



## OWNER'S MANUAL BEACH BUM & BEACH BABE

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# Introduction

Welcome to Tower Electric Bikes

At Tower, we have a relentless focus on getting our products right. Do that and business success naturally follows. We've been doing this for over a decade in the direct to consumer space and have thrived because of that singular focus.

We do our customer's homework for them on what's important and what's not, and then we design the best product out there. When we combine that with our direct to consumer only business model (eliminating the middlemen), our consumers get the best value. We don't settle for anything less than the best quality at a great value. That's our formula.

Not surprisingly, the first eBike we ever rolled out, our Tower Beach Bum, was named the "Best Cruiser Electric Bike of 2020" in the all important value category by Electric Bike Review. Not bad for our first horse out of the gate!

We never rest on our laurels, however, at Tower. For our second act launched in late 2020, the Beach Bum 2 and the Beach Babe, we took a giant leap forward with improved eBike functionality, quality, and safety across the board. We kept asking the question, "How can we make this better? I don't care what it costs." Where most brands ask, "How can we do this cheaper?", we focused on "How can we do this better?" The result is we made over 20 specific improvements. We proactively increased our production costs by over 20% because, after cost-benefit analysis, we're confident these changes will better serve our customers long term needs.

Enjoy the ride,

The Tower Electric Bike Team

## Assembly Instructions

This ebike should be adjusted by a professionally trained bicycle.

Most of the critical components on the Beach Bum eBike will come pre-assembled. This includes the rear wheel, motor, gear system, and all cabling. The following steps are the best practices for completing the assembly.

**Note:** With the exception of the pedals, all fasteners are tightened with a clockwise motion, and loosened with a counterclockwise motion.

### Required Tools For Assembly:

- M4 Hex Key/Driver
- M5 Hex Key/Driver
- M6 Hex Key/Driver
- Crescent Wrench
- Adjustable Spanner/Wrench (recommended)
- Calibrated Torque Wrench (recommended)

### Handlebar Installation

Your Tower ebike has a threadless headset with an adjustable handlebar stem. The stem can rotate up or down a full 40 degrees to better accommodate different height riders and riders with different arm length reach. There is a 4 bolt configuration that secures and tightens the handlebars to the stem.

When your eBike arrives, your handlebars will not be installed in the stem, but rather zip tied to the side of the frame. Cut the zip ties to remove the handlebars from the frame and then undo the 4 bolts on the stem with an M4 hex wrench. Position the handlebar and tighten the screws.



## Front Wheel Installation

Remove all packaging from the wheel and front fork. Loosen the nuts on the wheel frame axle, so that it can easily fit onto the fork. Insert the wheel into the fork so that the brake rotor slides into the caliper, and the axle fully seats into the forks. Evenly tighten the nuts on the wheel axle to secure the front wheel. Only unscrew, then screw in the side axle nuts. There is no need to tighten or untighten the Tektro braking system.

Lift and spin the front wheel to make sure there is no friction against the disc brake. If there is wobble, loosen the axle nuts and double check to ensure the axle is fully seated into the frame. Tighten the nuts.



## Pedal Installation

Installing the pedals on the correct side of the ebike is critical. It is also one of the most common mistakes consumers make when assembling their own ebikes. At Tower, we take extra caution to very prominently label the left and right pedal as well as the left and right crank. They are threaded specifically to only fit on one side of the bike. “L” for rider’s left, “R” for rider’s right. Ensure you match the clearly labeled right pedal to the right crank (on the right side of the bike if you were sitting on the seat).



Begin the installation by twisting the pedal into the correct pedal arm by hand. Once the pedal becomes too difficult to twist by hand, further tighten with an M6 hex wrench.

Note: The left pedal is threaded in the opposite direction, and needs to be tightened by twisting counterclockwise.

## Front Light Installation

Loosen and remove the headlight attachment point nut, bolt and washer from the fork. Thread the bolt through the hole on the headlight and secure with the washer and nut.



Tighten using a crescent wrench and a M4 hex wrench to ensure a secure fit. There will be a cable with a red connector dangling from the wiring harness near the head tube. Connect your headlight cable to this red connector, ensuring you very carefully align all three prongs. Make sure the cable is routed on the side to allow movement of the forks.

