

RADRUNNER

Welcome

Thank you for purchasing the RadRunner from Rad Power® Bikes.

We take pride in bringing you a quality pedelec bicycle that will offer years of enjoyment. Please read and understand this manual fully before assembling and riding your ebike by Rad Power Bikes.

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!

Please visit:

Website: www.radpowerbikes.eu

Owner tools: radpowerbikes.eu/owner-tools

Contact us:

Email: eu-support@radpowerbikes.com

Phone: +31-85 7470430

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 RadRunner before using it to ensure safe use and prevent accidents. 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. More information is available at www.radpowerbikes.eu.

The notes, warnings, and cautions contained within the manual and marked by the triangular Caution Symbol at the right of this page should be given special care. Users should also pay special attention to information marked in this manual beginning with **NOTICE**.



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 www.radpowerbikes.com/help to view and 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.

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.

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General Info

Assembly and Fit

Correct assembly and fit are essential elements of ensuring your biking 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 from Rad Power Bikes may include securing the front wheel and will include checking the tightness of the front wheel quick release and of the rear wheel axle nuts. All bikes from Rad Power Bikes use a quick release front wheel mounting mechanism and the rear wheel is bolted on. These mechanisms may become loose or unsecured during shipment or over time. The torque and security of all wheel mounting hardware should be inspected upon arrival and on a regular basis. 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 RadRunner, void your warranty and, in some cases, cause your RadRunner 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 with your bike model may void your warranty, create an unsafe riding condition, damage to property or 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 bike mechanic for assistance. See the Pre-Ride Safety Checklist for more information.

Electrical System

The electrical system on your RadRunner 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 RadRunner'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 twist power assist should provide smooth acceleration when gradually applied while pedalling. If the twist power assist, brake lever cutoff switches, pedal assistance, or lighting are not functioning normally, intermittent, or not working, please discontinue using your RadRunner immediately and contact the Rad Power Bikes Technical Support 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.

Tyres 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 tyres and inner tubes are in good working condition without any visual damage and have the correct amount of air pressure. Always replace tyres and inner tubes with punctures, cuts, or damage before you ride. Tyres without the correct amount of air pressure can reduce performance, increase tyre and component wear, and make riding your bike unsafe.

Quick Release Levers

Quick release levers are located throughout the RadRunner for securing the seatpost and the front wheel to the bike. These provide convenience to the user since they allow the front wheel to be removed and the seatpost 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.

Handlebar, Grips, and Seat Adjustments

Ensure the handlebar and handlebar stem are properly aligned, fitted to the user, and secured to their recommended torque values. Handlebar grips should not move easily on the handlebar end. Loose, worn, or damaged handlebar grips should be replaced before you ride and can be purchased from www.radpowerbikes.eu. The bolts securing the seat body to the non-adjustable seat base (seat mounting bolts) should be properly secured to recommended torque values. The seat and seatpost should be properly aligned, fitted to the user, and the seatpost quick release should be properly tightened, fully closed, and secured before riding.

Battery Charged, Secured, and Unplugged

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

Fully Assembled 2020 RadRunner



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 the bike. Open the bike box and remove the small box inside. With the help of another person capable of safely lifting a heavy object, remove the RadRunner from the bike box. **Prop the bike on the kickstand** and carefully remove the packaging material protecting the bike frame and components. Please recycle packaging materials especially cardboard and foam whenever possible. Open the small box and carefully **set out all contents**.



Ensure all of the following pieces are included with the RadRunner:

Front Wheel	Manual(s)	Assembly Toolkit
Keys (two, identical)	Charger	Pedals (marked left and right)

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

Step 2: Install front wheel.

Locate the quick release lever, which holds the protector plate in place during shipment. Open the lever and remove the thumb nut and cone spring (opposite the lever). Remove the quick release skewer from the plate, keeping the washer and other cone spring in place on the lever side.

Install the skewer into the front wheel axle from the brake rotor side. Reinstall the cone spring so it points towards the wheel hub then thread the thumb nut onto the skewer only a couple turns, leaving room for the fork dropouts. Make sure the lever is open and carefully lower the fork onto the axle and brake calliper.

Fully seat the skewer in the fork dropouts (and the brake rotor in the calliper) and add tension to the lever by turning the thumbnut. When there is enough resistance to hold the quick release lever in line with the axle, close the lever using the palm of your hand without touching the brake rotor.

When properly installed, the front wheel should be fully seated and centered in the dropouts of the front fork, the brake rotor should be in between the brake pads in the brake calliper, and the quick release lever should be fully and properly secured. Ensure the front wheel and quick release lever are properly secured before moving on to the next step.

For detailed instructions please view the RadRunner Assembly Video available in the Help Center at www.radpowerbikes.com/help.



Caution: Never touch the brake rotor, especially when the wheel and/or bike is in motion, or serious injury could occur. Hand oils can cause squeaking and decrease brake performance; do not touch the brake rotor while inspecting, opening, or closing the quick release lever.

Step 3: Install the handlebar onto the stem as shown in the assembly video for the RadRunner available at www.radpowerbikes.com/help. Trace the front brake cable from the left front brake calliper to the left handlebar grip to ensure it is not twisted. Centre the handlebar in the stem clamp and use a 5 mm Allen wrench to tighten the stem clamp face plate mounting bolts part way. Rotate the handlebar angle to fit the rider comfortably (it is generally advised the angle to be between completely vertical to 20° back towards the rider). Consult a certified, reputable, and local bike fitting specialist for assistance with properly fitting the bike to a rider. Use a torque wrench with a 5 mm Allen bit to evenly torque the four stem faceplate bolts to 10 Nm.





