



**Mountaineer Mid-Drive
Installation Guide**

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- ▶ **EBO Mid-Dive Motor**
- ▶ **EBO Li-Ion Battery**
- ▶ **EBO Battery Mount**
- ▶ **Battery Charger**
- ▶ **Display and Button Pad**
- ▶ **E-Brakes**
- ▶ **Speed Sensor and Extension (optional)**
- ▶ **Security Plate and Hardware**
- ▶ **Fixing Block and Plate**
- ▶ **Lockring Tool**
- ▶ **Trike Boom / Cargo Bike Bracket (optional)**

Recommended Tools

- ▶ **Metric Hex Wrenches**
- ▶ **Metric Box Wrenches or Adjustable Wrench**
- ▶ **Phillips Screwdriver**
- ▶ **Crank Puller**
- ▶ **Chain Tool**
- ▶ **Bottom Bracket Tools (varies depending on model)**
- ▶ **Lockring Tool (included)**
- ▶ **Thread Locker**
- ▶ **Zip-ties**

Dolphin

1. Locate the best position to mount the battery. In most cases this will be the down tube water bottle bosses on bicycles or a battery mounting tray designed specifically for your trike.
2. Mount the battery tray. Position the tray so the battery can be installed or removed and to allow access to the power button, lock, and charge port.
3. Place the battery in the battery tray track. Turn the key $\frac{1}{2}$ turn clockwise to lock it in position. Press the silver power button to turn the battery on and off.



Rack Style

1. Install the rear rack on the bike or trike using the supplied hardware.
2. Slide the battery onto the black plastic tray.
3. Insert the key into the lock, turn $\frac{1}{2}$ turn clockwise and remove the key.
4. Turn the battery power on by flipping the red switch on the bottom to the on position.

Rack Style (cont.)

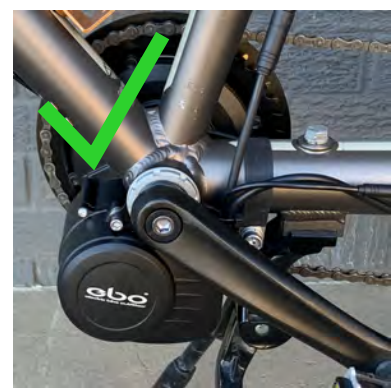
5. Check the charge level by pressing the small square button near the rear light.
6. Turn the rear light on and off using the button on top of the light.



Motor

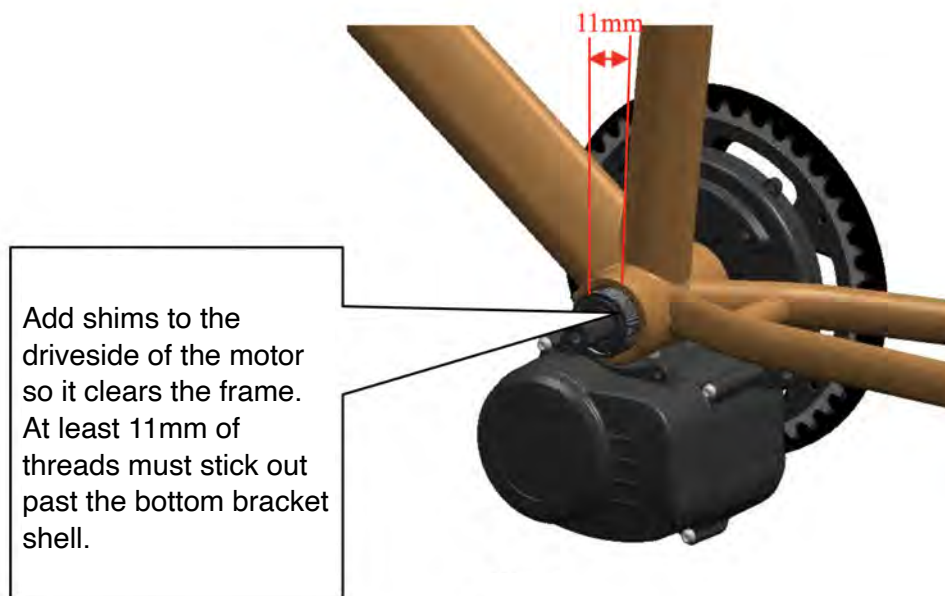
Frame Requirements

1. The Mountaineer can only be installed in threaded 68 and 73mm bottom bracket (BB) shells. The BB junction must have a bend between the downtube and chainstays in order for the motor to clear the frame.
2. The Mountaineer can be installed on tadpole trike booms and bikes without split chainstays with the use of the optional fixing bracket. Installing a motor in a carbon fiber frame is not recommended.

