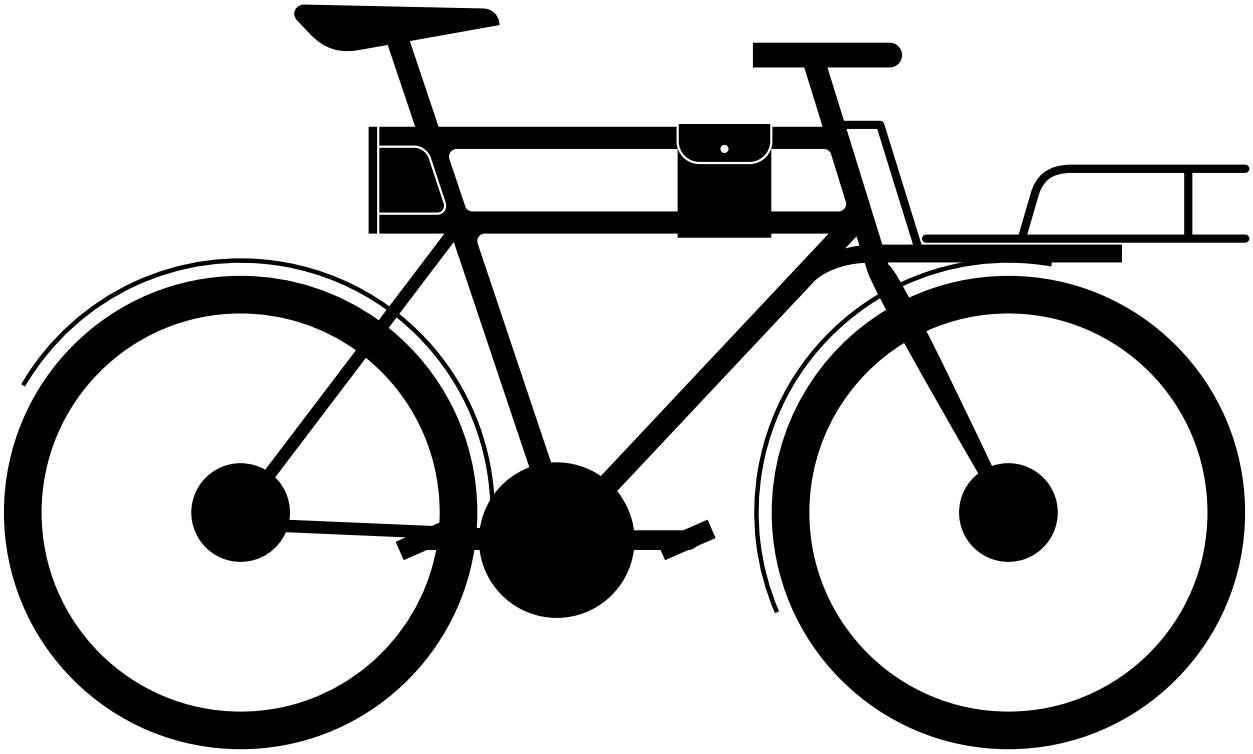
Faraday

OWNER'S MANUAL



A NOTE FROM THE FOUNDER

Congratulations on your new bicycle. You've become part of a community that came to life when we asked a very simple question:

"Can we design a bike that marries the exhilaration of electric assist with the timeless design, feel and practicality of a classic bicycle?"

Whether Faraday is your first electric bicycle or the latest of many, we think you'll agree with us that the answer is a resounding YES. We've designed your Faraday with standard, high-quality components and a sensibility that will be welcome and familiar to anyone who knows their way around a bicycle.

As a Faraday rider, you are now an ambassador. Not just for our brand, but also for our vision of a more sensible and sustainable world chock-full of cyclists who desire a healthier and more enjoyable transportation alternative. We're firm believers that electric assist can be a powerful force for making that vision a reality.

You can help us get there. You'll meet many people—cyclists and non-cyclists alike—who are inexperienced and curious about electric bicycles. Take the time to answer their questions. If you're feeling generous, offer them a quick test ride. Most importantly, have fun, enjoy your bike, and ride often. With thousands of smiling Faraday riders on the road, we might just change the world. Welcome to Faraday.

Adam Vollmer

Founder & CEO, Faraday Bicycles

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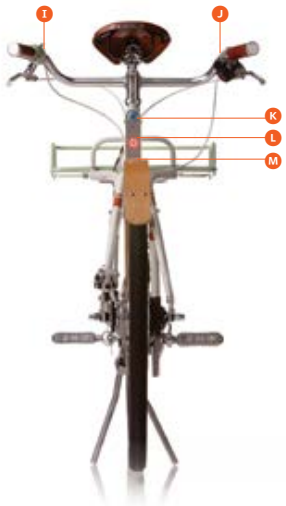
Stay informed. If you have any questions, need technical support or need replacement parts, take responsibility for your safety and contact us directly at 415-834-5860 or riders@faradaybikes.com. Check for additional resources, tips, and tricks at www.faradaybikes.com.

- A saddle
- B battery location
- C belt or chain drive
- D controller
- E front light
- F front rack (sold separately)
- G 8-speed hub
- H motor



FARADAY 101

(same on all models)

- I selector
- J shifter
- K power button
- L rear light
- M charge port

Our owner's manual is only a guide. It is not a solve-all use, service, repair, or maintenance manual. Please contact a licensed bicycle shop for all service, repairs or maintenance.

We'll help you out as much as we can, but a professional at your local bicycle shop may also be able to refer you to classes, clinics, or books on bicycle use, service, repair, or maintenance. If you have any questions about the electrical operation and maintenance of your Faraday, first check the resources on our website, www.faradaybikes.com.

Cyclists of all levels will tell you that riding a bike is more fun than cake (it's healthier, too). However, when riding, you assume serious risks that may cause damage or endanger you and others. It is your full responsibility to understand and practice the basic rules and guidelines for safe and proper bicycle riding and maintenance.

PARENTS/GUARDIANS: You are responsible for the safety and activities of your child. Read through this manual with them so they fully understand the bicycle's operation and maintenance. Also teach them applicable local bike laws, bike etiquette and general safety practices BEFORE they ride.

WARNING: Your child must always wear a CPSC-certified bicycle helmet when riding. A bicycle helmet must not be worn for any activity besides riding a bicycle. Failure to follow this warning could compromise the helmet and result in serious injury or death during bicycle operation. Any helmet that was worn during a collision with head impact should be replaced, even if there is no obvious damage to the helmet.

Misuse or improper maintenance greatly increases the chance for serious injury. It is impossible for us to cover every hazard, situation, or event that may occur while riding; as such, we cannot include a complete guide for safe use of your Faraday. We tried to fit all the good stuff in, but may have missed a few things. Again, it is your full responsibility to educate yourself about the functionality of this bicycle.

We will help you throughout this booklet by highlighting concerns, cautions and warnings prefaced with a few simple icons:

WARNING: Safety Alert! EXTREMLY dangerous. Ignoring this warning could result in serious injury or death.

CAUTION: This is still dangerous. We use this icon to highlight the potential for minor or moderate injury, or unsafe practices.

WARNING: Faraday damage alert: indicates that you may cause serious damage to the bicycle. Follow the warning, unless you want to void your warranty.

PRO TIP: We provide helpful information to greatly improve your Faraday riding or maintenance experience.

THE MAIDEN VOYAGE

Okay! Do you think you are ready to strap on your helmet and go for a spin? Take a minute to familiarize yourself with your Faraday Porteur and how it rides.

First, review the ***Safety*** guidelines on p.9.

Then, make sure your bike fits (See ***Does It Fit?*** on p.27).

Pick a controlled, quiet environment—ideally, away from cars, other cyclists, obstacles or other hazards. Now it's time to turn on the power (see ***Electrical Operation*** on p.13).

For first-timers, the hardest function of the Porteur to master is arguably the kickstand. Are you familiar with its operation? (See ***Kickstand*** on p.52)

Once you're ready, mount your bike and push off. It's important to be familiar with the braking and shifting actions of the bicycle (See ***Brakes,*** p.15, & ***Gears***, p.17). Test the Faraday's handling and response until you feel comfortable enough to graduate to busier roads.

Finally, experiment with the different pedal assist modes (See ***Selector*** on p.19). Remember that with pedal assist, the motor only provides power while you're pedaling. There is no throttle. Don't worry if you find yourself smiling ear to ear while you ride. BOOST mode is REALLY fun!

PRO TIP: If you have any questions, or if you feel something with the bicycle is wrong, take it to a qualified bicycle shop before you ride again.

SAFETY & OPERATION

CAUTION: Faraday bicycles should ONLY be used on paved roads and designated bike paths. We didn't design them for any other use; ignoring this warning may result in serious injury and will void your warranty.

PRO TIP: If you can't make it through the whole booklet, at least read and make sure that you understand each point in this section. It could save your life.

If you're new to bicycling, navigating city streets and bike paths may seem a little daunting. For the safest and most enjoyable ride, remember a few guidelines:

1. Obey the rules and laws of navigating your bike through traffic. Common sense laws apply, as well. You are sharing the road or path with your peers, so respect their rights as bicyclists, pedestrians and motorists.