WARNING: an improperly secured front wheel and/or handlebar stem can cause loss of control, accidents, serious injury, or death. Check that the front wheel and handlebar stem are properly secured to the bike during assembly and before each ride.

Step 4: Perform a **handlebar twist test** to ensure the handlebar stem is secure.

- A. **Brace the front wheel.** Stand at the front of the bike, facing the handlebar, and brace the front wheel between your feet and lower legs.
- B. **Try to twist the handlebar.** Hold both handlebar grips and push forward with one hand while pulling back with the other. Push and pull at the same time with about 9 kg (20 lb) of force with each hand.
- C. **Ensure the handlebar and wheel stay properly aligned.** The handlebar and handlebar stem should be tightly secured perpendicular to the front wheel.
- D. **Repeat the twist test pulling/pushing with the opposite hands**, again with 9 kg (20 lb) of force pulling with one hand and 9 kg (20 lb) of force pushing with the other.
- E. **If needed, align the handlebar and stem and torque the stem clamp bolts evenly** to the specification for the handlebar stem clamp bolts in the Recommended Torque Values table below. After torquing the stem clamp bolts to the proper specification, perform the twist test again. If the handlebar still moves, contact Product Support.



WARNING: If you are not sure you have the experience, skills, and tools to correctly perform all steps to properly secure and verify the security of the handlebar, front wheel, and handlebar stem you **MUST** consult a certified, reputable bike mechanic to check your work and/or secure those components to the bike properly.

Step 5: Install the pedals. Locate the pedal with a smooth pedal axle exterior and an “R” stamped into the end of the pedal axle (1, in the image below), which indicate it is the right pedal. The right pedal goes on the crank on the right side of the bike (which has the drivetrain gears, is the same as a rider’s right side when riding, and is depicted in the image below, centre).

The right pedal (1) is threaded to tighten 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 (2) is reverse-threaded and tightens anticlockwise. Ensure the remaining pedal has notches on the exterior of the axle and an “L” stamped into the end of the axle (2, in the image below), 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.

Torque each pedal to 35 Nm. Use a pedal wrench to avoid damage caused by wider wrenches.



Step 6: Inflate tyres. Check that the tyre beads and tyres are evenly seated around the rims. Use a pump with a Schrader valve and pressure gauge to inflate each tyre to the recommended pressure indicated on the tyre sidewall. Do not overinflate or underinflate tyres.



Step 7: Connect and adjust the headlight. Locate the two sides of the red, two-pin headlight connector. Align the internal pins and notches and external arrows and press directly together without twisting to fully seat the connection.

If needed, adjust the headlight angle to illuminate the road ahead and not blind oncoming traffic. Use a 4 mm Allen wrench and 10 mm wrench to loosen the headlight angle adjustment bolt, tilt the headlight to the optimal position, and then tighten in place securely. Note the power switch at the back of the headlight body can rotate to the off position, which will keep the headlight off (but the taillight/brake light on) when the bike and light button are turned on.



Step 8: Set the desired seat height.

Open the seatpost quick release lever by tilting it up so it will clear the rear rack tubing then hinging it open fully (depicted in the images below). Ensure the seatpost clamp opening is aligned with the notch at the front of the seat tube. Adjust the seatpost up or down to a comfortable height, while ensuring the seatpost is inserted into the frame past the minimum insertion point.

If needed, use the thumb nut to add tension to the clamp so there is some resistance when the lever is in line with the clamp bolt, but do not overtighten. Close the quick release lever to secure the seatpost and check that it cannot move. See the Adjusting the Seat section of this manual for more details.



Step 9: Check the chain tensioner alignment. Stand at the back of the bike and look at drivetrain. The jockey wheels of the chain tensioner should be aligned directly below the gear on the rear wheel as shown in the photo at right. If these components are not directly aligned, please contact Rad Power Bikes Technical Support for troubleshooting.



Step 10: Always check that the battery is locked to the frame of the RadRunner 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).



Step 11: Ensure all hardware is tightened properly following recommended torque values.

Recommended Torque Values

Hardware Location	Hardware	Torque Required (Nm)
Handlebar Area	Stem Clamp Bolts	10
Handlebar Area	Stem Faceplate Bolts	8
Handlebar Area	Brake Lever Clamp Bolt	6
Brakes	Calliper Adapter to Frame	6-8
Brakes	Calliper to Adapter	6-8
Brakes	Brake Cable to Calliper Clamp	6-8
Brakes	Disc Brake Rotor to Hub	7
Seatpost Area	Seat Mounting Bolts	10
Rear Dropout Area	Rear Axle Nuts	40
Rear Dropout Area	Rear Torque Arm Bolt	5
Rear Dropout Area	Chain Tensioner Mounting Bolt	6
Kickstand	Kickstand Mounting Bolts	30
Bottom Bracket and Crank Area	Bottom Bracket and Lockring	60
Bottom Bracket and Crank Area	Crank Arm Bolt into BB 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	5

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

NOTICE: Prior to first use, ensure the three seat mounting bolts are secured to the recommended torque value. A loose seat clamp or seat mounting 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.

Step 12: 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.



WARNING: 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, **you MUST consult a certified, reputable local bike mechanic for assistance** in addition to contacting Rad Power Bikes for help.