## Installing / Removing the Battery

Your Tower electric bike comes with the battery installed, locked, padded for shipment, and secured by zip ties in addition to the battery's own locking functionality. All you have to do is remove the packaging and your battery is properly installed and locked for use. Two keys will be taped to the packaging. Set those aside and don't lose them.



To remove the battery, rotate the key counterclockwise to unlock the battery from the controller dock. It is not removable when locked. Use one hand at the bottom of the battery to lift it from the base position of the dock upwards. Pull the battery upwards and away from the dock, then remove it by lowering it out and back down and tilting the bottom to the left and out to clear the rear frame triangle.

**IMPORTANT** - Before re-installing your battery, ensure that the battery power switch is turned off and that the battery and controller dock are dry. The universal off symbol is when the “o” is depressed, indicating there is a gap/hole in the connection. The universal on symbol is when the “-” is depressed, indicating a solid line of electrical connection.

To re-install the battery, insert the battery into the frame at an angle from the bottom left side (to avoid the chain) with the charge port on top. Slide the battery upwards and inwards onto the dock, square things up, then pull down to fully seat it into the dock grooves. Once fully seated, turn the key 180 degrees clockwise to lock it into place. If you can't fully lock the battery, it's not properly seated.

### **Seat Installation & Adjustment**

During shipment, Tower eBike seats (also referred to as “saddles” on ebikes) are attached to the seatpost, but are not inserted into the frame downtube. It's an easy installation from there. Just release the seat clamp on the down tube, insert the seat post to your desired seat height, and close the seat clamp. You may have to adjust the tension of the seat clamp by adjusting the attached screw. Ensure the seat post clamp is really tight so your seat doesn't move around on your while riding.



A correctly positioned saddle will make the riding experience more comfortable, controlled and efficient. It is important to spend time finding the correct saddle position.

You can adjust the angle of the seat on the seat post with a M6 hex wrench, but it is easiest to adjust with the seat removed from the ebike. Adjust, insert the seat post, try it out for fit, then redo as needed until you have a comfortable fit.

To check the saddle height, begin by sitting on the saddle. Place one foot on the center of a pedal and the other on the ground for stabilization. Rotate the pedal until it is in the lowest position. In this position, the leg on the pedal should be almost straight, with a slight bend in the knee. The rider should also be able to reach the lowest part of the pedal's rotation comfortably, without needing to shift any weight.

## Start Up Procedure

1. If the battery is not already locked, insert and turn the key clockwise to lock
2. Remove the key and confirm that the battery is locked correctly.
3. Turn the battery on by depressing the red switch to the on position “-”.
4. Press the power button on the LCD display for 2 seconds, to turn on the ebike and display.
5. Use the [+ ] and [- ] buttons to select the desired pedal assistance level. The default is level 0, or no pedal assist. Level 5 is the highest.
6. Ride safely and have fun!



# Safety

## Basic Safety

**⚠ Warning: It is the responsibility of the rider to know the local laws & rules of the road. These laws may be different in each area and extend to safety equipment, lighting, licensing, areas to ride and specific bike traffic laws.**

**⚠ Warning: Always wear a helmet. Having an accident while not wearing a helmet may result in serious injury or death.**

- This electric bike is designed for use by riders of age 18 and over.
- Riders should have the mental capability, reaction time and physical condition to ride and manage themselves and this eBike in traffic and other road conditions.
- Ensure that the eBike is the correct size before riding. Control may be compromised if the eBike is not fitted correctly.
- Perform a quick mechanical safety check before every ride.
- Tower Electric Beach Cruisers are not designed for jumping or off-road use.
- The Beach Bum and Beach Babe are pre-governed at 18 mph. This can be adjusted in the advanced settings. See the Tower KD58C LCD manual for instructions on how to remove the speed limit.
- Always ride at a comfortable speed, and obey local traffic laws.

