familiarize yourself and practice the operation of the power system on your bike from Rad Power Bikes can lead to damage, serious injury, and/or death.

Start-Up Procedure

After the bike has been properly assembled following the assembly video, all components are secured correctly, and you have read this entire manual, you may turn the bike on and select a power level following the steps outlined below:

1. **Familiarize yourself with the key port and key positions.** The photo at right shows the key port aligned in key position 1, in line with the small open circle icon. In key position 1, the battery is in the “ON” position, with the battery locked to the frame, ready to ride. See the table below for each key position and the location of the Key Identifier Code icon (4).

Key Position/ Icon	Description
1	ON, Locked to Frame
2	OFF, Locked to Frame
3	OFF, Unlocked from Frame (for battery removal)
4	Key Identifier Code



2. **Test the battery lock security.** Ensure the key port is aligned with the circle containing an “X,” in the “OFF, Locked” position (2) indicating the battery is off and locked onto the frame mount. If needed, insert the key and align with the “OFF, Locked” icon (2). Remove the key and carefully use both hands to pull up on the battery to test that the lock is secure.

3. **Turn the bike on.** Once the battery lock has been verified, insert the key and turn clockwise to the open circle icon or “ON, Locked” position (1), as shown in the image above. **Remove the key** by pulling directly backwards without twisting so the key barrel remains in the “ON, Locked” position. Locate the LCD Display Remote (near the left handlebar grip). Hold down the center “mode” button for approximately 2 seconds until power is delivered to the LCD Display.
4. **Select your desired level of pedal assistance (PAS)** between level 0 through 5 using the up and down arrows on the display remote. Level 1 corresponds to the lowest level of pedal assistance, and level 5 corresponds to the highest level of pedal assistance. Level 0 indicates pedal assistance is inactive. Start in PAS level 0 or 1 and adjust from there.
5. **To turn on the headlight,** once the LCD Display is on, hold down the top (up arrow) and middle (mode) buttons (located on the LCD Display Remote) for approximately 2-3 seconds until the light illuminates.
6. **Begin riding carefully.** With the proper safety gear, rider knowledge, and understanding you may now proceed to operate your bike from Rad Power Bikes. You can begin by pedaling the bike in the appropriate drivetrain gear with pedal assist level 0 or 1. You may also use the throttle to accelerate and maintain your desired speed.
7. **The throttle** is used by first ensuring the throttle power switch (the black button on the throttle assembly) is depressed, then slowly and carefully rotating the throttle backwards towards the rider. If the throttle power switch is not depressed, the throttle is off. The throttle power switch is a latching type switch, so once depressed, you do not need to hold it down. With the power switch button depressed, the throttle can be used whenever the bike is turned on. Do not use the throttle unless you are on the bike.

NOTICE: Even if you are an experienced bike user, please take the time to read and implement the guidelines described in the owner’s manual accompanying your RadRover, and any manuals included with each subcomponent.



Ensure the key is removed from the battery before mounting or operating the bike. Leaving the key inside of the battery key barrel while mounting, operating the bike, pedaling, and/or dismounting can cause damage to the key, battery, and/or injury.

Handlebar Features



Location on Handlebar	Component
1	UP Arrow on LCD Display Remote
2	MODE Button on LCD Display Remote
3	DOWN Arrow on LCD Display Remote
4	LCD Display
5	Shifter
6	Throttle Power Switch
7	Throttle

LCD Display Information

The table and image below show the various features and information displayed on the LCD Display.

Location	Information on Display
1	Battery Charge Indicator
2	Distance (Odometer, Trip Odometer)
3	Distance Unit (kilometers (km), miles (mi))
4	Speed Unit (kilometers per hour (Km/h), miles per hour (MPH))
5	Operation Mode
6	Watt Meter, Error Code Indicator
7	Pedal Assist Level



LCD Display Controls

The display is controlled using the 3-button display remote mounted on the left side of the handlebar (depicted at right). The top button shows an arrow pointing UP (1), the middle button is labeled "MODE" (2), and the bottom button shows an arrow pointing DOWN (3). Reference the LCD Display Operations table in this manual for instructions on how to perform various operations using these buttons and, when applicable, other components of the bike.



LCD Display Operations

Operation	Directions
Turn ON bike	Press and hold MODE (2) until power engages
Turn ON Headlight, Taillight, and LCD Display Backlight	Press and hold MODE (2) and UP (1) until light illuminates
Activate Brake Light	When bike is ON, squeeze Brake Lever
Activate Flash Mode on Taillight	When Bike and Taillight are ON, Press Rubber Button on Bottom Left of Taillight Housing
Increase Pedal Assist (PAS) Level	Press and release UP (1)
Decrease Pedal Assist (PAS) Level	Press and release DOWN (3)
Toggle Odometer, Trip Odometer	Press and release MODE (2)
Toggle Current Speed ("Speed"), Average Speed, and Max Speed	Press and hold UP (1) until speed display changes
Turn ON Walk Mode	While dismounted, Press and continue to hold DOWN (3)
Charge Device Using USB Port	Locate USB Port on LCD edge closest to rider and unplug rubber cover. With LCD powered OFF, plug USB charging cable (not included) into USB Port on LCD Display and device (not included), turn ON bike by pressing and holding MODE until power engages.