WARNING: Before using the bike, always check to ensure all quick release levers and locks 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 seatpost, front wheel, and/or battery may come loose and can result in loss of control, damage to the bike, property, serious injury, and/or death.



WARNING: Do not extend the seatpost beyond the recommended range and/or any minimum insertion marking etched into the components. Ensure that all hardware is properly tightened to recommended torque values and components are secured before moving on to the next step, otherwise damage to the bike, property, serious injury, or death could occur.

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. The correct seat height should not allow leg strain from over extension and the hips should not rock from side to side when pedalling. To adjust the seat height:

- 1) Open the quick release lever by angling the lever up slightly to clear the rear rack frame tubing and then swinging the lever open and outwards fully (depicted at right).
- 2) Move the seat up and down by sliding the seatpost in or out of the seat tube. Set the desired seat height ensuring the seatpost is inserted into the frame properly.

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

- 3) If needed, use the thumb nut (opposite the quick release lever) to add tension to the clamp so there is some resistance when the lever is in line with the clamp bolt, but do not overtighten.
- 4) Close the quick release lever by angling the lever end up slightly so it clears the rear rack tubing, swinging the lever fully closed, and then rotating the lever end down so the lever is parallel to the ground and it looks like the outlined image at right. Ensure the seat cannot move up, down, to the left, or right.



Rider Comfort

Depending on a rider's preference, ability, and amount of experience with bike riding, lowering the seat so the rider can put one or both feet on the ground without dismounting from the seat may offer a safer and more comfortable experience, especially while first learning how to operate and handle the bike.

Once a new rider is more experienced and confident, the seat height can be raised and set as described in the Adjusting the Seat Height Section. An almost full leg extension, with a slight bend in the knee, generally provides the best possible pedalling efficiency.

To obtain maximum comfort, riders should not overextend their arms' reach when riding. It is generally advised to ensure the handlebar and brake lever angles allow for a comfortable arm position and relatively straight line from forearms, wrists, and hands. Ensure the handlebar angle is adjusted so that it allows the handlebar to remain clear of the rider's body while turning.

A bike fitting professional, such as a certified, reputable bike mechanic who specializes in bike fit, should be consulted to ensure you have a good fit.

NOTICE: If you have any questions regarding the proper fit of your bike please consult a certified, reputable local bike mechanic for assistance fitting the bike to a rider or contact Rad Power Bikes.

Battery Charging

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, locked” 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 (110/230-volt plug) to the power outlet. Charging should initiate and will be indicated by the LED charge status lights on the charger turning red.
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 proceed to remove the charger output plug from the battery charging port.



Always charge your battery in temperatures between 10 °C - 25 °C (50 °F – 77 °F) 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 Information

- **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 10 °C – 25 °C (50 °F – 77 °F).
- **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), remove the key from the key port by pulling directly backwards without twisting, 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 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 the best practices outlined in the Battery Charging Information section 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 and the key is removed from the key port whenever it is being removed or off the bike.
- Be careful not to drop or damage the battery when loose from the bike.
- Do not touch the “+” and “-” terminal contacts on the bottom of the battery when the battery is removed from the bike.
- 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 and the key is removed from the key port before sliding the battery into the frame mount receptacle.
- Do not force the battery onto the receptacle; slowly align and 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, and the battery is not fully charged, 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 travelled, riding characteristics, terrain, payload, and battery age. The following table provides an estimate of charge time based on most common distances travelled in regular operation:

Distance Travelled	Estimated Time to Fully Recharge
8 km (5 mi)	1 hour
16 km (10 mi)	1.5 hours
24 km (15 mi)	2.5 hours
32 km (20 mi)	3.5 hours
40 km (25 mi)	4.5 hours
48 km (30 mi)	5.5 hours
88 km (55 mi)	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 110/230 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 from Rad Power Bikes, the charger, personal property, 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 10 °C - 25°C (50 °F – 77 °F).
- Check the battery every month, and if necessary, use the charger from Rad Power Bikes 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 lights 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, 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 in the following sections related to safety.

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 RadRunner, and any manuals included with each subcomponent.



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, injury, 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 dangerous situations, accidents, injury to you and others, damage to the bike, damage to property, injury, or death. Contact Rad Power Bikes if you have any questions about assembly or operation.



Users must become accustomed to the bike's power controls before operating. The twist power assist mechanism allows a power boost while pedalling, and inexperienced users should take extra care when first applying the twist power assist. The pedal assistance feature is also a powerful option and users should fully understand how to operate it before first use. Not taking care to familiarize yourself and practise the operation of the power system on your bike from Rad Power Bikes can lead to damage, serious injury, or death.

Battery Key Positions

Familiarize yourself with the key port and key positions before riding the bike. The photo below 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, and the key removed so the bike is ready to ride.

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

- Anytime the battery is in key position 1, (on, locked to the frame) the display power button will turn the bike on and off, but the battery cannot be removed.
- If the battery is in key position 2, (off, locked to the frame) no buttons or controls can be activated, the bike will remain off, and the battery cannot be removed.
- Anytime the battery is in key position 3, (off, unlocked from the frame) the battery must be removed from the bike before moving or riding the bike. Ensure the key is removed before sliding the battery off the mount.