2. Ride defensively. Look ahead and be ready to avoid car hoods & doors, pedestrians, pets, and other road obstructions like potholes or railroad tracks.

3. Leave your headphones off. They will mask traffic sounds, sirens, and generally distract you. They can also get caught in the moving parts of your bike.
4. Your bike isn't a pedicab; the only humans you carry should be small children (wearing helmets) sitting in a correctly mounted child carrier or trailer.
5. Take extra care when portaging; your luggage should never obstruct your ability to see or move through traffic. Hauling oversized items on your front Porteur rack may be tricky, so check your ability to see and steer before you ride. Exercise caution when loading and riding.
6. Overly aggressive riding is dangerous. Hitching a ride, jumping, or doing stunts or wheelies will only increase the likelihood that you will crash and embarrass (or worse, seriously hurt) yourself.
7. D.A.R.E. to never ride your bicycle while under the influence of alcohol or drugs.
8. Be extra cautious with new or different riding conditions. During rain, snow, dusk or dawn, nighttime, and when you are extremely tired are probably the most dangerous times to be on your bicycle.

PRO TIP: It is your sole responsibility to comply with your riding area's specific bicycle laws. Some places require special safety equipment or devices. Please acquire these devices before riding your bicycle.

PREPARATION

Take precautions by wearing the right clothing and packing a few essentials.

1. **Helmet:** To be blunt, just wear your helmet. We highly recommend buying a new CPSC-certified bicycle helmet and following the manufacturer's instructions for fit, use and care. While the helmet may not be a legal requirement where you live, it can save your life. Wearing your safety cap has been proven to prevent most bicycle-impact-related head injuries.

WARNING: Biking without a properly fastened and fitted helmet may result in serious injury or death.

2. **Clothing:** Looking stylish on your bike is important. But remember, function outranks fashion when it comes to your safety. Bright, "hi-viz", comfortable-but-not-too-loose clothes are best. Use your judgment. Snagging your outfit or body parts in your bike will not only ruin your day, but may cause serious injury or damage.

   Pick shoes that are comfortable and grip the pedals securely. Double-check laces or other shoe accessories are not impeding the moving parts of the bike.

   Other items like eyewear or gloves greatly improve the comfort of your ride. Sunglasses help with your visibility, protect your eyes from road debris, and really step up your style.

3. **Accessories:** For longer or more remote rides, we recommend that you stay hydrated, pack some sort of identification, and carry enough cash for emergency bike repair or public transportation.

BASIC SAFETY CHECK

You need to make a habit of checking that your bike works properly before you ride away. An errant or failing component or part is serious and requires your immediate attention. Let's do a quick inspection of the bike.

Brakes: Check the brakes before you ride (See *Brakes* on p.15). Are all of the control cables routed properly and securely engaged? Squeeze the brake levers. Is there complete braking power before the levers touch the handlebar? If not, your brakes need adjustment. Do not ride the bicycle until a licensed bicycle mechanic properly adjusts the brakes.

Fasteners: Inspect all screws, nuts, and bolts for looseness. Shake, rattle and bounce your bike. Do you feel or hear anything strange? Visually scan your bike. Is anything hanging off? Fix all problems before you ride. A loose component is a potential hazard that may endanger your life.

Be careful with tightening force. If you don't use enough force, the fastener may slip or not function properly; if you use too much force, you risk breaking the fastener, component, or frame. Not sure? Take your bike to a licensed mechanic.

WARNING: Using the proper tightening force, or *torque*, is critical. All fasteners have torque specifications set by the manufacturer. A calibrated torque wrench is the only method that will ensure components are properly fastened. Have your licensed bicycle mechanic tighten fasteners, or refer to the torque specifications (p.75).

Tires & Wheels: Are your tires properly inflated? Can you see any cracks, serrations, or excessive wear? Spin each wheel slowly and look for cuts in the tread and sidewalls. Never ride on damaged tires (See *Tires & Tubes* on p.42).

Are the wheels true? Spin each wheel and check for uneven warps or bumps. If a wheel wobbles side-to-side even slightly, or rubs against the frame or fender, take the bicycle to a qualified bicycle shop to have the wheel professionally trued.

Are the front and rear wheels correctly secured? (See *Wheels* on p.36).

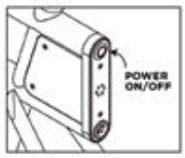
Handlebar & Saddle Alignment: Make sure the saddle and handlebar stem are straight and clamped tight enough so that they can't twist out of alignment (See *Saddle Adjustments* on p.29 & *Handlebar Adjustments* on p.31).

ELECTRICAL OPERATION

E-Bike Etiquette: We designed your Faraday to look and feel just like a regular city bike—it's simply the best city bike you'll ever own. With pedal assist, the motor only provides power while you're pedaling; there is no throttle or gas pedal. Therefore, all bicycle traffic laws apply to your Faraday.

CAUTION: Walking your bike with pedal assist engaged is dangerous. If your pedals are accidently struck, the bike may accelerate and cause serious injury to you and others. Make sure the selector is set to OFF mode before dismounting your Faraday.

Power ON/OFF: The power button is located on the controller. To power ON, push the button once and wait a few seconds for the blue and red lights to come on. To power OFF, press and hold the button until the lights turn off. The bike will power off automatically after about 10 minutes of non-use. The motor and lights will only function when the power is ON.



Charging: Your Faraday is equipped with a state-of-the-art intelligent lithium-ion battery. Unlike older batteries, there is no need to fully deplete the battery before recharging—you can recharge anytime. In fact, we recommend recharging as often as possible (Refer to ***Battery & Charging***, p.47, for more details.).

WARNING: Even when turned off, your battery will naturally discharge at a very, very slow rate. If you know you won't be riding for a month or more (for instance, during the winter, or if your Faraday is put in storage), make sure to fully charge your battery before leaving your Faraday unattended. A fully charged battery should easily hold a charge for six months or longer.

Troubleshooting: Your Faraday is—essentially—a computer (on two wheels). Much like your Smartphone or Tablet, your bike may occasionally need a re-start. In the unlikely event that you experience unusual behavior with your bike, we recommend simply cycling the power: hold down the Power button (for about 3 seconds) until the lights shut off, and then press Power again to re-start. If the trouble persists, please contact Faraday and we'll get you back on the road as quickly as possible.

RIDING & OPERATING

BRAKES

PRO TIP: Your Faraday is equipped with either Hydraulic or Mechanical Disc Brakes; see the brake manufacturer's instructions for installation, operation and care. Full instructions can be found on the manufacturer's website. If you still need help, contact your local bicycle shop or Faraday.

WARNING: Disc brakes are extremely powerful. Take extra care when braking for the first few rides until you feel comfortable with how they function. Always avoid touching the brake rotors; oils from your hands may decrease the braking power. If you use the disc brakes constantly (such as down a steep hill) they may get extremely hot.

WARNING: Riding with improperly adjusted brakes or worn brake pads is dangerous and can result in serious injury or death.

WARNING: Applying brakes too hard or too suddenly can lock up a wheel, which can cause you to lose control and fall. Sudden or excessive application of the front brake may buck you over the handlebars, which could result in serious injury or death.

Heed our warnings; braking is one of the most critical functions of your bike. Let's say you're commuting to work and a taxi—without warning—swerves into your lane. Proper braking could save your life. So, how does it work?

The braking action of a bicycle is a function of the friction between the brake surfaces—in this case, the brake pads and the brake rotor. To make sure that

you have maximum friction available, keep the brake rotors and brake pads clean and free of lubricants, waxes or polishes.

Most often, the left lever controls the front brake and the right lever controls the rear. Check their operation and confirm their locations before riding. Make sure that your hands can reach and squeeze the brake levers comfortably. If your hands are too small to operate the levers comfortably, consult a licensed mechanic before riding the bike. The lever reach may be adjustable, or you may need a different brake lever design.

Wheel Lock Up: Your brakes are designed to control your speed, not just stop the bike. You can't just jam the levers and skid to a stop like in a car. This can cause your wheels to "lock up" (stop rotating); the bike may skid uncontrollably, or worse case, you will be catapulted directly over the handlebars. Avoid wheel lock up by practicing and mastering slowly and gradually applying pressure to the brake levers until you stop smoothly—in all different conditions.

Weight Transfer: Think about Sir Isaac Newton and his first law of motion: paraphrasing—and applying inertia to bikes—you and your bicycle will stay in motion unless acted upon by an unbalanced force, such as hitting the brakes. Since braking force is only applied to the bicycle, your body will have the tendency to fly forward (off your bike). To avoid this, practice shifting your body toward the rear of the bike to transfer weight back on to the rear wheel; at the same time ease off pressure to the rear brake and increase front brake pressure. Practice this as evenly and seamlessly as possible. Got it? This is weight transfer. This technique is important on quick descents, as the slope shifts your weight forward.

Once you've mastered these techniques, you're ready to go. If you need practice, make sure you ride somewhere that is free of road traffic or other obstructions, like an empty parking lot or driveway.