## Riding Safety

- When possible, ride in bike lanes or to the far right side of the street. Always ride in the same direction as the flow of traffic.
- When riding on the street, use hand signals to indicate turns and slowing/stopping.
- Do not ride with objects that may impair vision or control of the eBike.
- Do not hitch off the back of another vehicle.
- Do not ride while under the influence of alcohol or drugs.
- Do not ride at dawn, dusk or in darkness without adequate lighting.

## Wet Weather

**⚠ Warning: Wet conditions are a source of many bicycle accidents. Visibility, braking distance and traction all become impaired.**

When the road surface is wet, the stopping power of all vehicles will be reduced and all tires will lose grip much more easily. Apply the brakes earlier and more gently in order to avoid wheel lock and safely stop in wet conditions.

## Night Riding

Riding at night can be dangerous because visibility for both cyclists and other road users is considerably reduced. It is highly important for people who decide to ride at night to have the right equipment and follow these best practices:

- Always have functional front and rear lights when cycling at night. Reflectors are not an adequate substitute.
- Routinely check the working condition of the reflectors and lights.
- Only remove reflectors when replacing them, they are required by law.
- Wear bright colored clothing to increase visibility.

## Mechanical Safety Check

- **Nuts, Bolts & Screws:** To check for loose components, straddle the eBike and lift the front tire 2-3 inches off the ground. Release the eBike, and allow the front wheel to drop and bounce. Listen for any rattling; this may indicate that some parts are loose. Repeat the same process for the rear tire.
- **Tires:** Ensure that the tires are inflated to the proper pressure and in good condition before riding. Slowly rotate the wheel while examining the side walls and threads. Look out for cracks and objects that may be stuck in the outer layer. If the wheel wobbles or appears to be off-center, the tire needs to be trued. Bring it to a bicycle maintenance professional for them to take a look.
- **Wheels:** Make sure that the wheel rim is undamaged before setting off on a ride. Damage to the rim will cause weak spots and may become faulty over time.
- **Brakes:** While stationary, squeeze each brake lever to make sure that there is resistance. (Rider's right is the rear brake and left is the front brake). If there is no resistance, the brakes will need to be tightened. If there is too much resistance, or the brakes make a squealing sound, the brakes will need to be loosened.
- **Handlebar grips:** Check for cracks, cuts or wear as these can all have an impact on how well the grip will bond to the handlebars. Loosely fitted handlebar grips can slip off, potentially resulting in loss of control and falling.
- **Battery:** Double check that the battery is securely connected, and locked to the frame.
- **Cables:** Check the exposed cables and wiring to make sure there are no disconnections.

## Changing or Adding Accessories & Components

**⚠ Warning: Adding aftermarket parts to the Beach Bum or Beach Babe may compromise the construction of the bike and the safety of the rider.**

All third-party accessories such as luggage racks, trailers, child seats, baskets or tires that can be installed are at the risk of the owner. If it is necessary to install additional accessories, make sure the installation is performed and inspected by a bicycle maintenance professional.

# Technical & Critical Components

## Battery Guide

Tower Electric Bikes are powered by a high-capacity 48V, 14Ah lithium-ion battery with premium Samsung cells. We spared no expense. The battery is the most expensive component on your ebike and represents roughly one-third the value of your eBike. Most of the time, a quality battery is what separates quality ebikes from the cheap imitators. When it comes to your battery capacity and battery longevity, you are going to be very thankful that you bought a Tower ebike.

At Tower, we only sell quality. Tower's batteries are designed to last 500-1000 charge cycles. You can charge almost everyday for years. An expectation of usability of 5-9 years is not unreasonable. Equally important, your power and battery charge capacity will not diminish quickly. Your battery will operate almost like new for many years.



Cheap batteries, which are omnipresent in the ebike market, suffer from two issues: First, they very quickly realize a diminished capacity - after just 6 months or a couple dozen charge cycles you will find your range and power massively diminished. Second, the number of charges until your battery needs to be completely replaced is far lower than a quality battery, so you will have to replace it relatively quickly.

## **Charging Time**

Because you have a high quality battery, you can charge the battery after every use to ensure a maximum range for every ride, or you can charge only when you need to and extend the life of your battery to a quite impressive length of time. Frequent charging will not materially diminish the power and longevity of your ebike battery. The batteries in Tower Electric Bikes do not have any memory effect, so charging the battery after short rides will not cause any damage.