Handlebar Features



Location on Handlebar	Component
1	Left brake lever
2	Bell
3	Display
4	Twist power assist/ walk mode (while dismounted)
5	Right brake lever

Display Controls, Information, and Operation

Location	Control/Information on Display	Operation Instructions
1	Power Button	Press and release to turn bike on/off
2	Light Button	Press and release to turn headlight/taillight on/off
3	Headlight/Taillight Indicator Light	Will illuminate when lights are on
4	Battery Level Indicator Lights	Will illuminate when bike is on
5	Pedal Assist Level/ Error Indicator Lights	Will illuminate when bike is on
6	Increase Pedal Assist (PAS) Level	Press and release to increase PAS level 1x
7	Decrease Pedal Assist Level/ Walk Mode	Press and release to decrease PAS level 1x / engage walk mode



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 twist power assistance if necessary and to maintain control of the bike.

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 on the battery, bike, and select a power level following the steps outlined below:

1. **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.
2. **Ensure proper handlebar and seat adjustment** of the bike to the rider. Once the battery has been verified as secure, ensure the seat and handlebars are adjusted properly to the rider. Lowering the seat so the rider can put one or both feet flat on the ground without dismounting from the seat may offer a safer and more comfortable introduction to operating the bike. Ensure the stem faceplate bolts and seatpost quick release are fully and properly secured.
3. **Turn the bike on.** Insert the key and turn clockwise to the open circle icon or “on, locked” position (1). **Remove the key** by pulling directly backwards without twisting so the key barrel remains in the “on, locked” position. Press and release the power button to turn on the display and bike.



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, pedalling, dismounting, and/or removing an unlocked battery from the frame can cause damage to the key, battery, and/or injury.

4. **To turn on the headlight**, once the display is powered on, press and release the light button. The headlight, taillight, and the headlight/taillight indicator light next to the button, will illuminate. Ensure the switch at the back of the headlight is in the on position so the light button will turn on the headlight. See Headlight Features and Operations section for more information.
5. **Select your desired level of pedal assistance (PAS)** between level 0 through 4 using the up and down arrows on the display remote. Level 1 corresponds to the lowest level of pedal assistance, and level 4 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.
6. **Begin riding carefully.** With the proper safety gear, rider knowledge, and understanding you may now proceed to operate your RadRunner from Rad Power Bikes. Begin pedalling in pedal assist 0-1 to propel the bike forward. You may also use the twist power assist to accelerate and maintain your desired speed.
7. **The twist power assist** is used by slowly and carefully rotating the twist power assist backwards towards the rider while pedalling. If the bike is powered on and the rider is pedalling at an adequate cadence, the twist power assist will act as an adjustable, on-demand pedal assistance boost. When dismounted, the RadRunner is powered on, and being pushed below 6 km/h (4 mph), the twist power assist will engage walk mode.



The twist power assist is not designed to be used without pedalling. Use walk mode only while dismounted to facilitate pushing the bike (for example, pushing uphill and/or while loaded with cargo). To avoid accidental application of the twist power assist, while dismounted, ensure the bike is powered off to prevent accidental application of power assistance.

Headlight Features and Operations

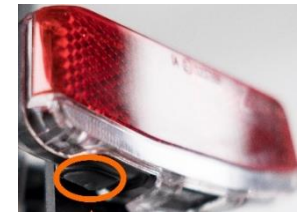
The headlight on the RadRunner will illuminate when the battery is in the on position, the bike has been turned on by pressing the power button, and the light button has been pressed-- as long as the on/off switch at the back of the headlight body is aligned in the on position (1). This on/off switch can be rotated to the off position (2), which will keep the headlight off (but the taillight/brake light on) when the bike and light button is turned on.



The headlight on the RadRunner is designed to help others see the bike, especially in low-light conditions. Depending on rider preference and visual ability, an additional bike light may be necessary to illuminate the path ahead for the rider. Always ensure any lights, on the bike or on a rider's person, are angled downwards to prevent blinding oncoming traffic. See the Night Riding section for more information.

Brake Light Features and Operations

The RadRunner comes with a taillight/brake light integrated into the electrical system. Anytime the bike is powered on, squeezing one or both brake levers on the handlebar will cause the brake light to illuminate. For increased visibility, the taillight's "solid mode" can be turned on by pressing and releasing the light button when the bike is on. When in solid mode, the rear light will be illuminated, and when the brake levers are squeezed, the brightness of the rear light will increase as the brake light activates. Turning off the light button will turn off the taillight in solid mode. The taillight is also capable of flashing (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 above). When in flash mode, squeezing the brake lever(s) will illuminate a brighter, solid brake light. Flash mode will continue if the light button 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 Charge Level Indicator

The display on the handlebar of your bike from Rad Power Bikes features a battery charge level indicator (like a fuel gauge on a car). The more illuminated orange bars of the battery charge level indicator, the more battery is available to power your ride. This gauge calculates battery life based on the battery voltage and can fluctuate while riding if power demand and/or output changes. For example, bars may lower while climbing hills and rise back up once descending a hill. At lower states of charge, the bike may limit power output to protect the battery. Once one bar is left on the display, or when the battery is fully depleted (indicated by a flashing last bar), users should 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.

