

# ELECTRIC BIKES GET FASTER

Two wheels, three top speeds, no exhaust.

BY EZRA DYER

The HPC's standard 1,290-watt-hour battery is good for 50 miles of range, more if you pedal.



While electric cars get ever more capable and less expensive, electric bikes are enjoying the same progress in batteries and motors. From 2016 to 2017, U.S. e-bike sales doubled, and even Harley-Davidson is producing an electric motorcycle next year. We tested three new examples of bi-wheeled electric transportation.

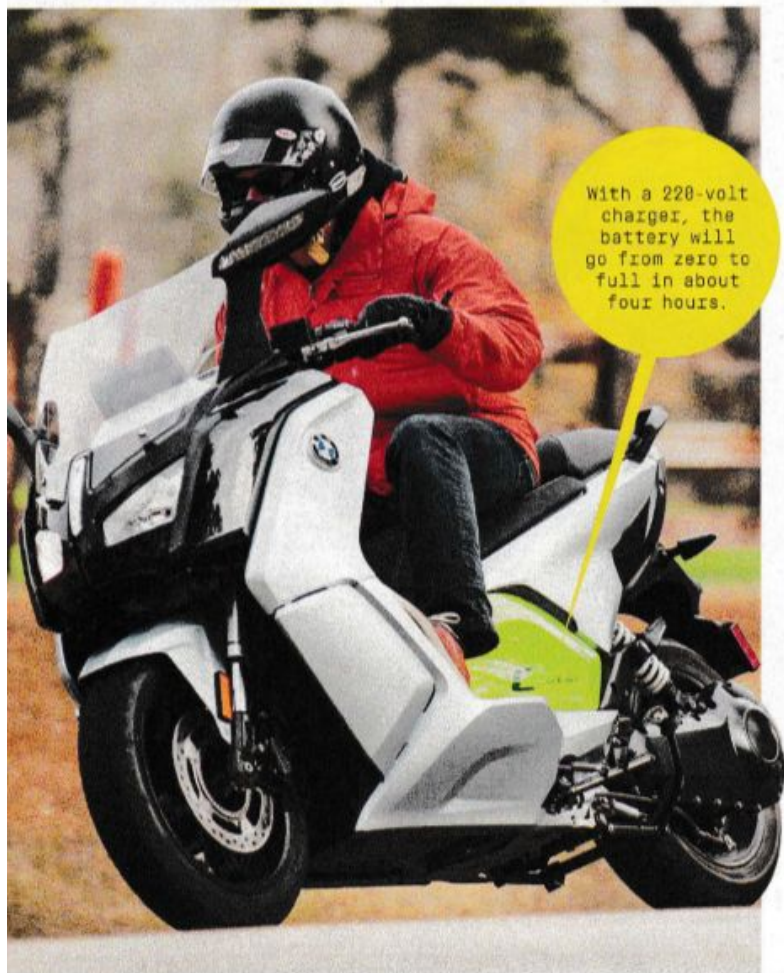
## The Dirt Bike: HPC Revolution \$9,999

► The California-built Revolution conforms to U.S. e-bike rules, with 750 watts of power and a 20-mph top speed. At least, until you hack it. If you're heading off-road, you can reprogram the Revolution's software to unlock the hub motor's full potential, which cranks out as much as 6,000 watts. Then, you're on your way to a top speed of 50 mph and a riding experience that's really like that of a very quiet, tail-heavy dirt bike. (Instead of the hub motor, you can opt

for a less powerful mid-drive motor that makes for more nimble handling.) No matter how fast you're going, you can still help the cause by pedaling, thanks to a novel gear set called a Schlumpf drive that enables fruitful pedaling even at speed. Click a button with your foot and the planetary crankset goes into super-high gear. It's a thrill, and frankly a little scary. Other riders might think you're silly for wearing motocross gear on a bike. Till you pass them at 50.

## The Scooter: BMW C Evolution #13,750

► Yes, the C Evolution will hit 80 mph, so you can take it on the highway. But this is really a weapon for the typical scooter mission: short-haul urban scuttling. The C has a healthy 99 miles of range, but its forte is point-to-point blasts around town, where you can really exploit its instant torque and 2.8-second zero-to-30 time. This is a scooter that has traction control, and needs it. It's a blast, because the same attributes that make electric cars fun to drive—smooth power, low center of gravity—make the C Evolution a surprisingly entertaining ride on twisty back roads. And, as a BMW, it's got some trick creature comforts, like a power-adjustable windshield that you can lower around town, or raise up on the highway to create a cocoon of calm. It even looks cool, in a Euro-futuristic sort of way. This really feels like the promise of motorcycles, distilled down to the essence of wind, road, and speed.



With a 220-volt charger, the battery will go from zero to full in about four hours.



A magnetic sensor detects your pedaling cadence and activates the hub motor for more power.

## The Fat Bike: RadRover Electric #1,500

► If the RadRover had one watt more power, it'd be classified as a moped. As it is, the 750-watt geared hub motor easily sails you up to the 20-mph speed limiter. You just twist the throttle and the RadRover goes like a dirt bike. And if you're somewhere that a Kawasaki would be unwelcome (say, a beach), then some gentle pedaling helps maintain the illusion that the propulsion is coming from your legs alone. The assistance operates on five selectable levels and is automatic. Start pedaling, and the motor kicks in and makes it all as easy—or as hard—as you want. Since we rode it, there's been an update to the 2018 models, which got a more energy-dense battery. But even the older models have plenty of juice for a 20-mile ride.



### WAIT, IS THAT THING LEGAL?

Rules differ around the country, but in general, if a bike has a motor on it, it needs to have an option for pedal assist to avoid being classified as a scooter. The RadRover, HPC, and Yamaha's just-announced line of e-bikes all fall into that category, which means you don't need a license to own and ride one, and you don't need to register it—unlike the BMW scooter, which requires a motorcycle license and registration.