Of course, be extra careful with inclement weather. The conditions may cause your tires to lose their grip; your wheels may lock up with less brake force. Moisture or dirt on the brake pads reduces their friction, and it will take longer to stop. Remember to ride extra slowly; brake easier, early, and often to maintain control.

PRO TIP: If you are unclear about any function of your brakes or how to properly operate them, seek help. Your local bicycle advocacy organization, bike shop, or city transit organization may be able to direct you to resources and classes.

GEARS

All Faraday bicycles have a drivetrain equipped with:

- An 8-speed internal gear hub or an 8-speed derailleur
- One shifter
- One control cable
- One front sprocket, called a chainring
- Rear sprocket(s) attached to the hub
- A drive belt or chain

Shifting: The shifter control is located on the inside portion of your bicycle's right grip. Move to your desired gear ratio by cycling through your shifter control. As you pedal, ease off a bit to allow the mechanism to engage, and—well, that's it. You just shifted. With internal geared hubs, you can shift whenever you want, whether you are moving or stopped.

Picking the Right Gear: On most rear hubs, gear ratios are ranked numerically: the lowest number indicates a gear ratio best suited for the steepest hills; the highest number indicates a gear ratio for the highest speed. Experiment by shifting between the gears. You will discover that the higher the gear ratio, the harder it is to get going.

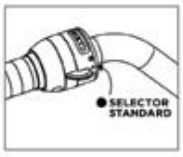
Practice finding the gear ratio that is best suited for starting in any situation; this ratio should give you quick acceleration without sacrificing your control of the bicycle. Try to shift into a good starting gear ratio every time you are stopped.

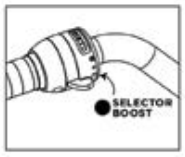
Once you become confident with shifting, try to anticipate changes in grade or conditions. Shift to a lower gear before the hill gets too steep. Combined with pedal assist, climbing any hill is a cinch!

PRO TIP: If shifting between gears becomes clunky or inefficient, chances are that the mechanism is out of adjustment. Take the bicycle to a qualified bicycle mechanic for service.

SELECTOR

Located on the inside portion of your bicycle's left handlebar grip, the Mode Selector controls the bike's pedal assist. There are 3 modes: **OFF**, **STANDARD**, and **BOOST**.





OFF is indicated by the open circle, **STANDARD** by the small circle and **BOOST** by the larger circle.

Battery Level Gauge: The E-Ink screen on the selector, AKA the "fuel gauge", will let you know how much battery charge is left. A full charge will provide 15-20+ miles of pedal assist (For more information on charging, see p.47).

PRO TIP: Anytime you're off the bike, click the selector to OFF mode so you won't accidentally trigger the motor; nobody likes a runaway bicycle.

What Is Pedal Assist? The term *Electronic Bicycle* might evoke different images for different people. For your Faraday—and for us—it means enhancing the normal functions of your bicycle. With pedal assist, power from the front motor only engages when you pedal; as you coast, so does the sending power. Whether you'd like to feel like you're working hard or hardly working, the amount of assistance is entirely up to you.

Experiment with the Different Selector Modes: First, power ON your Faraday. You'll know it's working if the lights are on.

OFF mode is for when you do not need or want any electric assist. This mode could be used when riding bikes in a group with other non-electric bikes (no one likes a show-off), when you want to conserve some energy, when you are walking next to your bike, or when you only want to run the lights.

STANDARD mode is for most riding situations. This mode maximizes your electric assisted range. In standard mode, it is also easier to control your speed based on how hard you are pedaling.

BOOST mode is for when you need that extra kick. This could be when you are trying to zip across an intersection, when you are trying to climb a steep hill, or when you really need to get away from that zombie quickly.

Top Speed: The pedal assist system is designed to stop sending power to the motor when your bike reaches 20MPH. Don't worry; you can freely pedal as hard and as fast as you want. Once your Faraday's speed drops below 20MPH, the motor automatically re-engages.

CAUTIONS

RIDING DURING WET WEATHER

WARNING: During a storm your visibility is severely lowered. When the road is wet or icy, traction of the tires and power of the brakes are impaired. As the risk of an accident increases, it is important to be familiar and comfortable with your bike's handling in these conditions.

Sometimes when it rains, it pours; not every rider is a fair-weather rider. That's why Faraday designed your model to be the ultimate wet weather bicycle. Don't worry about the electronics; the bike has been completely weatherproofed inside and out. And with splash protection from our high-quality custom fenders, we've got you—and your outfit—covered. Jump on and have fun.

That said, be careful. Riding in precipitation becomes a little trickier. The tires won't grip the road as well, the handlebar grips and pedals may become slippery when wet, and the stopping power of brakes—including the brakes of other vehicles sharing the road—is substantially reduced. To make sure that you can slow down and stop safely in wet conditions, ride slowly; apply your brakes gradually, and earlier than you would under normal, dry conditions.

RIDING AT NIGHT

WARNING: Riding at dawn, dusk, or night, or other times of low visibility without an adequate bicycle lighting system and reflectors may result in serious injury or death.

When the sun goes down, an unlit bicycle becomes very difficult for motorists and pedestrians to see. Children should never ride at night. Adults need to take extra care when both riding and choosing specialized nighttime equipment to reduce the risk of injury or accident.

Built-In High Powered LED Lights: As you may already be aware, each Faraday is equipped with both a high-powered built-in headlight and taillight. For your safety, once you power on, the lights automatically turn on, and always stay on. Refer to *Lights* on p,49 for a full overview of your lights functionality.

Reflectors: Your bike is also equipped with reflectors on the handlebars and seatpost of your bike, as well as on the wheels and pedals. By reflecting light (such as car headlights), they help motorists to identify and avoid your bicycle. Check that they are properly mounted before riding.

CAUTION: Do not remove the front or rear reflectors or reflector brackets from your bicycle. They are an integral part of the bicycle's safety system. If removed, the risk of an accident that may result in injury or death is greatly increased.

Comply with your local laws about riding at night, and take a few additional precautions:

- Always check that your built-in front headlight and rear taillight are operating as intended, and that they are unobstructed by clothes and luggage.
- To help you be seen, wear bright, reflective clothing or accessories, and additional headlights and taillights.
- Avoid poorly lit roads and heavy, fast-moving traffic whenever possible.
- Ride in a way that motorists can see and predict your movements. Be defensive, and give yourself enough space and time to react to obstacles. It's best to plan your route ahead of time.

PRO TIP: Local bicycle advocacy organizations, bike shops, or city transit organizations should be able to direct you to resources and classes on nighttime cycling & traffic safety.

RIDING OFF-ROAD, OR EXTREME STUNTS

Your Faraday has been designed as the ultimate city bike—emphasis on CITY. It is NOT designed for off-road riding, racing, extreme riding, showboating, and all those crazy things you see in extreme sports magazines. While those activities look fun, they can put huge and unpredictable stress on the bicycle and its components. Extreme riding may result in serious damage—not just to your bike, but also to your bones.

WARNING: Damage ecrued while riding in any manner above is not covered in the warranty. If you cannot avoid any one of these potentially hazardess situations, be safe. Take necessary precautions and use your judgment.

III. SAFETY & OPERATION

CHANGING COMPONENTS OR ACCESSORIES

PRO TIP: Detailed instructions for Faraday-certified accessories can be found on our website, **www.faradaybikes.com**.

We understand that a bike out of the box may not fit the personal demands of your style, performance and comfort. Since there are too many components and accessories on the market to cover, we cannot guarantee their compatibility. The components and accessories made for Faraday have been tested for reliability and safety, and we are certain they will work for most people.

If you choose to alter your bicycle in any way, you do so at your own risk. Before purchasing or installing any component, confirm that it is compatible and safe-to-use with your bike. If you aren't certain of its compatibility, contact a licensed bicycle professional or us directly, at **415-834-5860**. You must understand and follow all instructions that accompany the product you purchase for your bike.

WARNING: Failure to confirm compatibility, properly install, operate and maintain a component or accessory may result in serious injury or death.

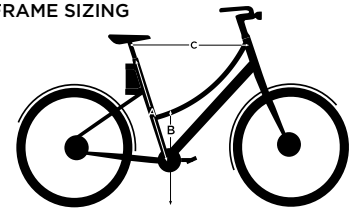
WARNING: Changing components on your bike may void the warranty. Refer to the Limited Warranty on p.61, or contact us at **415-834-5860.**

DOES IT FIT?

Bicycling comfort and efficiency begins and ends with the right sized bike. We will briefly go over the essentials to select and adjust the perfect fit bicycle for you.

CAUTION: Adjusting your bicycle to fit your body and riding conditions requires experience, skill, and special tools. Always have a licensed bicycle mechanic make the adjustments on your bicycle; or, if you have the experience, skill, and tools, have a licensed professional check your work before riding. If your bicycle does not fit properly, let us know ASAP. We will exchange it before you ride it, since it may be dangerous to ride.