- Avoid applying full twist power assist 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. Tyre 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 bike from 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)
40 km (30 mi)	Hilly Terrain Heavy Payload Windy High Pedal Assist Level/ High Use of Twist Power Assist Light Pedalling
52 km (32 mi)	Flat Terrain Normal Payload Not Windy Medium Pedal Assist Level/ Moderate Use of Twist Power Assist Light Pedalling
88 km (55 mi)	Flat Terrain Normal Payload Not Windy Low Pedal Assist Level/ Minimal Use of Twist Power Assist Moderate to Heavy Pedalling

Carrying Loads

The total maximum weight limit, or payload capacity, of the RadRunner (136 kg or 300 lb) includes the weight of the rider as well as clothing, safety gear, cargo, accessories, passengers, etc. 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 or in place. You **MUST** hold onto the bike whenever loading cargo or a passenger or child onto a child seat mounted on the rear cargo deck. Optional accessories for the RadRunner are available for purchase at www.radpowerbikes.eu.

Total maximum payload: 136 kg (300 lb)

Rear Cargo Deck maximum payload: 54 kg (120 lb)

Kickstand: 45 kg (100 lb)

Optional Bucket attachment: 10 kg (22 lb)

Optional Foot Pegs: 18 kg (30 lb) per side

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



Do not exceed the load limit of the rear cargo deck or optional bucket attachment. The RadRunner rear cargo deck is designed for no more than 54 kg (120 lb) of total cargo, regardless of any third-party rear rack accessories which might carry a higher weight rating. Heed this 54 kg (120 lb) limit, or damage to your bike, property, and/or cargo, and serious injury or death of the rider and/or passenger can occur.



Foot pegs are designed as a footrest only, for use by a passenger while they are sitting on the rear seat. A passenger must always keep both feet on the foot pegs when the bike is in motion. If someone cannot always keep contact with the foot pegs, they should ride in an appropriate child seat or should not ride as a passenger on the RadRunner. Do not stand on or otherwise misuse foot pegs or damage to the product, serious injury, and/or death could occur.



You **MUST** hold onto the RadRunner 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.



It is always the user's responsibility to ensure the passenger and/or cargo loaded on the RadRunner do not interfere or impact the user's ability to safely operate the RadRunner. Failure to ensure the passenger and/or cargo does not interfere with the rider's safe operation could cause damage to the bike property, serious injury, and/or death.

Carrying a Passenger

Notice: Check all regulations where you operate the RadRunner to ensure carrying a child, passenger, or cargo is allowed. The following list provides important tips for the safe operation of the RadRunner when used for carrying a passenger.

- A passenger incapable of riding a bike on their own should not ride as a passenger. Use your best judgement as a parent or guardian to keep a child or an adult passenger and the rider safe.
- When carrying a passenger, you must have the foot pegs, rear wheel side covers, and a seat appropriate for the rider, and the rear fender is recommended, which all help ensure hands and feet are kept clear of the moving wheel.
- Follow the stated weight limits for the bike and accessories; do not overload the RadRunner.
- Increased weight from a passenger will increase the time it takes to slow the bike when braking. Plan your stops accordingly and ensure both front and rear brakes are properly adjusted, maintained, and applied.
- Ensure that both the rider and passenger are wearing a properly fitted and approved helmet.
- Hold onto the bike when loading cargo and/or passengers. Ensure passenger sits over or forward of the rear wheel.
- Do not allow passengers to sit sideways or backwards on the rear cargo deck.
- Do not allow passengers to stand or kneel on the rear cargo deck or foot pegs.
- Ensure that passengers are safely seated before beginning to ride.
- A passenger should sit on the rear seat directly over or forward of the rear wheel axle, hold onto the rider's hips or waist (but not shoulders), and keep their feet on the foot pegs when the bike is in motion.
- Since passengers sit behind the rider, they cannot see bumps or upcoming turns; instruct passengers to brace for bumps and be prepared for turns, braking, and other manoeuvres.



Ensure the clear rear wheel side covers, an appropriate seat accessory, and/or foot pegs are properly installed on your RadRunner before carrying a passenger. The rear fender is also highly recommended. All these components help ensure hands and feet are kept clear from the moving wheel. Contact with the rear wheel can cause injury and damage to occur.



It is the user's responsibility to ensure a passenger on the RadRunner is adequately experienced and fit enough to safely ride as a passenger. Serious injury or death can occur if a passenger is inexperienced, in poor health or fitness, and/or intoxicated, all of which could impact their ability to ride as a passenger.

Carrying a Child

The use of certified and approved child seat and/or equipment is required whenever carrying a child. A child incapable of riding a bike independently or under the age of four should not ride as a passenger on the RadRunner unless seated in a properly fitted and approved child safety seat. The RadRunner rear cargo deck is equipped with a mounting window, called “Yepp window,” for the Thule Yepp Maxi Easyfit child carrier. For installation instructions, safety notices, general information, and tips on safe operation of the Thule Yepp Maxi Easyfit child carrier accessory, visit the manufacturer’s website online at www.thule.com or contact Rad Power Bikes.



Children too large or heavy for the Thule Yepp Maxi Easyfit child carrier must have legs long enough to always maintain contact with the foot pegs anytime the bike is in motion. If they cannot always maintain contact with the foot pegs when the bike is in motion, they should not ride as a passenger. Serious injury or death can occur if clothing or body parts contact the rear wheel while the bike is in motion.

A Note for Parents and Guardians

As a parent or guardian, you are responsible for the activities and safety of your child. The RadRunner is not designed to be ridden by a child under the age of 18. If you are carrying a passenger in a child safety seat, they should also be wearing a helmet. Additional information on helmets can be found in the Helmet section of this manual.



Never leave the bike unattended with children on the bike. Ensure a child is 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 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 RadRunner. You must become accustomed to the braking, steering, and operational adjustments required to safely operate the RadRunner with cargo. Users should practise riding on a flat and open area with light cargo before attempting to carry heavier loads.