Walk mode should only be used while dismounted from the bike and with both hands on the handlebar. Always keep at least one hand on a brake lever to allow quick cutoff of the motor assistance if necessary and to maintain control of the bike.

Notice: The USB Charging Port charges many, but not all, devices. The USB charge rate from the display will supply power to many phones, but larger phones, which require higher power in order to charge, may not register charging. If the display indicates "USB" it will supplement battery power for the phone, but the state of charge of the phone may still decrease.

Brake Light Features and Operations

Starting in 2019, all bikes from Rad Power Bikes come equipped with a taillight/brake light that is integrated into the electrical system. Anytime the bike is powered on, depressing one or both brake levers on the handlebar should cause the brake light to illuminate.

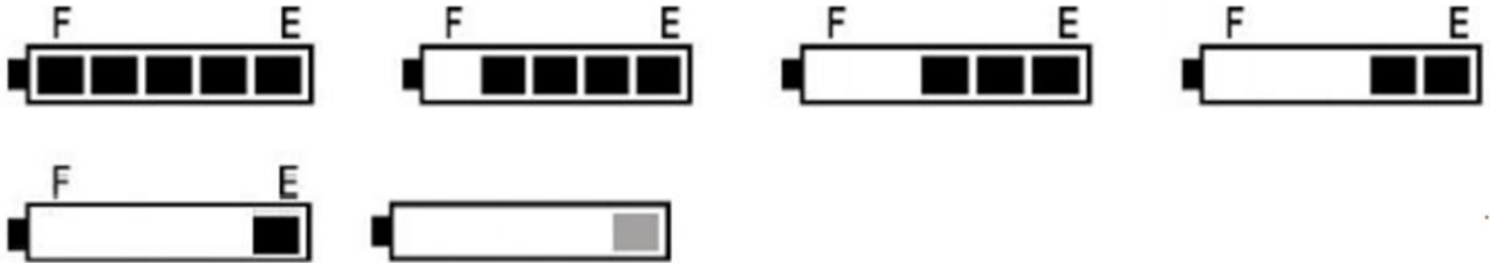
For increased visibility, the taillight's "solid mode" can be turned on by using the LCD Display remote, by pressing and holding the MODE and UP buttons when the bike is powered on. When in solid mode, the rear light will be illuminated, and when the brake levers are depressed, the brightness of the rear light will increase as the brake light activates. The taillight is also capable of strobing (in "flash mode"), while powered on.

To activate flash mode, power on the bike and taillight following the steps above, then, while dismantled from the bike, press the rubber Flash Mode Button on the bottom left side of the taillight housing (circled at right). When in flash mode, depressing the brake lever(s) will illuminate a brighter, solid brake light. Flash mode will continue if the headlight is turned off but requires (the above) activation by pressing the Flash Mode Button once the bike has been turned off and back on again.



Battery Capacity Display

The LCD Display on the handlebars of your bike from Rad Power Bikes features a battery capacity gauge (like a fuel gauge on a car). This gauge calculates battery life based on the battery power output (instantaneous voltage reading) and can fluctuate while riding if power demand and/or output changes. Once one bar is left on the display, users should charge the battery as soon as possible. At lower states of charge, the bike may limit power output to prevent damage to the battery. When the battery is fully depleted, the last bar will begin to flash, warning the user to charge the battery as soon as possible.



Best Practices for Extending Range and Battery Life

Notice: Follow the best practices listed below to help extend your range and battery life.

- Whenever possible, avoid applying full throttle when the bike has slowed to very low speeds, has stalled, or stopped.
- Pedal to assist the motor when climbing hills and accelerating from a stop.
- Reduce your power consumption whenever possible.
- Do not climb hills steeper than 15% in grade.
- Avoid sudden starts and stops.
- Accelerate slowly.

Driving Range

The range of your bike from Rad Power Bikes is the distance the bike will travel on a single full charge of the onboard battery. The range values in this manual are estimates based on expected usage characteristics of bikes by Rad Power Bikes. Some of the factors which effect range include changes in elevation, speed, payload, acceleration, number of starts and stops, and ambient air temperatures. Tire pressure and terrain are also important variables to consider.

We suggest that you select a lower assistance level when you first get your bike from Rad Power Bikes to get to know your bike and travel routes. Once you become familiar with the range requirements of your travel routes and the capabilities of your Rad Power Bikes, you can then adjust your riding characteristics if you so desire.

The following table provides general estimates and outlines various factors effecting range and their combined estimated effects on range. This table is meant to help owners understand the factors that can contribute to decreased range, but Rad Power Bikes makes no claims to the range that individual users might experience in a particular use case, conditions, or riding characteristics.

