



10 Dangers Unique to Electric Bikes

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We all know the dangers of riding a motorcycle and a bicycle. Here are dangers unique to electric bikers that are a good idea to be aware of. These especially apply to people riding high powered electric bikes capable of high speeds.

An electric bike is much faster than a regular pedal bicycle, and much slower than a motorcycle. It is in this gray zone between those two-wheeled extremes we stumble upon these 10 unique hazards to riding an electric bike.

1. Applying too much throttle from a dead stop

Probably the number one cause of electric bike accidents. Luckily these don't result in serious bike accidents because they usually happen at low speed.

Ways to avoid this one?

- Make sure your controller and throttle are dialed in properly so throttle is not twitchy.
- Consider a switch which gives you different levels of power you can select
- Do not apply throttle until moving.
- Lean forward on the handle bars when throttling to keep bike from popping wheelie

2. Twisting throttle with the bike parked not knowing that the bike is on

This mistake happens frequently. An electric bike can be switched on and no one know because it is silent (unlike a gas scooter or motorcycle which make an idling noise). Twist the throttle and the bike takes off in your arm. As the bike gets away from the holder the throttle is twisted more intensifying the effect. Most of the times the initial reaction is to grip the throttle tighter which of course makes the problem worse. Although this mishap happens a lot it rarely results in serious injury since the bike is not moving at high speed. It can cause minor bruises, cuts and property damage. It also can be as embarrassing as all hell. Ways to remedy it?

- Turn your electric bike "off" when not in use.
- Consider a thumb throttle
- Consider a half grip throttle
- buy a bike where power does not come on until reaching 5mph
- buy a pedelec bike which senses how hard you press on pedals and activates throttle accordingly.

3. Front hub motor fork failure

This is among the most dangerous bike failures because breaking your front fork usually ends up in a head first over the handle bars which can result in a deadly face plant. All front wheel hub bikes should use torque arms and be carefully installed. Check out this mountain biking video as an illustration of how serious a front fork failure can be:

Ways to avoid this?

- Install torque arms. ([read our story here](#))
- Do not use front wheel drive with suspension forks.
- Have your front wheel drive hub motor professionally installed.
- Do not use a high power motor in the front wheel.

4. Mistreatment of lithium batteries

There have been numerous reports of lithium fires on electric bike rides, and also while the bike is charging. Most of these fires are on home built electric bikes with home made lithium battery packs consisting of strapped together R/C hobby lipo cells. Lithium batteries are very combustible and should be treated with a lot of respect and caution.

Ways to avoid this:

- Use a bms (battery management system)
- Do not build your own battery pack without ample research.
- Do not over charge or allow batteries to become over discharged.
- Do not allow batteries to be punctured.
- If possible use a protective metal box to hold batteries when riding.
- Take care where you charge your batteries

5. Bearings locking up on a mid-drive

This is a potential problem specific to powerful mid drives. If any of the freewheel bearing lock up it can cause the pedals to go at full speed with the pedals knocking the riders shins and possibly causing a crash.

6. Passing a pedal bicyclist or pedestrian silently at high speed

Many electric bikes (especially hub motor powered ones) are completely silent. In China they have been dubbed the “Silent Killers” because many times a pedestrian will walk in front of an electric bike without hearing it coming. A pedal bicyclist is not expecting to be passed while travelling at high speed, and does not hear the motor driven bicycle behind him might make an unanticipated maneuver. Here is a video clip showing how effective an electric bike is at passing lycra clad pro road bikers. Imagine of one of these guys suddenly veered right.

7. Doing stupid stuff forgetting you are on a motor vehicle

Check out this guy riding on the wrong side of the street doing 50mph in traffic. Notice a woman pulling out of her driveway right as he passes. If this guy were acting like this on a motorcycle someone would call 911. For some reason the silence and bicycle-like appearance of electric bikes can entice certain daredevils to do silly things that defy common sense. Electric bikes just looks so innocent:

8. Throttle getting stuck in wide open position

E-bikers like to refer to wide open throttle as WOT (pretty dorky unless you are riding a [super-fast electric bike](#)) But whatever you want to call it, it really sucks when your throttle gets stuck in this position unexpectedly. On a high power electric bike this is another one of those nightmare scenarios that can cause a serious accident. For this reason you should consider some kind of emergency cut off and/or have high quality hydraulic disc brakes that are able to stop the rear wheel even at full throttle.

9. Not obeying traffic signals (like you would on a motorcycle)

Many bicyclists do not respect stop signs or stop lights. Because they are on a bicycle they are not risking infractions on their driving records, and the tickets for breaking a law such as running a red light are a minor ticket much like jaywalking. When on an electric bike you are going at much higher speed than on a bicycle so the consequences are much more severe. Since you do not need to work to get your speed up such as you do on a pedal bike, you would think electric bicyclists should be more inclined to stop at a red light but many are not. Also if your battery, motor, and controller die leaving you without power unexpectedly the results can be catastrophic. Check out what happens to this electric scooter rider when her power leaves her while running a red light in a busy intersection:

10. Excessive speed on a conversion bike not make for high speed

Bicycles are made for top speed of 30mph, and that's going downhill. When you go beyond 30 mph on bicycle components, i.e. bicycle tires you are taking your chances. Check out this downhill electric bike with a motor that has been added to it accelerating to 65mph.