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

- Cargo should be loaded as low as possible to lower the centre of gravity and improve stability, but cargo should not interfere with any moving components or the ground.
- Ensure cargo loads are properly secured and periodically check that nothing loosens, risks interfering with any moving parts, 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 RadRunner. 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 RadRunner 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.



Foot pegs are not designed for carrying cargo. Anytime the foot pegs are not being used as a footrest for a passenger, they should be secured in the folded position as close to the frame as possible. Misuse of foot pegs may cause damage to the bike, property, serious injury, and/or death.

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 of the motor.
- Turn off the power and any lights to conserve battery.
- Ensure the battery is locked to the frame in the off position or use the key to unlock the battery, remove the key, then 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 appropriate precautions to keep your bike 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 tyres used on your bike. Some racks may not accommodate all tyre widths.
- When storing or carrying your bike on a rack for transport, unlock, remove the key, then remove the battery to reduce the weight of the bike, make lifting and loading easier, and protect the battery by transporting in the cab of a vehicle.
- Avoid transporting bike(s) from 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 below for more detailed information.

1. Properly maintain batteries by keeping them fully charged when between uses of up to two weeks apart. See this manual's Long-Term Battery Storage section for information on storing battery 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.
10. The RadRunner comes equipped with a kickstand, front wheel quick release, and headlight pre-attached. There are also mounting points for accessories and foot pegs. All pre-attached and optional component hardware should be inspected regularly to ensure proper torque spec, secure attachment, and that they are in good working condition.

Recommended Service Intervals

Regular inspection and maintenance are key to ensure bikes by 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, 160-321 km (100- 200 mi)	<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, chain tensioner, and jockey wheels). - 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 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, 402-1207 km (250- 750 mi)	<ul style="list-style-type: none"> - Check brake pad alignment, brake cable tension. - Check drivetrain for proper alignment and function (including the chain, freewheel, chainring, chain tensioner, and jockey wheels). - Check chain stretch. - Check brake 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 cables. - True and tension wheels if any loose spokes are discovered. - Balance the battery. 	<ul style="list-style-type: none"> - Replace brake cables if necessary. - Replace brake pads if necessary.
Every 6 Months, 1207-2011 km (750- 1250 mi)	<ul style="list-style-type: none"> - Inspect drivetrain for proper alignment and function (including chain, chainring, freewheel, chain tensioner, and jockey wheels). - Inspect all cables and housings. 	<ul style="list-style-type: none"> - Standard tune-up by certified, reputable bike mechanic is recommended. - Grease bottom bracket, headset, and front wheel bearings. 	<ul style="list-style-type: none"> - Replace brake pads. - Replace tyres if necessary. - Replace cables and housings if necessary.

Pre-Ride Safety Checklist

Notice: Before every ride, and after every 40-72 km (25-45 miles), we advise following the pre-ride safety checklist in the table below.

Safety Check	Basic Steps
1. Brakes	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 rotors. Ensure brake cables are correctly adjusted, functioning properly, and display no obvious wear. Ensure brake levers are lubricated and tightly secured to the handlebar. Test that the brake levers are firm and that the brake, motor cutoff functions, and the brake light are functioning properly.
2. Wheels, Tyres	Ensure tyres are inflated within the recommended limits posted on the tyre sidewalls and hold air. Ensure tyres 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. Seat	Ensure the three seat mounting bolts are tightened to the recommend torque value. Ensure the seat quick release lever is properly tightened and secured and that the seat cannot move. Check that the seat is adjusted properly, and seat post quick release lever is securely tightened.
4. Steering	Ensure handlebar and stem are correctly adjusted and tightened and allow proper steering. Perform a handlebar twist test (see assembly step 4) to ensure the stem clamp bolt security. Ensure the handlebar is set correctly in relation to the fork and the direction of travel.
5. Chain	Ensure the chain is oiled, clean, and runs smoothly. Extra care is required in wet, salty/otherwise corrosive, or dusty conditions
6. Bearings	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.
7. Cranks, Pedals	Ensure pedals are securely tightened to the cranks. Ensure the cranks are securely tightened and are not bent.

8. Drivetrain	Check the chain, chainring, chain tensioner, and jockey wheels are aligned and functioning properly. Ensure the drivetrain components are clean and properly lubricated.
9. Frame and Fork	Check that the frame and fork are not bent or broken. If either frame or fork are bent or broken, they should be replaced.
10. Motor Drive Assembly, Twist Power Assist	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.
11. Battery	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 10 °C - 25 °C (50 °F – 77 °F). Let bike dry completely before using again.
12. Cables	Look over connectors to make sure they are fully seated and free from debris or moisture. Check electrical cables and cable housing for obvious signs of damage. Check mechanical brake cables and cable housing for obvious signs of damage or corrosion. Ensure headlight, taillight, and brake light are functioning, adjusted properly, and unobstructed.
13. Accessories	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 a front rack, rear rack, basket, etc. 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 80-160 km (50-100 mi), and bolted connections can loosen. Always have a certified, reputable bike mechanic perform a tune-up on your RadRunner after your initial break-in period of 80-160 km (50-100 mi) (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.