Expected Range	Operating Condition(s)
20 mi (32 km)	<ul style="list-style-type: none">○ Hilly Terrain○ Heavy Payload○ Windy○ High Pedal Assist Level/ High Throttle Use○ Light Pedaling
30 mi (48 km)	<ul style="list-style-type: none">○ Flat Terrain○ Normal Payload○ Not Windy○ Medium Pedal Assist Level/ Moderate Throttle Use○ Light Pedaling
40 mi (64 km)	<ul style="list-style-type: none">○ Flat Terrain○ Normal Payload○ Not Windy○ Low Pedal Assist Level/ Minimal Throttle Use○ Moderate to Heavy Pedaling

Carrying Loads

MAXIMUM PAYLOAD CAPACITY FOR RADROVER

The total maximum weight limit, or payload capacity, of the RadRover (275 lb or 125 kg) includes the weight of the rider as well as clothing, riding gear, cargo, etc. The RadRover is compatible with optional Rear Rack and Front Rack accessories that are not included in the base price of the bike and are available for purchase from www.radpowerbikes.com.

Total maximum payload: 275 lb (125 kg)

Optional Rear Rack maximum payload: 45 lb (20 kg)

Optional Front Rack maximum payload: 22 lb (10 kg)



The optional RadRover Rear Rack is designed for no more than 45 lb (20 kg) of total cargo, regardless of any third-party rear rack accessories which might carry a higher weight rating. Heed this 45 lb (20 kg) limit, or damage to your bike, property, and/or cargo, and serious injury or death of the rider and/or passenger can occur.



You **MUST** hold onto the bike whenever loading cargo and/or a passenger. The kickstand is not designed to be used for loading cargo. Do not assume the bike is stable and balanced when using the kickstand. Always hold onto the bike when cargo is being loaded, in place, or attached to the bike by Rad Power Bikes.



It is the user's responsibility to ensure a passenger on the RadRover is adequately experienced and healthy enough to ride safely as a passenger. Serious injury or death can occur if passengers are inexperienced or in poor health such that it impacts their ability to ride as passengers safely.



Never leave the bike unattended with children on the bike. Ensure children are removed from the bike before you look away or walk away from the bike, otherwise the bike could tip over and cause serious injury to your most precious cargo.

Carrying Children

The use of certified and approved child seating and equipment, including the optional RadRover Rear Rack, are required whenever carrying children. Check all regulations in the area where you operate the RadRover to ensure carrying passengers, children, or cargo is allowed. Follow the stated weight limits for the bike and accessories; do not overload the RadRover. Ensure hands and feet are always kept away from wheels when the bike is in motion. The RadRover should never be operated by persons under the age of 18 years old. Children should not ride as passengers on the back of the RadRover unless they are seated in a properly fitted and approved Child Safety Seat.

The optional RadRover Rear Rack is equipped with a mounting window (like the one highlighted in the photo below, left) for the GMG Yepp Maxi Easyfit child carrier. For installation instructions, safety notices, general information, and tips on safe operation of this accessory, visit the manufacturer's website online at www.thule.com or contact Rad Power Bikes.

Notice: The following bulleted list provides important additional tips for the safe operation of the RadRover when used for carrying children.

- Increased weight from passengers will increase the time it takes to slow the bike when braking, please plan your stops accordingly. Ensure both front and rear brakes are properly adjusted, maintained, and applied.
- Ensure that rider and the child passenger are wearing a properly fitted and approved bicycle helmet.
- Passengers should sit directly over or forward of the rear wheel on the Rear Rack, and no more than 9 kg (20 lb) should be loaded over the rear 1/3 of the optional Rear Rack.



Carrying Cargo

Carrying a cargo load involves additional risks, which require special attention and care to mitigate and manage. Braking, acceleration, and balancing are all significantly affected by the addition of cargo loaded on the RadRover. You must become accustomed to the braking, steering, and operational adjustments required to safely operate the RadRover with cargo. Users should practice riding on a flat and open area with light cargo before attempting to carry heavier loads.

Notice: The following bulleted list provides important tips for the safe operation of the RadRover when used for carrying cargo.

- Cargo should be loaded as low as possible to lower the center of gravity and improve stability, but cargo should not interfere with any moving components or the ground.
- Ensure your loads are properly secured and periodically check that nothing loosens, risks interfering with any moving components, or could risk touching or dragging on the ground.
- Plan your route accordingly since a rider's hill climbing ability, steering, and braking are all impacted when cargo is loaded on the RadRover. Hills that are normally easy to climb and descend without cargo can become challenging and dangerous once cargo is loaded onto the bike.
- Become proficient at controlling the RadRover with the cargo load in a flat and open area before riding on roads or hills.



Do not use the front brake by itself. Apply the rear brake first, then the front brake, and use both brakes for all braking operations. Braking with only the front brake can cause excessive stress on components, damage to the bike and parts, and/or loss of control.



It is always the user's responsibility to ensure that cargo or a passenger loaded on the RadRover does not interfere or impact the user's ability to safely operate the RadRover. Serious injury or death can occur if cargo or a passenger impacts the user's ability to safely operate the RadRover.

Parking, Storage, and Transport

Please follow these basic parking, storage, and transport tips to ensure your bike is well cared for on and off the road.

