



NAVAL SAFETY COMMAND SAFETY AWARENESS DISPATCH SA 26-23



E-Bike Mishaps

With regard to electric conveyances, a lot of our attention has been cast on the infamous e-scooter, but the time has come to turn our safety awareness gaze to another electric micromobility vehicle, the e-bike.

E-scooters took the crown in 2024, causing more than 115,000 injuries according to the Consumer Product Safety Commission, but incidents involving e-bikes claimed their own significant chunk of ER visits, totaling almost 60,000 injuries¹. Considering e-bikes have a higher utilization rate and are purchased in higher volumes nationally, according to the Department of Energy², they deserve their own moment of reflection. Here are a few examples of e-bike rides gone wrong.



Car Stopped; Bike Didn't.

A Sailor was using an e-bike to head into morning PT. The ability to ride at a consistently fast speed should have helped the Sailor make it on time, that is, until a car ahead stopped at a stop sign (*apparently, out of nowhere, we're sure*) resulting in the Sailor crashing into the side of the car. The somewhat scant report suggested the Sailor was either not paying attention or riding too quickly to react in time to stop (*or maybe it was both*). Either way, the Sailor did not make it to PT but instead, received 14 days limited duty. – *Riding any bike demands situational awareness, especially for other vehicles. Riding a bike that can easily maintain 20 mph demands even more awareness.*

Overzealous Braking.

A Sailor was riding down the road when a pedestrian stepped into the crosswalk in the Sailor's path (*a pedestrian in a crosswalk, how surprising*). The Sailor depressed their brakes hard but likely only used the front brake because the Sailor flipped over the handlebars in what must have been a sitcom-quality crash. Fortunately, they suffered only minor injuries requiring a little first aid. – *We reiterate, situational awareness is essential. Cars are going to stop at stop signs (we hope); pedestrians will use crosswalks. Be on the lookout for these very common occurrences as well as the unexpected. Also, make sure you know proper brake usage. Using both front and rear brakes effectively will avoid dangerous (and embarrassing) flips like this. The disc brakes used on almost all modern e-bikes have significant stopping power. Your front brake should provide most of this power, but if you're riding at top speed and only use the front brake, the bike's momentum is going to cause the bike to flip, taking you for a ride you didn't plan for.*

When a Gate Closes, the Sailor Finds a Way ... or Maybe Not.

Not all of our e-bike injuries occurred while the rider was operating the e-bike. In this example, a Sailor's refusal to find an alternate exit resulted in injury. The Sailor was attempting to leave the pier with his electric bike only to find the nearest gate closed. With an overabundance of haste and an underabundance of critical thinking, the Sailor attempted (*key word here being attempted*) to lift the e-bike over the gate. However, e-bikes are generally quite heavy, and the bike became stuck on the gate. The Sailor decided to go through the turnstile and attempted (*again, the keyword is attempted*) to pull the bike free from the other side of the gate. To his credit, the Sailor did get the bike free, but only after falling backward causing the bike to fall onto his leg. The bike fractured the Sailor's femur, and he went to the ER instead of wherever he was originally trying to go so quickly. – *The battery and motor that propel an e-bike add a decent amount of weight. Not only does this mean they ride differently than a traditional bike, but they are obviously harder to pick up. Take a moment to make sure you are lifting and moving your e-bike wisely.*

¹ [Micromobility Products-Related Deaths Injuries and Hazard Patterns 2017-2024](#)

² <https://www.energy.gov/cmei/vehicles/articles/fotw-1369-november-18-2024-e-bikes-have-highest-utilization-rate-shared>

Spilled Groceries.

A Sailor used his e-bike to pick up some groceries from the market (*seems easy enough*). After checking out, he strapped his grocery bag to the flat platform above the rear tire. For clarification, this was not a box of groceries securely attached to the platform, the Sailor simply strapped a loose grocery bag to the platform (*there's a good chance this will be a problem later*). The Sailor then made his way back to base, getting up to about 15 mph when he noticed the bag becoming unsecured. Instead of stopping to re-secure the bag (*like a rational person*) the Sailor reached back to make the adjustment while en route. The act of reaching back with one hand while attempting to steer with the other hand on the handlebars resulted in the Sailor (*predictably*) losing control and the bike flipping over. He was fortunate to go home with only a minor laceration to his face (*and probably some bruised produce*). – *Don't ride and text, don't ride and watch a video, don't ride and reach back to try to secure your loose bag of groceries ... we think you get the point.*



A BBQ Ends Badly.

A Marine was enjoying a barracks barbeque with his unit and decided to go for a joyride on his e-bike. He must have wanted to feel the wind in his hair, because the Marine neglected to put on a helmet (*a decision he will later regret*). While riding, the e-bike slipped off a curb causing the Marine to lose control and ride into a pillar. The report did not specify a speed, but the Marine was traveling fast enough for his fellow Marines to hear the collision on the other side of the barracks. They ran over and found him unconscious. An ambulance took the Marine to the hospital where he was diagnosed with a fractured skull, bruised brain, swollen eye and bleeding from the ear. – *We have spoken about the importance of bike helmets in other dispatches. The importance of using a helmet to protect yourself is especially true when riding an e-bike, where accidents can easily happen at higher speeds.*

Key Takeaways

Because e-bikes are still bicycles, a lot of our takeaways will mirror our previous bicycle-related dispatches, with a few additions. E-bikes are a great mechanism for transportation or just a fun ride, but we must be cognizant of their hazards. The fact that they aren't enclosed like a car means injury is much more likely in the case of an accident. The high speeds an e-bike can reach and maintain also increases risk significantly from that of a regular bicycle. We recommend the following to keep you safe on the e-bike:

- 1. Use safety attire and gear.** At a minimum, **wear a helmet**. Just like on a regular bicycle, one of the biggest risks is head injury. Wear high visibility reflective clothing. When riding in low light, use front and rear facing lights (mandatory on base).
- 2. Ride defensively, focused and alert.** You may be traveling as fast as a car on certain roads, but that doesn't mean you're as noticeable as a car. Assume others might not see you and stay alert for hazards and erratic drivers.
- 3. Ride predictably.** Ride where you are expected to be seen. The National Highway Traffic Safety Administration states the safest place for most bicyclists is on the road. This is because cars are looking for traffic on the road, they are not looking for fast-moving objects on the sidewalk and will often pull forward when exiting parking lots and driveways, blocking your path. This can be especially problematic for an e-bike traveling 20 mph.
- 4. Know your bike classification and local regulations.** E-bikes come in three classes:
 - Class 1** – motor only works when rider is pedaling and has a max speed of 20 mph.
 - Class 2** – top speed of 20 mph but has a throttle that will work without pedaling.
 - Class 3** – top speed of 28 mph and may or may not have an independent throttle depending on your state.

Most states have limitations on which classes can ride on certain trails or locations as well as varying age limits and helmet requirements by e-bike class. It's also important to note that most states cap e-bike speeds at 28 mph. If a bike can exceed this speed, it will likely fall under a different vehicle classification and more stringent regulation. Bottom line, know the rules for where you live and ride where you are supposed to.

And remember, "Let's be careful out there"