Tyre Inflation and Replacement

The RadRunner employs 20" x 3.3" rubber tyres with inner tubes. The tyres are designed for durability and safety for regular cycling activities and the tyres need to be checked before each use for proper inflation and condition. Proper inflation, care, and timely replacement will help ensure the bike's operational characteristics will be maintained, and unsafe conditions avoided. Recommended tyre pressure is written on the tyre sidewall.



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



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

Even tyres equipped with built-in flat-preventative tyre liners can and do get flats from punctures, pinches, impact, and other causes. When tyre wear becomes evident or a flat tyre is discovered, tyres and/or tubes must be replaced before operating the bike or injury to operators and/or damage to your bike from Rad Power Bikes could occur.



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



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

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

Email: eu-support@radpowerbikes.com Call: +31-85 7470430

Troubleshooting

Basic Troubleshooting

	Symptoms	Possible Causes	Most Common Solutions
1	It does not work	<ol style="list-style-type: none"> 1. Insufficient battery power 2. Faulty connections 3. Battery not fully seated in tray 4. Improper turn on sequence 5. Brakes are applied 	<ol style="list-style-type: none"> 1. Charge the battery 2. Clean and repair connectors 3. Install battery correctly 4. Turn on bike with proper sequence 5. Disengage brakes
2	Irregular acceleration and/or reduced top speed	<ol style="list-style-type: none"> 1. Insufficient battery power 2. Loose or damaged twist power assist 	<ol style="list-style-type: none"> 1. Charge or replace battery 2. Replace twist power assist
3	When powered on the motor does not respond	<ol style="list-style-type: none"> 1. Loose wiring 2. Loose or damaged twist power assist 3. Loose or damaged motor plug wire 4. Damaged motor 	<ol style="list-style-type: none"> 1. Repair and or reconnect 2. Tighten or replace 3. Secure or replace 4. Repair or replace
4	Reduced range	<ol style="list-style-type: none"> 1. Low tyre pressure 2. Low or faulty battery 3. Driving with too many hills, headwind, braking, and/or excessive load 4. Battery discharged for long period of time without regular charges, aged, damaged, or unbalanced 5. Brakes rubbing 	<ol style="list-style-type: none"> 1. Adjust tyre pressure 2. Check connections or charge battery 3. Assist with pedals or adjust route 4. Balance the battery; contact Tech Support if range decline persists 5. Adjust the brakes
5	The battery won't charge	<ol style="list-style-type: none"> 1. Charger not well connected 2. Charger damaged 3. Battery damaged 4. Wiring damaged 	<ol style="list-style-type: none"> 1. Adjust the connections 2. Replace 3. Replace 4. Repair or replace
6	Wheel or motor makes strange noises	<ol style="list-style-type: none"> 1. Loose motor cable connection 2. Damaged motor bearings 3. Damaged wheel spokes or rim 4. Damaged motor wiring 	<ol style="list-style-type: none"> 1. Reconnect cable 2. Replace 3. Repair or replace 4. 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 rare event of an electrical issue with the bike, you may see a specific combination of lights flash on the Pedal Assistance Level lights (0-4) on the display. If this happens at any time it is recommended that you cease operation, take a short video of the light(s) flashing if possible, and contact Rad Power Bikes Technical Support immediately for troubleshooting steps. The following error codes can aid in troubleshooting:

Error Indication: Pedal Assistance Level Light(s) Flashing	Definition
0	Abnormal current
1	Twist power assist fault
0 and 1	Motor phase fault
2	Motor hall fault
0 and 2	Brake switch fault or Brake applied while turning on
All lights (0, 1, 2, 3, and 4)	Communication fault

Additional information on error codes can be found at www.radpowerbikes.com/help.

Additional Information on Wear

Components of the RadRunner are subject to higher wear when compared to bikes without power assistance. This is because the RadRunner can travel at higher average speeds than regular bicycles 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, 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 colour 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.

Warnings and Safety

General Operating Rules

Notice: It is recommended that users, both riders and passengers, 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 your bike by Rad Power Bikes. Practise and become proficient at applying the brakes, using the pedal assist system, and using the twist power assist in a controlled setting before riding in more dynamic 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, gear, chain tensioner, or kickstand.
- 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 the amount of weight on the bike among other variables.

Safety Notes



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 instructions 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 riding a bike 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, tightening, and torqueing to recommended torque values is performed on your bike before first using it. Check the setup, tightness, torque, and condition of components and hardware 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.
- Ensure clothing and body parts are kept clear of the kickstand and springs when opening and closing the kickstand.
- If optional foot pegs are installed and no passenger is riding on the rear seat, keep the foot pegs folded close to the frame.

- 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/catalogues 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 squeezed. Check proper operation of brake motor cutoff switches before riding.
- Extreme care should be taken when using the pedal assistance sensor and twist power assist on this product. Ensure you understand and are prepared for the power assistance to engage as soon as pedalling is underway.
- Users must understand the operation of the twist power assist 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 or death.
- Do not remove any reflectors or the bell.

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 practise 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 RadRunner 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, 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.



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.

Helmets

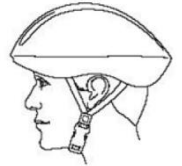
It is strongly advised that a properly fitting and approved bicycle safety helmet is always worn by the rider and a passenger while riding.



We recommend a rider and passenger always wear a properly fitted helmet that covers the forehead when riding a bike.



Once safely dismounted from the bike, a child's helmet should be removed to reduce the risk of strangulation or hanging, especially when engaging in activities such as climbing trees or playground equipment.