- When pushing or carrying the bike manually, turn off the power to avoid accidental acceleration from the motor.
- Switch the power and any lights off to conserve battery. Remove the key from the bike and ensure the battery is locked to the frame in the off position or use the key to remove the battery and bring it with you for security.
- It is recommended to park indoors. If you must park outdoors in rain or wet conditions, you should only leave your bike from Rad Power Bikes outside for a few hours and proceed to park the bike in a dry location afterwards to allow all the systems to dry out. Much like a regular bike, use in wet conditions mandates a more regular maintenance schedule to ensure your bike does not become rusty, corroded, and to ensure all systems are always working safely.
- In public places, your bike from Rad Power Bikes must be parked in accordance with local rules and regulations.
- Locking up your bike is recommended to ensure your bike is secure and the chance of theft is reduced. Rad Power Bikes makes no claims or recommendations on the proper lock hardware or procedures to secure your bike, but we do recommend you take the appropriate precautions to keep your bike from Rad Power Bikes safe from theft.
- Do not park, store, or transport your bike from Rad Power Bikes on a rack not designed for the bike's size and weight.
- Use a rack compatible with the width of tires used on your bike. Some racks may not accommodate all tire widths.
- When storing your bike or carrying your bike on a rack for transport, remove the battery to reduce the weight of the bike, make lifting and loading easier, and to protect the battery by transporting in the cab of a vehicle.
- Avoid transporting Rad Power Bikes on a vehicle rack during rain, as this may cause water damage to the electrical components. Contact Rad Power Bikes Technical Support if you have questions about preventative measures.

Maintenance

Basic Bike Care

To ensure safe riding conditions you must properly maintain your bike from Rad Power Bikes. Follow these basic guidelines and see a certified, reputable bike mechanic at regular intervals to ensure your bike is safe for use and fun to ride. See the Pre-Ride Safety Checklist and Recommended Service Intervals sections in this manual for more detailed information.

1. Properly maintain batteries by keeping them fully charged when between uses of up to two weeks apart. See Long-Term Battery Storage section of manual for information on storing the battery for longer than two weeks between rides.
2. Never immerse or submerge the bike or any components in water or liquid as the electrical system may be damaged.
3. Periodically check wiring and connectors to ensure there is no damage and the connectors are secure.
4. To clean, wipe the frame with a damp cloth. If needed, apply a mild non-corrosive detergent mixture to the damp cloth and wipe the frame. Dry by wiping with a clean, dry cloth.
5. Store under shelter; avoid leaving the bike in the rain or exposed to corrosive materials. If exposed to rain, dry your bike afterwards and apply anti-rust treatment to chain and other unpainted steel surfaces.
6. Riding on the beach or in coastal areas exposes your bike to salt, which is very corrosive. Wipe down your bike frequently and wipe or spray all unpainted parts with anti-rust treatment. Damage from corrosion is not covered under warranty so special care should be given to extend the life of your bike when used in coastal areas or areas with salty air or water.
7. If the hub and bottom bracket bearings have been submerged in water or liquid, they should be taken out and re-greased. This will prevent accelerated bearing deterioration.
8. If the paint has become scratched or chipped in the metal, use touch up paint to prevent rust. Clear nail polish can also be used as a preventative measure.
9. Regularly clean and lubricate all moving parts, tighten components, and adjust as required.



If you do not have the experience, skill, and tools to complete maintenance and adjustment of your bike, Rad Power Bikes strongly recommends having a certified, reputable bike mechanic maintain, tune, and ensure the bike is safe to ride.

Recommended Service Intervals

Regular inspection and maintenance are key to ensure Rad Power Bikes function as intended, and to reduce wear and tear on their systems. Recommended service intervals are meant to be used as guidelines. Real world wear and tear, and the need for service, will vary with conditions of use. We generally recommend inspections, service, and necessary replacements be performed at the time or mileage interval that comes first in the following table.

Interval	Inspect	Service	Replace
Weekly, 100-200 miles	<ul style="list-style-type: none"> - Check hardware for proper torque: See Recommended Torque Values chart. - Check drivetrain for proper alignment and function (including the chain, freewheel, chainring, and derailleur). - Check wheel trueness and for quiet wheel operation (without spoke noise). - Check condition of frame for any damage. 	<ul style="list-style-type: none"> - Clean frame by wiping frame down with damp cloth. - Use barrel adjuster(s) to tension derailleur/brake cables if needed. 	<ul style="list-style-type: none"> - Replace any components confirmed by Rad Power Bikes Technical Support or a certified, reputable bike mechanic to be damaged beyond repair or broken.
Monthly, 250-750 miles	<ul style="list-style-type: none"> - Check brake pad alignment, brake cable tension. - Check bike is shifting properly, proper derailleur cable tension. - Check chain stretch. - Check brake and shifter cables for corrosion or fraying. - Check spoke tension. - Check accessory mounting (rack mounting bolts, fender hardware, and alignment). 	<ul style="list-style-type: none"> - Clean and lubricate drivetrain. - Check crankset and pedal torque. - Clean brake and shift cables. - True and tension wheels if any loose spokes are discovered. - Balance the battery. 	<ul style="list-style-type: none"> - Replace brake and shift cables if necessary. - Replace brake pads if necessary.
Every 6 Months, 750-1250 miles	<ul style="list-style-type: none"> - Inspect drivetrain (chain, chainring, freewheel, and derailleur). - Inspect all cables and housings. 	<ul style="list-style-type: none"> - Standard tune-up by certified, reputable bike mechanic is recommended. - Grease bottom bracket. 	<ul style="list-style-type: none"> - Replace brake pads. - Replace tires if necessary. - Replace cables and housings if necessary.