FRAME SIZING



Full-length sizing for Cortlands:

	SMALL	MEDIUM
A. Seat Tube Length (CM)	49 cm	53 cm
B. Standover Height (IN)	49 in	49 in
C. Top Tube Length (CM	60 cm	62 cm

Full-length sizing for Porteurs:

	SMALL	MEDIUM	LARGE
A. Seat Tube Length (CM)	51 cm	55 cm	59 cm
B. Standover Height (IN)	29 in	30.5 in	32 in
C. Top Tube Length (CM	55 cm	57 cm	59 cm

STANDOVER HEIGHT

The first step to ensure proper fit is determining your required standover height; this is the distance of the frame's top tube from the ground. This measurement is most critical at the point in which your body rests when straddling the top tube—at a stoplight, for instance.

To Measure: Wearing the shoes you will ride in, straddle the bike. If you're struggling to comfortably reach the ground, it's too big. Rocking on your heels (carefully), check how close your crotch gets to the frame. A properly fit bicycle generally should clear your body by at least one inch. (See Figure)

SADDLE ADJUSTMENTS

The next step for perfect fit is adjusting your seat's height and angle. Your bicycle frame may fit, but if the saddle's position is wrong, prolonged riding may be uncomfortable or result in injury.

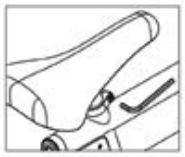
WARNING: If your saddle causes you pain, numbness or other discomfort, listen to your body and stop riding until it is properly adjusted or replaced. Do not ignore the discomfort, you could end up with a chronic injury.

To dial in the best position, check the current saddle positions for:

1. **Seat Height:** While the bike is propped against an immoveable object (like a wall or desk), straddle your bike and then slide onto the saddle. Place the balls of your feet on the pedals and slowly pedal backwards. When either pedal reaches its lowest point to the ground, stop. If your leg is not straight, the saddle is too low. If your hips are rocking during a full rotation of the pedal, the saddle is too high.
2. **Seat Angle:** Generally, it is best to start with a saddle that is completely parallel with the ground. Some people may find it more comfortable to tilt the saddle up or down.
3. **Seat Setback:** For most people this last adjustment is nonessential. For others, sliding the saddle fore or aft will help them maximize pedaling efficiency and comfort.

PRO TIP: A licensed bicycle professional should have the knowledge and tools to make the necessary adjustments for you. If you choose to make your own adjustments, remember to only adjust one mechanism at a time.

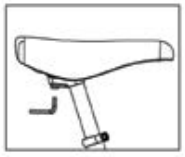
To Adjust Height: Loosen the seat post collar binder first. After you raise or lower the post, center the saddle before re-tightening the clamp bolt to the recommended torque. If a higher seat position is desired and not possible with the provided post, a new post must be installed.
See *Seatpost & Seatpost Collar* on p.43 for more.



WARNING: NEVER insert a seatpost past the maximum insertion depth (250mm). Inserting your post beyond the maximum insertion depth may damage the internal electric functions of your bike.

WARNING: The minimum insertion depth of your seatpost is at least 3 inches deep (75 mm), but we HIGHLY recommend a depth of at least 100mm. Inserting your post with less than the minimum depth may cause your seatpost to break (or damage the frame) under the stress of your weight during a ride.

To Adjust Tilt or Setback: Loosen the seat rail binder bolt underneath the seat. Be sure it is loose enough to move the saddle, but not so lose that any of the seatpost parts detach. Adjust the angle and position until you are happy and retighten the clamp bolt to its recommended torque (See *Torque Specifiations* on p.75, or refer to the manufacturer's instructions).



WARNING: After making any saddle adjustment, you must confirm every part of the seatpost is properly seated and tightened before riding. If improperly secured, you may damage the seatpost, or worse, lose control and fall. It's best to periodically have a licensed bicycle professional check the seatpost area for wear and tear.

You may have carefully followed all three steps of adjustment, above, and your saddle is still uncomfortable. Saddles, like humans, come in many different shapes, sizes, and firmness. Ask your local bike shop professional to suggest a different saddle that, when paired with your body and riding style, will feel like sitting on a pillow made of clouds (You can use that terminology—bike shop professionals will understand.).

HANDLEBAR ADJUSTMENTS

Your bike is equipped with a custom Faraday "threadless" stem, which clamps to the top of the fork steerer tube seated inside the head tube. Since the front headlight is wired through the stem, and the headlight faceplate is custom-forged for this stem, special considerations must be taken before implementing different handlebar height or reach. Contact us; do not attempt to do this yourself, as it requires special knowledge and resources.

WARNING: Changes in handlebar height and stem length may affect the adjustment of your brakes and controls. Before riding, check their functionality and readjust them when necessary.

A licensed bicycle mechanic can also change the angle of the handlebar, or install a different-style handlebar. Due to light routing requirements, the handlebar must be ⌀25.4mm at the clamp.

WARNING: If you want to ensure steering control of the bicycle, always check for an insufficiently tightened stem bolt, stem binder bolt, or stem faceplate binder bolt. With the front wheel between your legs, twist the handlebar or stem assembly. If there is radial play in the stem or play in the handlebars in relation to the stem, tighten the bolts to their designated torque (See *Torque Specifications* on p.75) before riding.

CONTROLS & BRAKE LEVER ADJUSTMENTS

If you have trouble reaching the brake levers, selector, and shifter controls, you can change their angle or position. Have a licensed bicycle professional make placement suggestions and adjustments for you. If you are make your own adjustments, follow the torque specifications (p.75) when re-tightening and securing.

WARNING: The adjustment of the brakes becomes all the more critical if you shorten the reach of the levers. Full braking power needs to occur before the levers are fully depressed. If your brakes are improperly adjusted, you may lose control, resulting in serious injury or death.

MAINTENANCE

BRAKES

WARNING: If your bike is equipped with mechanical disc brakes, regular adjustment and service is even more crucial for proper and safe braking power. Improperly adjusting the brakes with the brake lever barrel adjusters may cause your brakes to fail under load. Refer to manufacturer's specifications for complete service directions.

It is imperative for your safety that you check the functionality of your brakes every time you ride. To make sure they are working properly, refer to the ***Basic Safety Check*** on pg.12, or ask your licensed bicycle mechanic.

Over time, your disc brakes will wear and need to be adjusted. If you find the levers are pulling back further than before, or the braking performance is weak, it's time for service.

Look closely at your brake pads. Are they thinner than a dime? Then it is time to replace them; if the pads are worn down to the metal, they will damage your rotors.

Now spin the wheel slowly while looking for wobbles or bumps in the rotor. Does it need to be trued? Are any rotor fasteners missing? True and replace brake parts as necessary.

Braking action is also dependant upon the quality of your brake cables and housing. If any cable is loose, cracked, or damaged, have a licensed bicycle mechanic replace them before you ride.

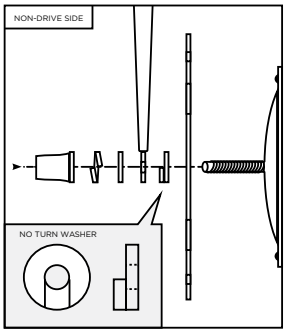
WARNING: A licensed bicycle mechanic should always complete or supervise brake adjustments, or you risk brake failure. Improper adjustments may result in serious injury or death.

WHEELS

A bicycle wheel is the only part of the Faraday that touches the ground (during use); it takes daily abuse from bumps and vibrations in the road or path. Therefore, it is important to understand and practice proper maintenance techniques and care.

Since wheels are more susceptible to road damage, regularly inspect the rims and spokes for any unusual stress, cracks, wear, or discoloration. Damage to the wheel can result in mechanical failure. Have a licensed bicycle mechanic check your wheels if you're unsure.

Always check that the wheels are properly secured to the frame. They are designed to sit in slots, or *dropouts*, in the fork and frame and secured in place with hex nuts threaded onto the hub axle.



WARNING: Riding with an improperly secured wheel can allow the wheel to wobble or fall off the bicycle, which can cause serious injury or death. Always ensure the wheels are properly fastened BEFORE you ride your bike.

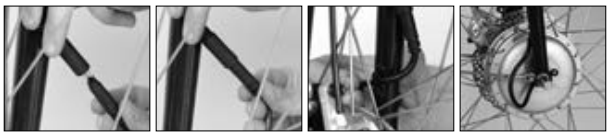
Let's take a moment to go over proper wheel installation and removal. If you are uncomfortable completing any these steps, have a licensed bicycle mechanic demonstrate them to you until you fully understand them.

TO INSTALL YOUR FRONT WHEEL:

CAUTION: Your Faraday is equipped with a secondary retention device so that, in the unlikely event that your axle nuts fail or slip, your bike will not immediately drop the front wheel. It is absolutely critical that the flat washers and split lock washers are installed properly with the axle nuts. It is not a substitute for properly securing your wheel with the axle nuts (See Figure Above).

WARNING: Removing or disabling the secondary retention device is extremely dangerous and may lead to serious injury or death. It will also void the warranty.

1. With the steering fork facing forward, insert the wheel between the fork blades so that the axle seats firmly inside the fork dropouts. The motor cable should be angled down and slightly forward.
2. Before tightening the axle nuts, verify you've installed the wheel in the right direction. Is the brake rotor on the same side as the brake caliper? Also confirm that the tab on the anti-rotate washer on the rotor-side is aligned with the motor cable on the opposite side of the wheel.
3. Reconnect the front motor cable and it snug it into the cable guide. The cable needs to be routed on the outside of the fender strut.