From a completely exhausted battery, the charge time is between 7-8 hours. Once the battery is 100% charged, the charger will disengage and the LED light on the charger will turn from red to green. Some charging rules:

- Inspect charger cables and the battery for any cracks or other damage
- The battery does not need to be connected to the bike during charging.
- Always charge the battery indoors and out of direct sunlight.
- Do not cover the charger or battery while charging. Both will be cooled by the air and should be left with some space for the air to circulate.

## **Charging Safety**

- Do not leave the battery charging in a house or building unattended. Never charge the battery near flammable materials. Both the charger and battery will get hot and may present a fire risk.
- Always charge in a dry environment. If a battery is stored/charged in a moist environment, moisture may get into the housing and damage the cells in the battery.
- After riding in the rain, dry all battery components before charging.
- Only use the included Tower charger for the battery. It is calibrated to provide the correct amount of amperage required for safe charging.
- Never charge the battery with damaged charger cables. Exposed copper or wiring will result in a greater fire risk.
- Store any extra/unused batteries in a cool, dry place.

## LCD Display Guide



The LCD display unit will come pre-mounted to the handlebars of the Tower Beach Bum and Beach Babe. This section covers the general operation of the LCD display unit. A more comprehensive manual for the unit is included in the eBike packaging, and on [towerelectricbikes.com](http://towerelectricbikes.com).

**Switching the ebike On/Off** - To switch the system on and off, simply hold the [power] button for 2 seconds. The ebike will automatically turn off when parked for 10 minutes.

**Display interface** - The default interface that the LCD display will show is “running speed.” Repeatedly press the [power] button to scroll through the additional interfaces including: “current trip distance”, “odometer”, “current ride time”, “average speed”, and “max speed”. Each will display for 2 seconds before returning to the default interface, so “running speed”.

**Switching the headlight off and on** - By default, and for safety reasons, the front headlight turns on when you power up your ebike and LCD screen. We recommend riding day and night with the front light on so others can see you better. To toggle the headlight off and back on again, hold the “+” button for 2 seconds. Note that the LCD display will automatically dim when the headlight is engaged.

**Pedal assistance level selection** - By default, and for safety reasons, your ebike will be in PAS 0 (“Pedal Assist Level 0”) when you power up your ebike and LCD screen. In the default interface on the LCD screen (so when you first turn it on), press “+” to increase the level of pedal assistance and “-” to reduce the level. There are 5 levels of pedal assistance (1-5) and zero, which is no pedal assistance at all. PAS levels 1-5 offer between 40% and 96% pedal assistance.

**Error code indication** - If there are errors in the electronic control system, an error code will appear automatically on your LCD screen upon startup. Please refer to the “Error code definitions” in the LCD manual for more detailed information on LCD screen error codes.

**General settings** - The general settings function on your LCD screen allows you to clear the trip odometer, change the unit of speed from MPH to KPH, enable a “slow start” feature, and access the advanced settings interface. Once the ebike and LCD screen is powered on, hold down the “+” and “-” buttons together for 2 seconds to access the general settings.

A password is required to access the general settings. **The default password is 1,2,3,4.** Scroll to each digit position and press the “+” button to increment thru each number, then press [power] to both select and move to the next digit position. This password can be changed in the Advanced Settings (termed “Specific Set” on the LCD interface).

Once you are past the password screen, press the “+” button to browse the menu and the [Power] button to select the highlighted setting. This is a very rarely accessed area. A more detailed description of the settings is outlined in the LCD manual.

**Advanced settings** - From within the general settings area (after you’ve entered the password for entry), press & hold [+] & [-] buttons for 2 seconds a second time to access the advanced settings. Here you can change the pedal assist percentage levels, reduce or increase the speed limiter, and set a new password so others can’t get into your setting interface with the default 1,2,3,4 password.