Pre-Ride Safety Checklist

Notice: Before every ride, and after every 25-45 miles, we advise following the pre-ride safety checklist in the table below.

Safety Check	Basic Steps
1. Brakes	<ul style="list-style-type: none"> ○ Ensure front and rear brakes work properly. ○ Check brake pads for wear and ensure they are not over-worn. ○ Ensure brake pads are correctly positioned in relation to the rims. ○ Ensure brake control cables are lubricated, correctly adjusted, and display no obvious wear. ○ Ensure brake control levers are lubricated and tightly secured to the handlebars. ○ Test brake levers are firm and that brake, motor cutoff functions, and brake light are functioning properly.
2. Wheels and Tires	<ul style="list-style-type: none"> ○ Ensure tires are inflated to within the recommended limits displayed on the tire sidewalls and holding air. ○ Ensure tires have good tread, have no bulges or excessive wear, and are free from any other damage. ○ Ensure rims run true and have no obvious wobbles, dents, or kinks. ○ Ensure all wheel spokes are tight and not broken. ○ Check axle nuts and front wheel quick release to ensure they are tight. Ensure the locking lever on the quick release skewer is correctly tensioned, fully closed, and secured.
3. Steering	<ul style="list-style-type: none"> ○ Ensure handlebar and stem are correctly adjusted and tightened and allow proper steering. ○ Ensure the handlebar is set correctly in relation to the forks and the direction of travel.
4. Chain	<ul style="list-style-type: none"> ○ Ensure the chain is oiled, clean, and runs smoothly. ○ Extra care is required in wet, salty/otherwise corrosive, or dusty conditions
5. Bearings	<ul style="list-style-type: none"> ○ Ensure all bearings are lubricated, run freely, and display no excess movement, grinding, or rattling. ○ Check headset, wheel bearings, pedal bearings, and bottom bracket bearings.
6. Cranks and Pedals	<ul style="list-style-type: none"> ○ Ensure pedals are securely tightened to the cranks. ○ Ensure the cranks are securely tightened and are not bent.
7. Derailleurs	<ul style="list-style-type: none"> ○ Check that the derailleur is adjusted and functioning properly. ○ Ensure shifter and brake levers are attached to the handlebar securely. ○ Ensure all brake and shift cables are properly lubricated.

8. Frame, Fork, and Seat	<ul style="list-style-type: none"> ○ Check that the frame and fork are not bent or broken. ○ If either frame or fork are bent or broken, they should be replaced. ○ Check that the seat is adjusted, properly and seat post quick release lever is securely tightened.
9. Motor Drive Assembly and Throttle	<ul style="list-style-type: none"> ○ Ensure hub motor is spinning smoothly and motor bearings are in good working order. ○ Ensure all power cables running to hub motor are secured and undamaged. ○ Make sure the hub motor axle bolts are secured and all torque arms and torque washers are in place.
10. Battery	<ul style="list-style-type: none"> ○ Ensure battery is charged before use. ○ Ensure there is no damage to battery. ○ Lock battery to frame and ensure that it is secured. ○ Charge and store bike and battery in a dry location, between 50 °F – 77 °F. ○ Let bike dry completely for using again.
11. Electrical Cables	<ul style="list-style-type: none"> ○ Look over connectors to make sure they are fully seated, free from debris or moisture. ○ Check cables and cable housing for obvious signs of damage. ○ Ensure headlight, taillight, and brake light are functioning, adjusted properly, and unobstructed.
12. Accessories	<ul style="list-style-type: none"> ○ Ensure all reflectors are properly fitted and not obscured. ○ Ensure all other fittings on bike are properly secured and functioning. ○ Inspect helmet and other safety gear for signs of damage. ○ Ensure rider is wearing helmet and other required riding safety gear. ○ Ensure mounting hardware is properly secured if fitted with rear rack. ○ Ensure taillight and taillight power wire are properly secured if fitted with rear rack. ○ Ensure fender mounting hardware is properly secured if fitted with fenders. ○ Ensure there are no cracks or holes in fenders if fitted with fenders.



Your cables, spokes, and chain will stretch after an initial break-in period of 50-100 mi (80-160 km), and bolted connections can loosen. Always have a certified, reputable bike mechanic perform a tune-up on your RadRover after your initial break-in period of 50-100 mi (80-160 km) (depending on riding conditions such as total weight, riding characteristics, and terrain). Regular inspections and tune-ups are particularly important for ensuring that your bike remains safe and fun to ride.

Tire Inflation and Replacement

The RadRover employs 26" x 4" rubber tires with inner tubes. The tires are designed for durability and safety for regular cycling activities and the tires need to be checked before each use for proper inflation and condition. Proper inflation, care, and timely replacement will help to ensure that your bike's operational characteristics will be maintained, and unsafe conditions avoided.

