

**TROUBLESHOOTING USER GUIDE**

**FOR**



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## **1 Brake Rotor Replacement**

The brake rotor a very important component of the brake assembly, is a metallic disc attached to the hub of each wheel, located in between the pads of the brakes in the brake calipers on the frame of the bike. When the lever of the brake is pressed, the cable of the mechanical brake is drawn on the arm of the caliper, which presses the pads of the brake against the brake rotor. This friction action of the pads of the brake against the brake rotor decelerates the when and the bike.

With normal usage, the pads of the brake wear down, and would need to be replaced for your safety. If the brake rotor becomes non-functional, it can be easily replaced.

### **1.1. Components/Tools**

- A new, functional brake rotor
- Supports for the bike
- Nitrile disposable gloves
- A T25 Torx wrench
- A T25 Torx bit for a torque wrench

### **1.2. Remove your battery**

The following steps (before you remove the pedals) are required to safely turn off your electric bike, and remove your battery

- Turn off the electric power on the bike motor, please hold the centre “MODE” button on the Display Buttons mount for 5 seconds until the LCD Display is off
- Turn the key of the battery to the “OFF” position
- Safely remove the battery

### **1.3. Remove the brake rotor**

Depending on the defective brake rotor, follow the steps in Section 1.3.1 and/or Section 1.3.2.

#### **1.3.1. Remove the front defective brake rotor**

The following steps should be taken to safely remove the front defective brake rotor

- Flip the bike upside down, by placing the grips of the handlebar on an appropriate support. The support is required to secure the LCD Display from damage during the tire maintenance
- The Quick Release Lever is located at the front wheel of the bike, and it is responsible for keeping the front wheel firm and steady. Use your hands to release the Quick Release lever from the closed position. The Quick Release Lever is closed when it is in a vertical position relative to the ground, and opened, when it is in a horizontal position relative to the ground
- With one hand firm on the Quick Release Lever, loosen the nut on the other side of the wheel. The nut should be loosened sufficiently enough that the tire can be detached from the fork of the bike
- To prevent your bare hands from touching the inner components of the rotor, wear the disposable nitrile gloves. This might reduce the braking efficiency of your bike

- With the T25 Torx wrench, remove the six bolts. To avoid damage to the hardware, make sure the torx bit is fully positioned and firm in the head of the bolt
- Detach the defective rotor; and dispose in accordance with local regulations

### **1.3.2. Remove the back defective brake rotor**

The following steps should be taken to safely remove the back defective brake rotor

- Flip the bike upside down, by placing the grips of the handlebar on an appropriate support. The support is required to secure the LCD Display from damage during the tire maintenance
- Disconnect the motor cable. The motor cable is typically located around the chainstays. Cut the zip tie fastening the motor cable. Detach by pulling (not twisting) the connector to safely unplug
- Use the 18mm wrench to unloosen both axle nuts
- Use the 3mm allen wrench, and/or the Phillips head screw driver to loosen and remove the washers and the torque arm bolt
- For safety purposes, and ease during reinstallation, take a picture of the washer and torque arm position and orientation
- Push the derailleur body down, to remove the tire, by raising the chain from the cog. If the tire is unable to be taken off, swing the tire in one direction, and in the opposite direction during lifting
- To prevent your bare hands from touching the inner components of the rotor, wear the disposable nitrile gloves. This might reduce the braking efficiency of your bike
- With the T25 Torx wrench, remove the six bolts. To avoid damage to the hardware, make sure the torx bit is fully positioned and firm in the head of the bolt
- Detach the defective rotor; and dispose in accordance with local regulations

### **1.4. Install the new functional brake rotor**

- Align the new functional brake rotor on the hub of the wheel
- With the use of your hands, carefully thread the bolts into the hub. Then use the T25 Torx wrench to tighten each bolt, you should avoid overtightening and stop just before the head of the bolt comes in contact with the rotor
- Turn the rotor in a clockwise manner, in order to make secure contact with the bolts. This helps in severe braking conditions to neutralize any possible shearing force applied on the bolts
- Tighten the bolts to a torque value of 7Nm, moving around the bolts in a star pattern

### **1.5. Reinstall the front wheel**

- Safely insert the quick release lever into the wheel axle. Please ensure the black nut is on the disc side of the wheel
- Place the Quick Release Lever in the open position, then install the Quick Release with the front wheel into the fork. The springs should be one on each side
- Use your hand only to ensure the Quick Release Lever is tightened enough. When in a closed position, please ensure the Quick Release Lever is not loose and does not touch the frame or fork. This should be avoided because it would cause the wheel to slow down and damage the wheel eventually