**Recover default settings** - Note that this will reset the LCD screen completely and erase your custom password if you have one. The LCD screen will be reverted to the factory settings. Press and hold the “+” and [power] buttons for 2 seconds to recover the default LCD screen settings. YOU will have to confirm by navigating to “Y” using the “+” button, then press and hold the [power] button for 2 seconds while “Y” is selected to return the system to the default factory settings.

## Wheels

**Front wheel assembly** - The front wheels on the Tower Beach Bum and Beach Babe are mounted thru “drop-outs” in the steering fork. The front fork is equipped with a secondary retention device. This is a backup measure to prevent the wheel from disengaging due to ill fitting bolts. The secondary retention device is not substitute for correctly securing the front wheel.

**⚠ Warning: Replacing the factory bolts may compromise the secondary retention device.**

**Removing the wheels** - To remove the front wheel, loosen the axle nuts a few times until the wheel has come loose and the nuts have cleared the secondary retention device. Slowly and carefully lift the frame until the brake disc has cleared the caliper.

Do not remove the rear wheel unless absolutely necessary. There are critical cables that run from the battery to the motor via the rear axle, so it’s best to leave this task to an ebike maintenance professional.

**Tires and inner tubes** - The pressure rating is indicated on the sidewalls of the tires. The Schwalbe Fat Frank tires that come standard on the Beach Bum and Beach Babe have an operational air pressure range of 22-60psi. A higher tire pressure will result in a faster acceleration, while a lower tire pressure will result in a more comfortable ride. Since the Beach Bum and Beach Babe models do not come with a suspension system, the recommended tire pressure is 30psi.

We prefill our tires with flat-resistant tire slim and puncture resistant tire liners at the factory. This massively reduces the frequency of flat tires on Tower ebikes.

**⚠ Warning: Never inflate a tire beyond the maximum pressure indicated by the manufacturer. Over inflation can cause dangerous tire blowouts.**

## Brakes

The brakes on the Beach Bum and Beach Babe are Tektro HD-E350 hydraulic disc brakes specifically designed for ebikes. Like a traditional bicycle, activate the brakes by pulling the brake levers located on the handlebars. The right brake lever activates the rear brake and the left lever activates the front brake.

**Disc brake adjustment** - Because they are hydraulic disc brakes, both the front and rear brake pads are self adjusting. If the hand brake lever does not have enough resistance just pump the lever once or twice and everything will adjust. If the brakes are making noise, or if the wheel can’t rotate freely, the

alignment of the brakes should be checked.

**⚠ Warning: Improperly installed or worn brakes are dangerous and can cause an accident resulting in injury or possible death.**

**Hydraulic disc brake function** - The ebike control system is equipped with a kill switch that automatically cuts off all power assistance when the brakes are activated. Also, do not hold the brakes when you are powering up the ebike and LCD screen as you will cause an error code 25. If this happens, just turn off the ebike and turn it on again without engaging the brakes simultaneously.

Do not apply the brakes too sharp as this can cause wheel lock and loss of control. When breaking in new disc brakes begin at a slow speed and gradually apply the brakes. It is important to have a feel for how the brakes respond at different levels of pressure.

## **Pedals**

The barefoot pedals on the Tower Beach Bum and Beach Babe are specifically designed to be used with or without shoes. Otherwise, they operate the exact same way as a regular bicycle.

**⚠ Warning: Beware of toe overlap. This is when the rider's toe touches the front wheel when making a turn while the pedal is in the forwardmost position. This can be avoided by keeping the inside pedal upright and the outer pedal fully down during a turn.**

**Pedal assist function** - The PAS function on the Tower Beach Bum and Beach Babe is a "cadence assist" which means the power assist is informed by the speed of the crankshaft, not the force of pedaling. Thus the rider can engage the motor assist function by just freely rotating the crankshaft when at speed without applying any meaningful force on the chain and rear hub.

## **Throttle**

The throttle is located on the right handlebar and will activate when twisted back. Unlike the pedal assist, there is no delay option. The acceleration is immediate. There is a small black toggle button below the throttle that can be used to disconnect the throttle functionality. This can be useful to prevent accidental acceleration.