Rad Power Bikes recommends **20 psi/1.4 bar** for the front and rear tires on the RadRover.



It is critically important that proper air pressure is always maintained in pneumatic tires. Do not underinflate or overinflate your tires. Low pressure may result in loss of control, and overinflated tires may burst. Failure to always maintain the air pressure rating indicated on pneumatic tires may result in tire and/or wheel failure.



Inflate your tires from a regulated air source with an available pressure gauge. Inflating your tires from an unregulated air source could overinflate them, resulting in a burst tire.

Even tires equipped with built-in flat-preventative tire liners, like those that come with Rad Power Bikes, can and do get flats from punctures, pinches, impact, and other causes. When tire wear becomes evident or a flat tire is discovered, you must replace the tires and/or tubes before operating the bike or injury to operators and/or damage to your bike from Rad Power Bikes could occur.



When changing a tire or tube, ensure that all air pressure has been removed from the inner tube prior to removing tire from the rim. Failure to remove all air pressure from the inner tube could result in serious injury.



Using aftermarket tires or inner tubes, not provided by Rad Power Bikes may void your warranty, create an unsafe riding condition, or damage to your bike by Rad Power Bikes. If required by law, ensure replacement aftermarket tires have sufficient reflective sidewall striping.

For more information on tire or tube replacement procedures, or questions about tire inflation, visit www.radpowerbikes.com/help and contact Rad Power Bikes Technical Support.

Email: support@radpowerbikes.com

Call: (800) 939-0310 x 2

Troubleshooting

Basic Troubleshooting

	Symptoms	Possible Causes	Most Common Solutions
1	It doesn't work	<ol style="list-style-type: none">1. Insufficient battery power2. Faulty connections3. Battery not fully seated in tray4. Improper turn on sequence5. Brakes are applied	<ol style="list-style-type: none">1. Charge the battery2. Clean and repair connectors3. Install battery correctly4. Turn on bike with proper sequence5. Disengage brakes
2	Irregular acceleration and/or reduced top speed	<ol style="list-style-type: none">1. Insufficient battery power2. Loose or damaged throttle	<ol style="list-style-type: none">1. Charge or replace battery2. Replace throttle
3	When powered on the motor does not respond	<ol style="list-style-type: none">1. Loose wiring2. Loose or damaged throttle3. Loose or damaged motor plug wire4. Damaged motor	<ol style="list-style-type: none">1. Repair and or reconnect2. Tighten or replace3. Secure or replace4. Repair or replace
4	Reduced range	<ol style="list-style-type: none">1. Low tire pressure2. Low or faulty battery3. Driving with too many hills, headwind, braking, and/or excessive load4. Battery discharged for long period of time without regular charges, aged, damaged, or unbalanced5. Brakes rubbing	<ol style="list-style-type: none">1. Adjust tire pressure2. Check connections or charge battery3. Assist with pedals or adjust route4. Balance the battery; contact Tech Support if range decline persists5. Adjust the brakes
5	The battery won't charge	<ol style="list-style-type: none">1. Charger not well connected2. Charger damaged3. Battery damaged4. Wiring damaged	<ol style="list-style-type: none">1. Adjust the connections2. Replace3. Replace4. Repair or replace
6	Wheel or motor makes strange noises	<ol style="list-style-type: none">1. Damaged motor bearings2. Damaged wheel spokes or rim3. Damaged motor wiring	<ol style="list-style-type: none">1. Replace2. Repair or replace3. Repair or replace motor.

Error Detection

Your bike from Rad Power Bikes is equipped with an error detection system integrated into the display and controller. In the case of an electronic control system fault an error code should display. The following error codes are the most common and can aid in troubleshooting. If your bike has an error code displayed at any time it is recommended that you cease operation and contact Rad Power Bikes immediately. Additional information on error codes can be found at www.radpowerbikes.com/help.

Error Code	Definition
21	Abnormal Current
22	Throttle Fault
23	Motor Phase Fault
24	Motor Hall Fault
25	Brake Switch Fault or Brake Applied While Turning On
30	Communication Fault

Warnings and Safety

General Operating Rules

Notice: It is recommended that users pay special attention to all the general operating rules below before operating their bike from Rad Power Bikes.

- When riding obey the same road laws as all other road vehicles as applicable by law in your area.
- For additional information regarding traffic/vehicles laws, contact the road traffic authority in your area.
- Ride predictably, in a straight line, and with the flow of traffic. Never ride against traffic.
- Use correct hand signals to indicate turning.
- Ride defensively; to other road users you may be hard to see.
- Concentrate on the path ahead. Avoid potholes, gravel, wet or oily roads, wet leaves, curbs, train tracks, speed bumps, drain gates, thorns, broken glass, and other obstacles, hazards, and puncture flat risks.
- Cross train tracks at a 90-degree angle or walk your bike across.
- Expect the unexpected such as opening car doors or cars backing out of driveways.
- Be careful at intersections and when preparing to pass other vehicles or other cyclists.
- Familiarize yourself with all the features and operations of the bike by Rad Power Bikes. Practice and become proficient at shifting gears, applying the brakes, using the power assist system, and using the throttle in a controlled setting before riding in riskier conditions.
- Wear proper riding clothes including closed-toe shoes. If you are wearing loose pants, secure the bottom using leg clips or elastic bands to prevent them from being caught in the chain or gears. Do not use items that may restrict your hearing.
- Check your local rules and regulations before carrying cargo.
- When braking, apply the rear brake first, then the front brake. If brakes are not correctly applied, they may lock up, you may lose control, and you could fall.
- Maintain a comfortable stopping distance from all other objects, riders, and vehicles. Safe braking distances are based on forces such as road surface and light conditions among other variables.