### **1.6. Reinstall the back wheel**

- Reinstall the torque washers on the axle in a manner that the tabs extend outward. Push the derailleur body down, and direct the chain towards the littlest gear. Position the brake rotor, so that it glides between the brake pads within the brake caliper, and place the tire in the right position. Ensure the torque arm is re-installed as previously shown, and use the torque arm bolt. The recommended amount of torque for the axle nuts is 40Nm. Use the reference picture to verify the washer and torque arm position and orientation
- Reconnect the motor cable. Align all surrounding cables, and press (not twisting) both sides of the motor cable to recouple. Use a new zip tie to hold firm motor cable, to prevent it from dangling

### **1.7. Brake tests**

If your brakes are rubbing or noisy, follow the steps in “Rubbing and Noisy Brake Adjustment”, while if they are slack or loose, follow the steps in “Slack Brakes Adjustment” to make the necessary adjustments

### **1.8. Test ride**

The following steps should be taken to test your newly installed brake rotor

- Reinstall the battery
- Turn the key on the battery to the “ON” button, and hold the “MODE” button to start the bike motor
- Go for a test ride

## 2 Pedal Assist System Troubleshooting

The pedal assist system is an important mechanism on DJ Bikes that regulates the output power of the motor. Over the course of time and due to normal wear and tear, the pedal assist detector or the magnetic disc might become non-operational. The steps in this section will help you troubleshoot for issues with the Pedal Assist System.

### 2.1. Components/Tools

- Paper napkins or towels
- Flat side pliers or cutters
- New, functional replacement zip ties
- A camera
- A bike stand, support, or a friend

### 2.2. Remove your battery

The following steps (before you remove the pedals) are required to safely turn off your electric bike, and remove your battery

- Turn off the electric power on the bike motor, please hold the centre “MODE” button on the Display Buttons mount for 5 seconds until the LCD Display is off
- Turn the key of the battery to the “OFF” position
- Safely remove the battery

### 2.3. Inspection

Use the camera to record a session of your troubleshooting, this is necessary to assist the technical team at DJ Bikes to resolve the issue.

#### 2.3.1. Magnetic disc and pedal assist detector

- Locate the magnetic disc and pedal assist detector behind the right crankset
- The distance between the magnetic disc and the pedal assist detector should be approximately 3mm, which is the thickness of two credit cards assembled together
- If the magnetic disc is not close to the pedal assist detector, cautiously push the magnetic disc in the direction of the pedal assist detector. Ensure the magnetic disc remains aligned with the spindle of the bottom bracket, such that it is not twisted to avoid vibrations when it rotates
- In order to send a strong signal to the pedal assist detector, the magnets located on the ring must be clean. If you notice any dirt on the magnets, use the paper napkins or towels (moist with warm water) to wipe off any dirt. Then use dry paper napkins or towels to dry
- Contact DJ Bikes if the magnetic disc is damaged, else move to section 2.3.2

#### 2.3.2. Pedal assist detector connector

- Cut (if required) the zip tie fastening the cable from pedal assist detector to the connector, and locate the connection point between the plugs. Detach, by pulling (not twisting) the connector, to safely unplug
- Detach, by pulling (not twisting) the silver metal connector, to safely unplug
- Examine inside the connector for any moisture, dirt or damage. Contact DJ Bikes for more assistance if the inside has any moisture, dirt or damage

- If inside is clean, reconnect the connector. Press (not twisting) both sides of the connector to recouple
- Use a new zip tie to hold firm the cable, to prevent it from dangling

### **2.3.3. Pedal assist detector LCD**

- Reinstall the battery
- Turn the key on the battery to the “ON” button, and hold the “MODE” button to start the bike motor
- On the LCD Display, set the pedal assist power to 1
- With the bike stand or support, or with the bike wheels off from the ground
- Use your hand to turn the crankset in a clockwise manner, and check the pedal assist detector to see if the LCD display illumines and flashes. For your safety, stay clear of the back wheel as it rotates
- Contact DJ Bikes if the LCD does not come on, or does not flash. This might imply the pedal assist detector is non-functional, and will need replacement
- If the LCD display illumines and flashes when rotating the crankset, go for a test ride to be certain the issue is resolved