**⚠ Warning: The throttle combined with the high torque motor creates extremely fast acceleration. New riders should familiarize themselves with the pedal assist modes before using the throttle.**

# Service

## Tower Electric Bikes Maintenance Guide

The Tower Beach Bum was designed and built to require as little maintenance as possible. The highest quality components, combined with rust-proof aluminum, remove the majority of maintenance required for most eBikes. With that being said, in order to minimize the risk of an accident and/or potential injury, it is imperative to follow these maintenance practices:

- Perform a mechanical safety check before every ride.
- Ride conservatively for the first 20-30 rides. There are several components that need to be broken in before the bike can be ridden at full capacity.
- Monitor the bike for signs of damage or discoloration. Discoloration could be a sign of stress fatigue, which can lead to breakage.
- Do not submerge any parts of the Tower eBike in water.
- Check the wiring every once in a while to ensure all connections are tight and clean.
- To clean the frame, wipe with a damp cloth and then dry any excess water that remains.
- Store the bike under shelter whenever possible to minimize exposure to sun and rain.
- Frequently lubricate and clean the chain to prevent rust.
- If a part of the bike becomes scratched or chipped, use some paint (or clear nail polish) to touch it up and prevent corrosion.
- Make cleaning and lubricating the eBike a monthly routine.

**⚠ Warning: All bicycles are subject to wear and tear. The various materials on the bike will wear at different rates, so it is important to do a full check up routinely. If a particular part has gone past its useful life cycle, it could fail unexpectedly.**

## Post-Crash Maintenance

A crash or impact can put unexpected stress on the bike in areas that are not built to withstand such stress. It is important to conduct a thorough check of the entire bike after an accident. IN the event of an accident:

- First, check for injuries and seek medical help if necessary
- Next, inspect the bike for damage. If there is structural damage to any of the critical components, do not ride the bike until it has been inspected by a bicycle maintenance professional.

# Appendix

## Intended Use

The Tower Beach Bum and Beach Babe ebikes are designed for general purpose riding on paved roads, bike paths and gravel or dirt roads on which there is not too much loose terrain and the wheels do not lose contact with the ground.

**Maximum weight capacity: 350 lbs**

## Not Intended Use

The Tower Beach Bum and Beach Babe are not intended for off-road or mountain use, or any kind of jumping. The Tower Beach Bum does not have suspension or a frame built to withstand the force of jumping. The standard tires are flat-resistant and can perform on loose terrain, however this is not their intended use. They are designed to withstand everyday road use and to add a level of comfort to the ride.

## Bicycle and Component Lifespan

All of the components on every bicycle have a limited useful life. The length of time before the Tower Beach Bum reaches the point of failure depends on:

- How aggressively the eBike is ridden
- The conditions in which the eBike is ridden
- The level of maintenance conducted

## Metal Fatigue

The more use the bike gets, the closer it will come to the end of its life cycle. This is because the metal frame will experience fatigue, which is the accumulated damage due to repeated loading. Discoloration or staining of a certain part could be a sign that a crack is present. Cracks begin on a microscopic level and may not be visible to the naked eye for a while. Over time, cracks will become so prominent that the frame will not be able to carry the expected load anymore and will result in failure. Scratches, dents and gouges create “stress risers”. These are weak points on the bike where stress will be increased. Pay close attention to these spots and replace the part if the damage is significant. If large cracks squeak and/or make noise during riding this is a serious red flag. A bike in good condition should be quiet and free of squeaking and creaking.

**⚠ Warning: Do not ride a bicycle with any form of crack, bulge or dent. Riding a bike with cracks in the critical components could lead to sudden failure and may result in serious injury or death.**

### **Torque Fastening Specifications**

Always use a correctly calibrated torque wrench to tighten the critical fasteners on the Tower Beach Bum and Beach Babe. The recommended torque levels for each fastener are as follows:

- Wheel nuts - 20-25 Nm
- Pedals - 25-30 Nm
- Seat post clamp bolt - 5-8 Nm
- Saddle clamp - 5-8 Nm
- Handlebar stem bolt - 14-18 Nm
- Handlebar stem pinch bolt - 12-14 Nm

**For more information check out the Tower ebike YouTube channel or see the Tower LCD manual**