The following safety notes provide additional information on the safe operation of your bike from Rad Power Bikes and should be closely reviewed. Failure to review these notes can lead to serious injury or death.

- All users must read and understand this manual before their first use of the bike from Rad Power Bikes. Additional manuals for components used on the bike may also be provided and should be read before use in addition to this manual.
- Ensure that you comprehend all instruction and safety notes/warnings.
- Ensure the bike fits you properly before your first use. You may lose control or fall if your bike is too big or too small.
- Always wear an approved bicycle helmet whenever using this product and ensure that all helmet manufacturer instructions are used for fit and care of your helmet. Failure to wear a helmet when riding may result in serious injury or death.
- Ensure correct setup and tightening is performed on your bike before first using it and check the setup, tightening, and condition regularly.
- It is your responsibility to familiarize yourself with the laws and requirements of operating this product in the area(s) where you ride.
- Ensure the handlebar grips are undamaged and properly installed. Loose or damaged grips can cause you to lose control and fall.
- Do not use this product with standard bike trailers, stands, vehicle racks, or accessories that Rad Power Bikes has not tested for safety and compatibility and have verified as safe and compatible with the bike. Contact Rad Power Bikes to check if your equipment will work with the bike.
- Off-road riding requires close attention, specific skills, and presents variable conditions and hazards which accompany the conditions. Wear appropriate safety gear and do not ride alone in remote areas. Check local rules and regulations if off-road ebike riding is allowed.
- Engaging in extreme riding is extremely dangerous and should be avoided. Although many articles/advertisements/catalogs depict extreme riding, this is not recommended nor permitted, and you can be seriously injured or killed if you perform extreme riding.

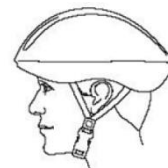
- Bikes and bike parts have strength and integrity limitations and extreme riding should not be performed as it can damage bike components and/or cause or lead to dangerous riding situations in which you may be seriously injured or killed.
- Failure to perform and confirm proper installation, compatibility, proper operation, or maintenance of any component or accessory can result in serious injury or death.
- After any incident, you must consider your bike unsafe to ride until you consult with a certified, reputable bike mechanic for a comprehensive inspection of all components, functions, and operations of the bike.
- Failure to properly charge, store, or use your battery will void the warranty and may cause a hazardous situation.
- You should check the operation of the brake motor cutoff switches before each ride. The brake system is equipped with an inhibitor which cuts off power to the electric motor whenever the brakes are engaged. Check proper operation of brake motor cutoff switches before riding.
- Extreme care should be taken when using the pedal assistance sensor and throttle on this product. Ensure you understand and are prepared for the power assistance to engage as soon as pedaling is underway.
- Users must understand the operation of the twist throttle and pedal assistance sensors before using the bike and take ample care in their usage in respect to traveling at speeds appropriate for the usage area, riding conditions, and user experience level. Always use the lowest assist level until you are comfortable with the bike and feel confident in controlling the power.
- Any aftermarket changes to your bike from Rad Power Bikes not expressly approved by Rad Power Bikes could void the warranty and create an unsafe riding experience.
- Because electric bikes are heavier and faster than normal bikes, they require extra caution and care while riding.
- Take extra care while riding in wet conditions including decreasing speed and increasing braking distances. Feet or hands can slip in wet conditions and lead to serious injury and/or death.
- Do not remove any reflectors or the bell.

Helmets

It is strongly advised that a properly fitting ANSI or SNELL approved bicycle safety helmet is always worn when riding your bike.



Always wear a properly fitted helmet that covers the forehead when riding a bike. Many states require specific safety devices. It is your responsibility to familiarize yourself with the local laws, rules, and regulations where you ride and to comply with all applicable laws, including properly equipping yourself and your bike as the law requires.



General Warnings



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



Biking and controlled substances do not mix. Never operate a bike while under the influence of alcohol, drugs, or any substance or condition that could impair motor functions, judgement, or the ability to safely operate a bike/vehicle.



The RadRover is designed for use by persons 18 years old and older. Riders must have the physical condition, reaction time, and mental capability to ride safely and manage traffic, road conditions, sudden situations, and respect the laws governing electric bike use where they ride, regardless of age. If you have an impairment or disability such as a visual impairment, hearing impairment, physical impairment, cognitive/language impairment, or a seizure disorder or any other physical condition that could impact your ability to safely operate a vehicle, consult your physician before riding any bike.