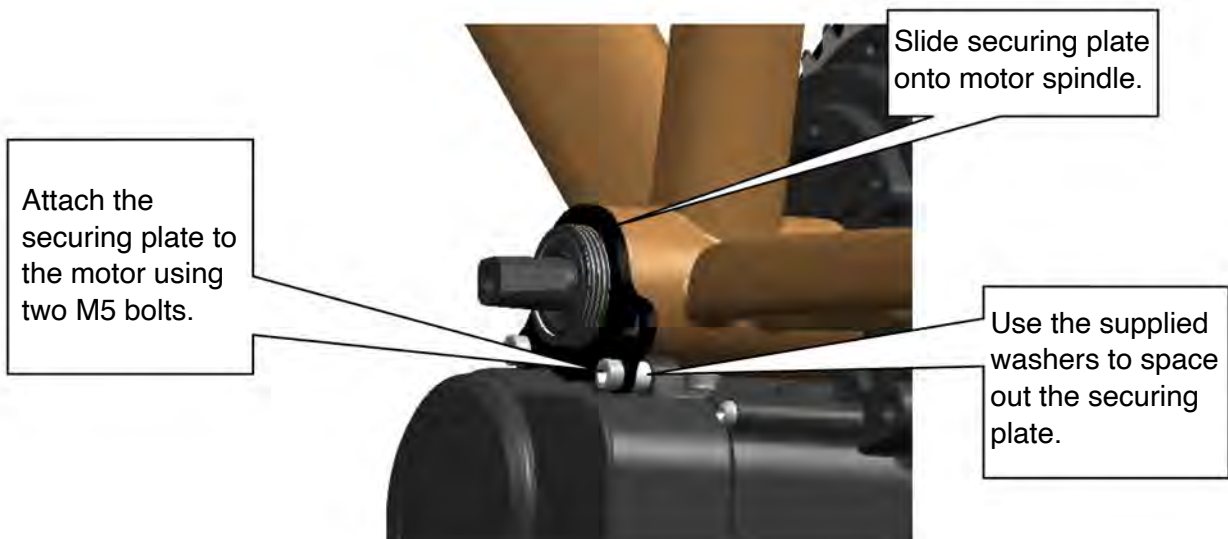


Installation

1. Remove the current crankset and bottom bracket assembly according to the manufacturer's instructions.
2. Remove the front derailleur and shifter if applicable. This may require breaking the chain. Refer to the manufacturer's instructions for chain removal.
3. Slide the motor spindle through the frame. If the motor casing contacts the drive side chainstay add one of the supplied shims to space the motor over till it clears the frame.



4. Attach the securing plate to the motor and install M5 bolts. Use spacers as needed to line up the securing plate flush with the bottom bracket shell.



Installation (cont.)

5. Apply a dab of medium strength threadlocker to the bottom bracket lockring and thread it onto the bottom bracket spindle. Tighten the lockring using the supplied locking tool.

Use the included tool to tighten the lockring to 40Nm. Check the lockring periodically after regular use to ensure the motor is secure.



6. Position the fixing block underneath the chainstays and install the M8 bolt to secure it. Sandwich the chainstays between the hang plate and fixing block using the second M8 bolt.

7. Once the hang plate and fixing bolt are installed torque the fixing block bolt to 40Nm to lock the motor into position.

Attach fixing block to the motor casing using the M8 bolt.



Fixing Block

Ensure the fixing block and hang plate don't interfere with derailleur or brake cables.



Installation (cont.)

8. Once the motor is locked in position install the crank arms using the crank arm bolts. The crank arms are left and right specific and are marked on the back.

Install the left and right crank arms on the appropriate sides. Tighten the crank arm bolts to 40Nm. Periodically check the bolts after use.

Grease the pedal threads before installing them on their respective sides.



9. With the battery off, plug the male two pin connector from the motor into the female two pin connector on the battery.

Stabilizer Strap (Optional)

1. When installing on tadpole trikes or cargo bikes without split chainstays, the fixing block is replaced by a strap to keep the motor from shifting under load.
2. Place the strap over the boom or stay as pictured.
3. Pass the M8 bolt through the holes of the strap with the spacer and washers arranged as shown.



LCD and Remote

1. Remove the clamping bolts on the display mount.
2. Slide the split clamp of the mounting bracket onto the desired mounting location. Do not spread the clamp open too wide as this can damage the bracket. Use the supplied shims as necessary.



3. Reinstall the clamping bolts and tighten them just enough that the display does not move.
4. Install the 8 pin male connector into the matching 8 pin female connector coming out of the motor. Ensure the orientation arrows are aligned when installing the connectors.
5. (Optional) Install the display remote on the handlebar in the desired location. Connect the remote to the 5 pin connector on the display.



6. Secure any excess wiring using zip ties.
7. Refer to VLCD-5 Manual for setup instructions to adjust wheel size and speed cutoff settings as needed.

Levers

1. Remove your current brake levers from the handlebars and uninstall the brake cable from the lever.
2. Install the EBO e-brake levers on the handlebars. Install the brake cables into the levers. Follow the brake manufacturer's instructions to ensure proper brake operation.
3. Test e-brake levers and adjust as necessary to ensure adequate stopping power.
4. Remove the left and right rubber covers on the back of the display and plug the e-brake wires into the connectors with the grooved tab facing the top of the display.



Notes

- ▶ Bikes with drop handlebars or hydraulic brakes will not use the e-brake levers.
- ▶ Tadpole trikes will use a max of one e-brake lever because the wiring isn't long enough to reach the display from both sides.

Sensor

1. Zip tie the speed sensor base to the chainstay, fork blade, etc.
2. Plug the 6 pin connector into the corresponding connector exiting the motor.
3. Secure the wiring and bundle any excess.
4. Install the speed sensor magnet on a spoke of the wheel so that it passes within 5-10mm of the > marking on the speed sensor arm. Setting the magnet too close to the sensor can produce inaccurate readings.