4. Using a 15 mm wrench—a deep well socket wrench is recommended—tighten the wheel axle nuts to the torque specifications (p.75). Spin the wheel to check if it is centered; then squeeze the front brake lever to confirm the brakes are operating correctly.

TO REMOVE YOUR FRONT WHEEL:

1. Turn your bike off; confirm that the headlight and taillight are off. Disconnect the motor cable (See figure on p.38).
2. Using a 15mm wrench—or a deep well socket wrench if you have one—loosen the two axle nuts evenly and enough to allow for easy wheel removal. Be careful not to scratch the paint job.
3. With one hand on the fork or handlebars, grasp the top of the wheel with your other hand, holding it securely to the ground. As you continue to raise the frame, the wheel should disengage from the fork dropouts.

PRO TIP: If the wheel sticks, make sure the security washers are not catching on the security lip of the dropouts.

TO INSTALL YOUR REAR WHEEL:

1. With the kickstand lowered—or with the bicycle mounted in a repair stand—shift the gears to the setting with the lowest cable tension (Gear 1).
2. Thread the belt or chain around the back of the internal hub sprocket. Check for any stress, kinks, or bends in the belt assembly.

WARNING: Take care when handling the carbon belt. Coiling, twisting, or zip tying it may cause permanant damage.

3. Carefully slide and align the wheel axle into the rear dropouts. Before hand-tightening the axle nuts, verify you've installed the wheel in the right direction. Is the brake rotor on the same side as the brake caliper?
4. Using a 15 mm wrench—a deep well socket wrench is recommended—tighten the wheel axle nuts to the torque specifications (p.75). Spin the wheel to check if it is centered; then squeeze the rear brake lever to confirm the brakes are operating correctly.
5. Connect the shifter cable to the hub. Refer to the manufacturer's service manual or ask a qualified bicycle mechanic for a demonstration. Cycle through the gears; each shift should be smooth and buttery. Make any necessary adjustments.

TO REMOVE YOUR REAR WHEEL:

PRO TIP: Calibrating for proper shifting can be difficult if you're unfamiliar with internal hub gear mechanics. Do not remove the wheel unless you are prepared to make the necessary re-adjustments. Refer to the manufacturer's installation and service instructions.

1. Lower the kickstand—or mount the bicycle frame in a repair stand—so that the rear wheel is elevated from the ground. Then, upshift the gears until the shifting cable has the most slack.
2. Disengage the shifter cable from the hub. Refer to the manufacturer's service manual or ask a qualified bicycle mechanic for a demonstration.

3. Using a 15mm wrench—or a deep well socket wrench if you have one—loosen the two axle nuts evenly and enough to allow for easy wheel removal. Be careful not to scratch the paint job.
4. Push the wheel downward out of the dropouts until the belt or chain can be disengaged from the rear sprocket. If your bike is equipped with a belt, take extra care not to stress, bind, or kink it.
5. Carefully remove the wheel from the frame, ensuring that the bike does not tip over.

FRONT MOTOR

Faraday's 250W motor may be smooth and silent, but—when in pedal assist mode—it packs the punch of a Tour de France cyclist (See *Selector* on p.19 for full pedal assist instructions).

PRO TIP: If the motor cable is disconnected, you'll be pedaling all on your own (See the figures on p.38, *To Install Your Front Wheel*). Confirm their installation.

If you wish to install a new disc brake rotor, always use the stock (M4 x 8mm) screws provided. Contact a licensed mechanic or us at Faraday for sourcing proper rotor and mounting screw replacements.

WARNING: Opening the front motor case will void your warranty. If your motor or front wheel requires service, bring it to a licensed bicycle shop, preferably the one that usually services your Faraday; attempting to repair the motor yourself could result in irreparable damage to the bike.

TIRES & TUBES

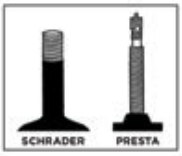
Your bicycle is designed to work with any 26-inch bicycle tire up to 1.75 inches (44.5mm) thick.

For the ultimate lifespan and performance of your tires, their inner tubes should be properly inflated for your intended riding style and purpose. Inflation requirements are usually given in a range, specified by the manufacturer. You can find the inflation range—as well as the other tire specs—written directly on the sidewall of the tire.

CAUTION: Always inflate your tire within the manufacturer's specified pressure range. Over-inflating your tire may cause it to blow out, which may cause injury. Under-inflated tires run the risk of pinching, which will damage the tube (resulting in a flat tire), or the wheel itself. Riding on either over or under-inflated tires is dangerous, and is not recommended.

To Inflate Your Tires: Only use a pump designed specifically for bicycles. There are many different models available. Check that the pump head is compatible with the valves on your inner tubes. A floor pump with a built-in pressure gauge will help you correctly measure your tire pressure.

Schrader vs. Presta Valves: There are two standard bicycle tube valve sizes. Identify and understand how to use the valve type on your bicycle. Most Faradays typically ship with Schrader style valves. Presta valves are smaller in diameter, and have a locknut that restricts the tire pin from accidently releasing air.



CAUTION: Schrader valves are also found on car tire valves. You should NEVER use an air compressor or hose on your bicycle. The high flowrate and pressure of a compressor can cause the tube to explode, which may injure you in the process.

Debris in the road—such as broken glass—has a particular hatred of bicycle tires, so be sure to (safely) avoid it like the plague when you are riding. Periodically check your tires for any embedded shrapnel or excessive wear. If you find any holes or cracks, it may be time to replace your tire. Ask your local bicycle professional for new tire suggestions.

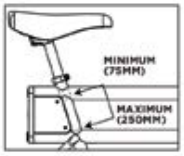
SEATPOST & SEATPOST COLLAR

Since special considerations for electrical wire routing need to be taken, Faraday bike models include a Porteur-specific seat tube liner and seatpost collar. If you need to order replacement parts, reach out to your local bicycle shop, or contact us.

To secure your seatpost in place, ensure that the clamp is loosened and oriented with the slot facing towards the front of the bike. Tighten and clamp the seatpost collar around the seatpost to the designated torque (See *Torque Specifications*, p.75).

Minimum & Maximum Insertion: The minimum insertion depth of your seatpost is at least 3 inches deep (75 mm), but we recommend a depth of at least 100mm. If you cannot reach your desired height with the provided seatpost, a new ø25.4mm seatpost must be installed.

The maximum insertion depth of your post is a little less than ten inches (250mm). If you use a longer seatpost, inserting it past 250mm deep will damage the electronics inside the seat tube.



WARNING: If you attempt to remove the seat tube liner, or insert the seatpost farther than 250mm, you may cause irreparable damage to your Faraday and will void your warranty.

HANDLEBARS & STEM

The wiring and routing of your lights involves special requirements for your custom Porteur stem. The stem faceplate is uniquely designed as a convenient home for your built-in headlight; therefore, the faceplate is only compatible with the Porteur stem.

All replacement handlebars must be ø25.4mm at the clamp. Consult a licensed bicycle professional for suggestions and sourcing for handlebars and accessories.

WARNING: Stem bolts, stem binder bolts, and the stem faceplate bolts must be tightened to the factory recommended torque (See *Torque Specifications* on p.75). Over-tightening or under-tightening these fasteners may result in loss of steering AND braking control. You could fall and die.

SHIFTER

If shifting constantly fails or is inefficient, the shifting mechanism needs to be adjusted. If the shift control or shift cable and housing is damaged, your shifting may be rendered useless. Bring your bike to a licensed bicycle mechanic for service or repair.

DRIVETRAIN

Much like in a motor vehicle, a bicycle's drivetrain is the group of components that delivers power; in this case, the power's source—or engine—is your legs. A Faraday drivetrain consists of a crankset with pedals spinning on a bottom bracket, and an internal gear hub linked together by a drive chain or carbon drive belt.

Belt or Chain Tension: To be able to cycle comfortably, it is essential that the belt or chain have the correct tension. If it is too tight, you run the risk of prematurely wearing or damaging the belt or chain, wheel bearings, sprockets and bottom bracket bearings. If the belt or chain is too loose it may slip off the sprockets. Have a qualified bicycle mechanic regularly check the belt or chain tension, or refer to the manufacturer's installation and service instructions.

WARNING: When tensioning the driveline, the bottom bracket must end up on the upper half of the eccentric bottom bracket shell. Refer to your driveline manufacturer's tensioning instructions.

If your bike is equipped with a chain, you should regularly clean and lightly oil it (See *Cleaning Your Bike*, p.56, for more information.).

Customizing Your Drivetrain Gear Ratios: Depending on the area you live in and your style of riding, you may find it necessary to adjust your sprocket sizes for more efficient pedaling. Generally speaking:

- If you live in hillier areas with steep inclines, you will want a larger rear sprocket or a smaller front chainring.
- If you live in flatter areas and wish to ride as fast as the wind, you want a smaller rear sprocket or a larger chainring.

PRO TIP: Ask your local bicycle shop or contact Faraday for suggestions of different sprocket and chainring sizes available and best suited for your style of riding.