A Note for Parents and Guardians

As a parent or guardian, you are responsible for the activities and safety of your child. The RadRover is not designed for use by children. If you are carrying a passenger in a child safety seat, they must also be wearing a properly fitted and approved helmet. Additional safety information regarding helmets can be found in the Helmet section of this manual. See Carrying Children section of this manual for more information on keeping children safe when being transported in an approved child safety seat attached to the optional rear rack of the RadRover.

Wet Weather



It is recommended to not ride in wet weather if avoidable. Ride in wet weather only if necessary.

This electric bike is not meant for use in puddles, heavy rain, or streams. Never immerse or submerge this product in water or liquid as the electrical system may be damaged.

- In wet weather you need to take extra care when operating this bike.
- Decrease riding speed to help you control the bike in slippery conditions.
- Brake earlier since it will take longer to slow than when operated in dry conditions.
- Take care to be more visible to others on the road. Wear reflective clothing and use approved safety lights.
- Road hazards are more difficult to see when wet; proceed with caution.

Night Riding



It is recommended to not ride at night if avoidable. Ride at night only if necessary.

- Wear reflective and light-colored clothing.
- Slow down and use familiar roads with street lighting, if possible.
- Ensure head light and taillight/brake light are functioning correctly and use them.

Limited Warranty

Warranty Info

Every bike by Rad Power Bikes is covered under a manufacturer's one-year all-inclusive warranty for the original owner against all manufacturing defects. Rad Power Bikes warrants this product, including all individual components against defects in material or workmanship as follows:

RAD POWER BIKES LIMITED 1 YEAR WARRANTY

Warranty details below are subject to change at any time; for the most current warranty version, visit www.radpowerbikes.com/warranty. Rad Power Bikes' bike components including frame, forks, stem, handlebar, headset, seat post, seat saddle, brakes, lights, bottom bracket, crank set, pedals, rims, wheel hub, freewheel, cassette, derailleur, shifter, motor, throttle, controller, wiring harness, LCD display, kickstand, reflectors, and hardware are warranted to be free from manufacturing defects in materials and/or workmanship for a 1-year period from the date of original purchase.

Rad Power Bikes' lithium ion batteries are warranted to be free from manufacturing defects in materials and/or workmanship for a 1-year period from the date of original purchase. The battery warranty does not include damage from power surges, use of improper charger, improper maintenance or other such misuse, disassembly, normal wear, or water damage.

Warranty Exclusions

- Liability for material defects does not cover normal wear and tear, which occurs from the manufacturers' intended use of the product. Components such as the battery, motor system, braking system, drivetrain system, seat, grips, and pedals are all subject to intended use-related wear and are not covered under the warranty from normal wear.
- Damage arising from the use of the bike in a competition or other applications outside of normal intended use.
- Damage arising from improper tools, improper assembly, or improper maintenance performed on the bike.
- Damage resulting from adding non-standard equipment, parts, or modifications.

Additional Warranty Terms

This warranty does not cover any damage or defects resulting from failure to follow instructions in the owner's manual, acts of God, accidents, misuse, neglect, abuse, commercial use, alterations, modification, improper assembly, wear and tear, installation of parts or accessories not originally intended or compatible with the bike as sold, operator error, water damage, extreme riding, stunt riding, or improper follow-up maintenance. This warranty does not include normal wear and tear or consumable parts designed to wear down over time, including tires, tubes, brake pads, cables and housing, spokes, and handlebar grips.

Rad Power Bikes will not be liable and/or responsible for any damage, failure, or loss caused by any unauthorized service or use of unauthorized parts. In no event shall Rad Power Bikes be responsible for any direct, indirect, or consequential damages, including without limitation, damages for personal injury, property damage, or economic losses, whether based on contract, warranty, negligence, or product liability in connection with their products. All claims to this warranty must be made through Rad Power Bikes. Proof of purchase is required with any warranty request.

Additional Information on Wear

Components of the RadRover are subject to higher wear when compared to bikes without power assistance. This is because the RadRover can travel at higher average speeds than regular cycles and has a greater weight. Higher wear is not a defect in the product and is not subject to warranty. Typical components affected are the tires, brake pads and rotors, suspension forks, spokes, wheels, and the battery.



When the useful life of a component is surpassed it can cause unexpected loss of function. This can result in serious injuries or even death. Therefore, pay attention to wear characteristics such as cracks, scratches, or changes in the color or operation of components which could indicate useful life has been exceeded. Worn components should be replaced immediately. If you are unfamiliar with regular maintenance, a certified, reputable bike mechanic should be consulted.

Link to Assembly Video and Online Resources

Assembly Video

Please visit the “Help Center” section of the Rad Power Bikes website (www.radpowerbikes.com/help) to view the official RadRover Assembly Video.

Online Resources

For more information on best practices, please visit the Rad Power Bikes website (www.radpowerbikes.com), Help Center (www.radpowerbikes.com/help), or contact Rad Power Bikes Technical Support with any questions.

We are here to help!

If you have questions, please:

Access Rad Power Bikes Help Center (www.radpowerbikes.com/help),

Contact us directly by email to support@radpowerbikes.com, or

Call Rad Power Bikes Technical Support 1-800-939-0310 x 2

Thanks for Riding RAD!