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-coloured clothing.
- Slow down and use familiar roads with street lighting, if possible.
- Ensure tyre wall, pedal, and other reflectors are installed and unobstructed.
- Ensure the power switch at the back of the headlight body is in the on position so it can be powered on with the light button on the display.
- Ensure headlight and taillight/brake light are functioning correctly and use them.

Warranty

Your bike's warranty and other binding legal terms (e.g., terms of purchase, etc.) are subject to change at any time. To view your terms of purchase, go to www.radpowerbikes.eu/terms. To view the current warranty, please go to www.radpowerbikes.eu/warranty.

Warranty Info

RAD POWER BIKES LIMITED WARRANTY TERMS

This Limited Warranty is in addition to your statutory rights.

All Rad Power Bikes ("RPB") E-Bikes (the "E-Bike") purchased in Europe, and their individual Covered Components (as defined herein), are protected against all manufacturing defects in material or workmanship with regard to the Covered Components for two years after the date of a qualifying purchase (the "Warranty Period"). This Limited Warranty is only applicable to E-Bike purchases in the UK and EU (purchases in the United States or Canada shall be subject to the applicable warranty terms offered by RPB in those jurisdictions) and in accordance with the following terms:

Only the original owner of the E-Bike is covered by this Limited Warranty. The Warranty Period begins upon your receipt of the E-Bike and shall end immediately upon the earlier of the end of the Warranty Period or any sale or transfer of the E-Bike to another person, and under no circumstances shall the Warranty apply to any subsequent owner or other transferee of the E-Bike.

The Limited Warranty is expressly limited to the replacement of any of the following components that come standard on your ebike model, if those components are found to be defective: lithium ion battery (the “Battery”), frame, forks, stem, handlebar, headset, seat post, saddle, brakes, lights, bottom bracket, crank set, pedals, rims, wheel hub, freewheel, cassette, derailleur, shifter, chain tensioner, motor, throttle, twist power assist, controller, wiring harness, LCD display, LED display, kickstand, reflectors and hardware (each a “Covered Component”).

This Limited Warranty Does Not Cover

- Normal wear and tear of any Covered Component.
- Consumables or normal wear and tear parts (such as tyres, tubes, brake pads, cables and housing, grips, chain, spokes), unless defective when received.
- Any damage or defects to Covered Components resulting from failure to follow instructions in the E-Bike owner’s manual, acts of God, accident, misuse, neglect, abuse, commercial use, alterations, modification, improper assembly, installation of parts or accessories not originally intended or compatible with the E-Bike as sold, operator error, water damage, extreme riding, stunt riding, or improper follow-up maintenance.
- For the avoidance of doubt, RPB will not be liable and/or responsible for any damage, failure or loss caused by any unauthorized service or use of unauthorized parts.
- The Battery is not warranted from damage resulting from power surges, use of an improper charger, improper maintenance or other such misuse, normal wear or water damage.
- Damage that occurs during shipping if the owner sets up their own shipping option or if the bike is shipped using a freight forwarder or similar service.
- Any products sold by RPB that is not an E-Bike.
- Shipping damage if such damage is not reported to RPB within 30 days from receipt of product.

DETERMINING WHETHER DAMAGE OR DEFECT TO AN E-BIKE OR COVERED COMPONENT IS PROTECTED BY THIS LIMITED WARRANTY SHALL BE IN SOLE DISCRETION OF RPB.

CLAIMS PROCESS

RPB WILL NOT REPLACE ANY COVERED COMPONENT UNDER THIS LIMITED WARRANTY WITHOUT FIRST SEEING PHOTOS OR VIDEO OF THE DAMAGED COVERED COMPONENT.

Before making a warranty claim, we suggest that you contact our Product Support team at eu-support@radpowerbikes.com as there may be a simple fix for your problem.

Subject to your rights to cancel set out in the Consumer Purchase Terms and Conditions, in order to exercise your right to receive a replacement for a Covered Component under this Limited Warranty, you must:

- Contact the RPB Product Support team by email at eu-support@radpowerbikes.com or by phone at +31-85 7470430. The Product Support team will initially work with you on the problem with your E-Bike to identify potential simple fixes.
- In the event that the Product Support team determines that a Covered Component must be replaced, they will provide you with a set of instructions for returning the defective Covered Component and receiving the replacement.
- After you receive the replacement Covered Component, the Product Support team will also provide assistance in determining how to replace or install the new Covered Component into your E-Bike.
- You will be responsible for shipping costs associated with returning a Covered Component, unless RPB agrees in writing to pay for such shipping costs. Replacement Covered Components under this Limited Warranty shall only be shipped to the address of the original purchaser.

All claims to this warranty must be made through Rad Power Bikes within 2 years of initial purchase. Warranty claims may be submitted to eu-support@radpowerbikes.com.

Warranty parts will only be shipped within the 26 countries we are currently shipping to. If you had your E-bike delivered to one country and then shipped to another country, parts will only be sent to the country in which the bike was originally delivered.

THIS LIMITED WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS AND YOU MAY ALSO HAVE OTHER STATUTORY RIGHTS IN RELATION TO THE PRODUCTS AND THOSE RIGHTS ARE NOT AFFECTED BY THIS LIMITED WARRANTY.

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 RadRunner Assembly Video.

Online Resources

For more information on best practices, please visit the Rad Power Bikes website (www.radpowerbikes.eu), 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 eu-support@radpowerbikes.com, or

Call Rad Power Bikes +31-85 7470430.

RIDE RAD!