Bottom Bracket: A typical bottom bracket allows the pedals and crank to spin with the least amount of friction possible. A Faraday bottom bracket is a little more advanced: by telling the controller how hard and fast you are pedaling, it helps deliver electric assist with each pedal stroke.

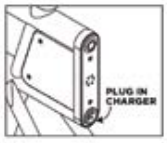
WARNING: Tampering with the bottom bracket may disconnect or damage the internal power cable; doing so will void your warranty. Always have a licensed bicycle mechanic perform any service requiring bottom bracket adjustment or removal.

WARNING: If you need to remove the bottom bracket (during an emergency), the driveside bottom bracket cup MUST be removed before the non-driveside.

BATTERY & CHARGING

The heart and soul of your Faraday is an intelligent lithium-ion battery built directly into the frame (Don't worry, it's removable). Unlike older batteries, there is no need to fully deplete the battery before recharging—you can recharge anytime. In fact, we recommend recharging as often as possible.

To Charge Your Faraday: Set the pedal assist selector to **OFF** mode. Plug one end of the provided charger into a standard wall outlet (at which point the LED on the charger should light up green), and the other end into the charge port on the controller housing until it clicks in place (See Figure).



Within a few seconds, the charger's LED will switch to a red light, and the circle of rear LED's on the controller box will begin to spin. This indicates that the battery is charging.

When the battery is full, all six rear-LED's will switch from spinning to solid ON, and your charger's LED will switch back to a green light. You may leave your Faraday plugged in, or remove the charge plug by holding down the mechanical latch on the plug and pulling it out of the charge port (See Figure on p.47).

A complete charge will take less than three hours.

WARNING: Even when turned off, your battery will naturally discharge at a very, very slow rate. If you know you won't be riding for a month or more (for instance, during the winter, or if your Faraday is put in storage), make sure to fully charge your battery before leaving your Faraday unattended. A fully charged battery should easily hold a charge for six months or longer.

WARNING: Only charge your battery using the specified Faraday charger or you will void your warranty. Improper use or tampering with the battery may result in irreparable damage to your bike or personal injury.

Troubleshooting/Service: Your battery's expected lifespan is 500 complete charge cycles, or approximately 10k miles of full pedal assist riding. If your

battery, or the charging mechanism doesn't seem to be operating correctly, first, cycle the power on and off. If the problem persists, take the bicycle to a licensed bicycle shop—preferably the one that normally services your Faraday.

WARNING: Never attempt to remove or service the battery yourself. You run the risk of irreparable damage to your Faraday or personal injury. You will also void your warranty.

CAUTION: When disposing of the battery, always do so in a safe and legal manner. Follow the laws within your area. NEVER disassemble or crush, dispose of in fire, or heat above 212° Fahrenheit (100° Celsius).

LIGHTS

Your Faraday shines bright with both a high-powered built-in headlight and taillight. If the power is on, these super-efficient LED lights always stay lit—for your safety, day and night—and even when the bike's battery is depleted.

Always On: If you wish to operate these lights without pedal-assist, simply power on the bike, set the selector to its **OFF** position, and you're ready to roll.

LIGHTS ONLY Mode: Your Faraday will maintain standing lights (for up to an hour), even when you forget to recharge before riding. Even if the pedal assist power runs dry, we've reserved a small portion of the battery to get you home safely.

Directing your Front Headlight: Your headlight beam should be angled slightly downwards. This will help you to notice fast approaching road hazards, and to avoid blinding oncoming traffic. To adjust the angle of the front light, loosen the bolt on the side of the headlight with a metric H4 Allen wrench. When retightening, be sure to refer to the *Torque Specifications* on p.75.

Installing The Headlight On Your Front Rack: If your bicycle has a front rack installed, you have an alternative mounting point for your headlight. Follow the front rack installation directions, or have a licensed bicycle mechanic install the light for you.

SELECTOR

If clicking through the different Selector modes feels abnormally stiff or difficult, contact a licensed bicycle mechanic for service. Always tighten your selector bolts to the recommended torque specifications (p.75) when making adjustments.

ACCESSORIES

FRONT RACK

Light load? With a maximum load capacity of about 22 pounds (10kg), the Faraday's unique front rack is an optional accessory that can easily be installed. Transform your bike into the ultimate grocery getter or picnic table. Refer to the Front Rack installation manual for more information.

PRO TIP: If you want to mount the headlight to the Front Rack, detailed instructions can be found on our website, **www.faradaybikes.com**.

WARNING: Install all screws to their torque specifications, and secure the rack mount head tube screw with a threadlocker such as Loctite™. Incorrect tightening force can result in component failure, which can cause you to lose control and fall.

WARNING: Carrying objects that obstruct your vision or your complete control of the bicycle, or which could become entangled in the moving parts of the bicycle, may cause you to lose control and fall. Take extra care with oversized loads on your front rack.

REAR RACK

Our optional rear rack is a cargo-hauling jack-of-all-trades that's custom-designed to match your Faraday in fit and finish. Carry any standard U-lock securely and easily in the built in lock-loop, or attach panniers or a basket to haul up to 45 pounds (20kg).

FENDERS

Your Faraday comes stock with either a high-quality set of steel or bamboo fenders. When life gives you puddles, go ahead and ride right through them.

WARNING: Always check that your fenders are properly secured: with Loctite™ threadlocker or Nyloc™ fasteners to their recommended torque. If your can feel them rubbing on your tire, or something feels loose, take your Faraday to a licensed bicycle mechanic for adjustment.

KICKSTAND

If you live in the city, need to carry things on your bike, and plan to make frequent stops, then a kickstand is almost certainly necessary. That's why we include a high-quality kickstand with every Faraday.

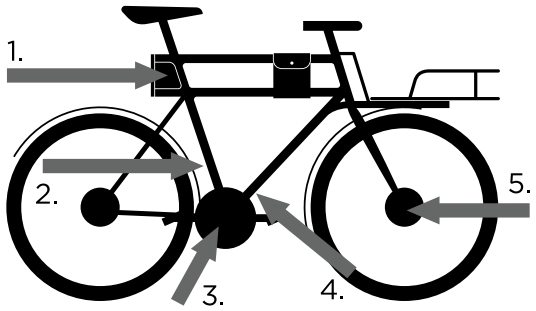
To Deploy & Retract: Lift the rear of the bike by the saddle until the kickstand is clear off the ground. Give the stand a swipe with your foot until it snaps in place. Easy, right?

Take extra care when using your kickstand:

- Be careful when loading your bike with the kickstand deployed; your cargo may cause the bike to tip over.
- NEVER allow your child to climb into an installed child seat while the kickstand is deployed. They could fall and become seriously injured.
- NEVER sit on the saddle with the kickstand deployed. It is not designed to support your weight.

"NO-GO" ZONES

You may have noticed a few access panels on your Faraday secured with plates and screws. These are part of the five "no-go" zones: 1. The controller housing side-panels; 2. the seat tube access port; 3. the bottom bracket access port; 4. the battery retention screws; and 5. the front motor case. These are only to be accessed or serviced by a licensed Faraday mechanic.



WARNING: Removing these plates, the motor case, or batteries will void your warranty; tampering with the covers or the electronics they house may result in irreparable damage to your bicycle.

SERVICE

Like any bike, your Faraday will require regular service to ensure a safe and optimal ride. Whenever possible, we recommend taking your Faraday to a professional bike shop—such as the one that built your bike—for service. If your bike is equipped with mechanical disc brakes, it is particularly important to keep them properly adjusted to ensure safe braking performance.

PLEASE BE SURE TO REVIEW the overview on adjusting your Faraday's disc brakes, and have your brakes regularly serviced by a shop if you do not feel comfortable making the required adjustments.

Completing major service or repair work on your bike yourself can be rewarding. If you wish to learn, contact your local bicycle shop for:

- Copies of the manufacturer's installation and service instructions for any component on your Faraday. If the component is Faraday proprietary, you can contact us directly.
- Recommendations for books or local classes on bicycle repair

If you are servicing your bike—or its components—for the first time, we highly recommend that you ask a licensed bicycle mechanic to check the quality of your work **BEFORE** you ride it.

WARNING: Bicycle service and repair tasks require special knowledge and tools. An experienced bicycle mechanic should be able to complete any service your bicycle requires. Do not begin any adjustments or service on your bicycle until you have learned from a licensed bicycle mechanic how to properly complete them. Improper adjustment or service may lead to mechanical failure of your bike, or to serious injury or death.

PRO TIP: In order to help minimize the chances of mechanical failure, or an accident and possible injury, a licensed bicycle professional should perform any repair or maintenance not specifically described in this booklet.

CARING FOR YOUR FARADAY

With proper care and service, your Faraday should last you a lifetime. In order to keep your bike looking and feeling its best, there are a few things you can do:

1. **Cleaning Your Bike:** If you notice excessive road grime, dirt, or dust on your bike, go grab the ol' brush & bucket: it's time for a bath. To maximize the lifespan, beauty, and functionality of your Faraday, when cleaning:

   - Only use mild soapy water. Use too much degreaser, and bearings may wear out faster. Acetone-based cleaners may strip the paint.
   - **NEVER** use a power washer or jet washer; it will damage your bike.

   Once the bike is dry, lightly oil the chain (if your bike is equipped with one) and brake lever pivots. Wipe off excess oil. Lubrication is a function of climate. Your local bicycle shop will know the best lubricants and the recommended lubrication frequency for your area so check with them first.

2. **If Your Bike Is Equipped With Leather Grips:** Light application of silicone-based leather conditioner will help to keep the leather from cracking or wearing, and also provide a barrier against wet weather. Reapply when the water does not bead up. Be aware that some conditioner products will darken the leather somewhat. Ask your local bicycle professional for leather conditioning suggestions.

SERVICE SCHEDULE

1. **The First Few Rides:** By allowing your bicycle to break-in before a serious or long ride, you will prolong the life of your Faraday. Cables and spokes will stretch and adjust as you use your bike for the first few rides. Ensure your bike is working properly (See the ***Basic Safety Check***, p.12). Even if everything seems fine, it's probably best to bring your bike to a mechanic for a checkup.

2. **Every 10–20 Hours of Riding:** Perform a general safety inspection on your

bike to ensure your parts are in working order (See the *Basic Safety Check*, p.12).

Since you are searching for any signs of wear or stress, it's important to take note of any cracks, dents, and discoloration in your frame or components. Also confirm your brake pads and brake cables aren't excessively worn, your wheels are straight and clean, your tires are free of road shrapnel, and your belt or chain is in good working order. If something is not functioning properly, take it in for service.

3. **Every 3-6 Months, or 50 Hours of Riding:** Give yourself a pat on the back. It is now time to take your Faraday to a licensed bicycle mechanic for a complete checkup and service.

MECHANICAL FAILURE

Your Faraday and its components are subject to wear and stress throughout its life cycle. If a component's life cycle is exceeded, the component can suddenly and catastrophically fail. Scratches, cracks, fraying and discoloration are signs of stress-caused fatigue and indicate that a part is at the end of its useful life and needs to be replaced.

WARNING: While the materials and workmanship of your bicycle or of individual components may be covered by a warranty for a specified period of time, this is no guarantee that the product will last the term of the warranty. Product life is often related to the kind of riding you do, and to the treatment to which you submit the bicycle. The bicycle's

warranty is not meant to suggest that the bicycle cannot be broken or will last forever. It only means that the bicycle is covered subject to the terms of the warranty.

In the event that you are out cruising and something on your bike breaks or fails, it is very important that you stop riding immediately. If you are unsure about your safety on the bicycle, have your Faraday inspected by a licensed bicycle mechanic as soon as possible.

If either brake lever fails to provide stopping power before they are fully depressed, don't ride the bike until they are adjusted or fixed. If your gears won't shift smoothly and quietly or are slipping, have your hub calibrated by a mechanic.

Tires: If you get a flat tire, it is best to be prepared for the worst-case scenario. Be familiar and comfortable with removing your wheels and patching or replacing your tube before you're stranded on the side of the road. Ask a qualified bicycle mechanic for a demonstration. For effective roadside repair, you should pack at least the following:

- A 15mm wrench and multi-tool
- A patch kit or spare inner tube
- A set of tire levers
- A tire pump or CO2 cartridge inflator

PRO TIP: Remember to remove your bike and yourself from road traffic and other harmful situations before attempting a repair.

DAMAGE FROM COLLISION OR IMPACT

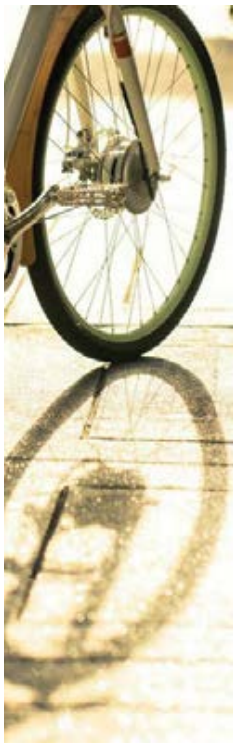
WARNING: If your bicycle has sustained damage from an impact, the components and frame may be compromised. Even if it is not visually obvious, the stress from the collision may cause your bicycle to catastrophically fail at a moments notice.

If in the unlikely event that you and your bike are on the receiving end of a major collision, it's important to take precautions.

First and foremost, take care of yourself. Make sure you are safe from danger. Are you injured? If you are unsure, seek immediate medical assistance.

If you're okay, then inspect your bicycle for any damage or wear. Can you see any cracks or dents? Do the moving parts spin freely?

It is important that you do not get back on your bike until a licensed bicycle mechanic has thoroughly inspected it and confirmed its functionality and reliability.



LIMITED WARRANTY

Faraday Bicycles™ carries a standard Warranty for its frame and parts:

- **Frame:** Lifetime
- **Battery:** 2 years; the battery is considered at "End Of Life" at 80% capacity.
- **Electronics:** 2 years
- **Parts:** 2 years; the limited warranty excludes tires, tubes, brake pads, cables/housing, grips, and any non-stock component)

As always, if you have any questions about parts and service covered with your Faraday, contact us directly at 415-834-5860.

ASSEMBLY INSTRUCTIONS

To be able to effectively ship you your new Faraday, we had to pack it mostly assembled; it is not ready to ride directly out of the box. However, the following instructions should be enough to assemble the contents of this box into an electric-propelled utility bicycle.

We know that the **ULTIMATE** electric-propelled utility bicycle is one that has been properly assembled and fine tuned by a qualified bicycle mechanic. We **HIGHLY** recommend that you take your Faraday to your local bicycle shop for full assembly, as well as regular maintenance.

WARNING: DO NOT attempt to assemble this bike unless you are confident you have a full grasp of the tools, knowledge and fastening torque required. Even if you are confident that you have completed the assembly as directed, DO NOT ride your bicycle until a qualified bicycle mechanic has checked and confirmed that the installation of your bike was done properly.

Required Assembly Tools:

- 15mm or adjustable wrench
- Metric hex key set or bicycle multi-tool
- Scissors or box cutter

Recommended Assembly Tools:

- Bike stand
- 15mm deep socket ratchet
- Calibrated torque wrench

A. UNBOXING:

A.1

WARNING: Your Faraday weighs 39lbs. If you cannot lift this weight, do not attempt to move or unpack the box.

1. Stand the box right side up, and open the top flap.
2. Reach in and pull the bicycle out of the box, carefully lifting the frame by the toptube. Take extra care not to drop anything. Place it on a solid working surface like a worktable or mat.

PRO TIP: As you are building your bike, carefully remove the wrapping, zip ties, or tape from the component or area of the bicycle you are installing, one section a time. Make sure the components and frame do not slip and fall.

B. ATTACHING THE SEATPOST:


B.1


B.2

1. After locating and unwrapping the seatpost and seatpost insertion area (seat mast), insert the seatpost into the seat tube.

2. Loosen the seatpost clamp; confirm it is oriented with the slot facing towards the front of the bike.
3. Insert the post—at a minimum—75mm deep into the seat tube. You can fine-tune the height of the seatpost once you're ready to fit the bike to your body.
4. Tighten the seat post clamp to its designated torque specification (p.75).
5. If you have a bike stand, clamp the seatpost in the stand for easier assembly.
6. Install the included saddle to the seatpost and tighten the rail binder bolt to the torque specification.

C. DISLODGING THE FRONT WHEEL:

1. Locate and remove any packaging and zip ties to detach the front wheel from the frame. Be extra careful that you do not accidentally clip or damage the motor cable coming from the front motor. The left crank arm is interlaced with the wheel spokes, so carefully dislodge these two items before removing the wheel. Set the front wheel aside. We will come back to it later.

PRO TIP: When handling the wheel, be careful not to touch the braking surface of the rotor. Oils in your fingers may compromise the brake performance.

D. STEM, HANDLEBAR ASSEMBLY AND CONTROL CABLES:

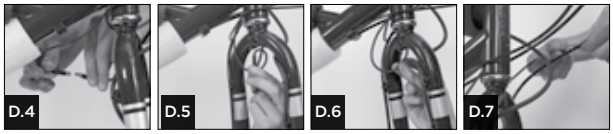
1. Locate and remove any packaging and zip ties from the stem and handlebar assembly. If you are not extra careful, you could accidentally clip or damage the headlight cable coming from the stem, or the selector cable attached to the front brake cable. Do not twist, excessively bend, or kink any of the control cables.
2. Loosen the stem pinch bolt and carefully pull the headlight cable through the top opening on the stem. At this point the handlebar assembly can freely hang on the side of the frame, as long as the cables are not excessively bent or kinked.
3. While holding the front fork so that it cannot fall out of the head tube, remove the stem top cap, top cap bolt, and packaging protecting the steerer tube. It may help to secure the fork to the frame with a bungee or rubber band.
4. Thread the headlight connector through the hole in the star nut until you see it appear below the crown of the fork. Gently pull the cable to take up any slack in the stem (Figure D.1). Carefully slide the stem onto the steerer tube, ensuring the control cables are properly oriented and routed (Figure

D.2). Take care to not pinch or break the headlight cable. Tighten the stem pinch bolt enough to keep the fork from sliding out of the headtube. The headlight cable should exit through the bottom of the head tube (Figure D.3). Remove the optional bungee or rubber band.

5. Detach the two cables on the down tube. Let them hang freely; these are the headlight power cable and selector communication (COM) cable.

6. Now connect the headlight cable to the headlight power lead. It's easy to identify the power lead; the headlight cable connector is only compatible with the power lead connector. Securely thread the stainless steel fasteners on the connector (Figure D.4).

7. Make a loop with the headlight cable and reinsert it in the steerer tube through the bottom of the fork crown. The connector should not be visible now; it should be seated inside the steerer tube. You will need to leave at least a one-inch loop of headlight cable to allow the wheel to fully turn without binding. (Figures D.5 & D.6)



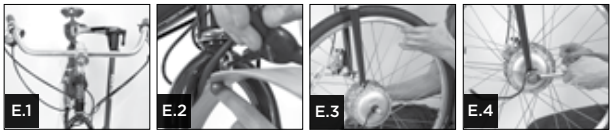
8. Install the top cap and finger-tighten the top cap bolt carefully, to avoid damaging the headlight cable. Loosen the stem pinch bolt. Tighten the

stem cap bolt to preload the bearings and remove any play from the headset. Align the stem to the front fork, and tighten the stem pinch bolts to their designated torque. There should be no lateral play in the stem and steerer.

9. Connect the selector cable to the selector COM cable and confirm that the stainless steel fasteners are properly secured.

10. Check the cable routing. From the outermost cable: the selector COM cable is ziptied to the front brake cable; the motor cable should sit between the front brake and the rear brake cables; the shifter cable is routed on the opposite (rider's right) side of the head tube (Figure E.1).

E. INSTALLING THE FRONT FENDER AND FRONT WHEEL



1. Locate and remove all packaging from the fork. Locate and detach the front fender from the rear fender.
2. When installing the front fender: push the fender against the fork crown before bolting on the crown fender bracket. Doing so both holds the headlight cable securely in the steerer tube, and ensures maximum tire clearance (Figure E.2).
3. Route the motor cable on the outside of the fender strut. Secure the fender struts to the fork dropouts and tighten the locknuts to their specified torque.
4. Install the front wheel (See *To Install Your Front Wheel* on p.37) (Figures E.3 & E.4). Double-check that the alignment washer on the rotor side of the wheel is oriented correctly and the motor cable is connected, and routed around the outside of the fender strut (Figures E.5-E.8).
5. Spin the front wheel to confirm that it is properly secured, and the fender is not obstructing movement. Check that the fender line is evenly spaced over the wheel.

F. INSTALLING THE PEDALS

1. Locate the pedals, pedal washers, and pedal reflectors, and remove any remaining packaging from the bike.
2. Install the pedal reflectors onto the pedals.
3. Thread the pedals onto the cranks. The left pedal attaches to the non-driveside crank arm, and right pedal attaches to the driveside crank arm; the left pedal is reversed threaded. Tighten them both to the specified torque.

PRO TIP: Always use pedal washers between the pedals and cranks. The aluminum crankset is delicate and can be damaged easily.

G. ADJUSTING AND FINE-TUNING YOUR FARADAY:

CAUTION: Using a calibrated torque wrench will guarantee that you are tightening your components to manufacturer-set specifications. If you use another assembly tool, you run the risk of damaging your brand new bike.

All of the parts and components should be secured in place. It is time to dial in the bike. Henceforth, a calibrated torque wrench is **REQUIRED** to complete your assembly properly.

1. With the stem faceplate loosened, adjust the handlebars so that they sit in a neutral position: slightly below horizontal, at an angle of approximately 1 to 3 degrees. Tighten the stem faceplate bolts to their specified torque (Figure G.1).
2. Align the front headlight so that it points slightly down: angled at approximately 5 degrees. Tighten the headlight adjustment bolt to the specified torque (Figure G.2).
3. Double check that the stem direction is inline with the front wheel; tighten all stem fixing bolts to their specified torque.
4. Now do an in depth inspection of the brakes, brake cables and housing and brake calipers. Are the brakes properly adjusted? If not, adjust them as necessary.
5. Test the shifting function of the bike and make any necessary adjustments.

6. Cycle through the selector modes with the power OFF. Does it feel abnormally stiff between clicks? If so, check your selector bolt tension and make any necessary adjustments.
7. Turn the power **ON**, and make sure that all of the electrical functions of the bike are operating normally. Remember to turn the power back **OFF**.
8. Double check that both handlebar grips are tightened properly (see *Torque Specifications* on p.75). There should be no rotation or movement during use.
9. Inspect the front and rear wheels and confirm they are secured properly. Check the torque on both the front and rear axle nuts. Also check the tires. Are they inflated to the manufacturer's recommended pressure?
10. Confirm that the belt or chain is properly tensioned, and that there are no kinks, bends, or twists in the assembly.
11. Finally, dial in the saddle position and seatpost height and confirm that it fits you properly (Refer to *Saddle Adjustments* on p.29). Retighten all seatpost fasteners to the specified torque.

H. FINAL INSPECTION AND TEST RIDE


H.1


H.2


H.3


H.4

1. Before you ride your now fully assembled Faraday, have a licensed bicycle mechanic check the quality of your work. Once they have confirmed the safety of the installation, it is now time for the Maiden Voyage (p.7).
2. Find a safe, low traffic area such as a parking lot. Turn on the power, mount your bicycle, and push off. Ensure that the brakes slow and stop the bike, the gears shift properly, and that the pedal assist engages correctly in all modes.
3. Is everything working? Give your bike a hug. You are now ready to ride off into the sunset together.

TORQUE SPECIFICATIONS

PRO TIP: Some companies have not specified torque for certain components or parts; in such cases we have given an approximation or the minimum requirements. For exact specifications, contact the manufacturer directly.

FRONT & REAR WHEELS AND REAR COG AREA

Component	Newton Metre	Inch-Pounds
Axle nuts to frame (non-quick release type wheels)	30 – 45 Nm	265 – 398 in-lb
Seat Stay Binder Bolt (Carbon Belt Drive Only)	25 Nm	221 in-lb

STEM, SADDLE AND SEATPOST AREA

Component	Newton Metre	Inch-Pounds
Stem Top Cap Bolt	(Minimal torque needed to preload headset and stop lateral play)	
Stem Binder (1 or 2 binder bolts)	5 – 10 Nm	44 – 88 in-lb
Stem Faceplate Binder (4 binder bolts)	7 – 8 Nm	62 – 70 in-lb
Headlight Adjustment Bolt	5 Nm	44 in-lb

Seat Rail Binder	~25 – 40 Nm	~221 – 354 in-lb
Seatpost Collar Binder	~6 Nm	53 in-lb

CRANKSET, BOTTOM BRACKET AND PEDAL AREA

Component	Newton Metre	Inch-Pounds
Pedal into Crank	35 Nm (min)	310 in-lb (min)
Bottom Bracket Bearing Cups (Ungreased)	25 Nm – 30 Nm	221 – 265 in-lb
Bottom Bracket Bearing Cups (Greased)	20 Nm – 25 Nm	177 – 221 in-lb
Crank Bolt Screws	40 Nm	354 in-lb
Chainring Bolts	12 Nm	106 in-lb

HANDLEBAR, BRAKE LEVER, SELECTOR AND SHIFT CONTROL AREA

Component	Newton Metre	Inch-Pounds
Brake Lever (Flat Bar Type)	6 Nm – 10 Nm	53 – 88 in-lb
Shift Lever (Thumb Trigger Type)	3 Nm – 5 Nm	27 – 44 in-lb
Shift Lever (Twist Grip Type)	1.5 Nm – 2.5 Nm	13 – 22 in-lb
Selector Bolts	1.5 Nm	13 in-lb
Handlebar Grip Bolts	(Minimal torque needed to stop any grip rotation or movement)	

DISC BRAKE SYSTEM

Component	Newton Metre	Inch-Pounds
Disc Rotor To Hub (M4 x 8mm bolts)	2 Nm – 4 Nm	18 – 35 in-lb
Caliper Mount	6 Nm – 8 Nm	53 – 71 in-lb

ACCESSORIES

Component	Newton Metre	Inch-Pounds
Fender Locknuts	5 Nm	44 in-lb
Kickstand Binder Bolt	20 Nm	177 in-lb
Front Rack		
Rack Mount Cap Screws on Downtube	5 Nm	44 in-lb
Headtube Rack Mount Screw	10 Nm	88 in-lb
Rear Rack		
All Mounting Bolts	5 Nm	44 in-lb

BATTERY

Component	Newton Metre	Inch-Pounds
Battery Set Screws (Check that battery does not slide with the applied torque)	1.5 Nm	13 in-lb

STAY IN TOUCH!

Hit the road and enjoy it; you're about to look at cycling in a whole new light. We just have one last request—stay in touch! We'd love to hear all about your experiences and adventures with your Faraday. You can reach us on our social channels:

@faradaybikes

@faradaybikes

facebook.com/faradaybikes

riders@faradaybikes.com

HAPPY RIDING!

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