

{ BIKE TEST }

2019 OPTIBIKE R15C

It takes a throttle twister to know one

By Karel Kramer

What motivates a company to develop a bike as unique in performance and appearance as the Optibike? Most likely, someone with the two-wheeled background of company founder Jim Turner. Turner grew up in Northern California and, along with his brother Paul, came from a motocross racing background. Along the way, Jim claimed two Canadian national titles as a Suzuki factory rider and raced in Europe for Moto-X Fox. Oh yeah, in later years his brother Paul co-founded a little-known bicycle suspension brand called RockShox.





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{ OPTIBIKE }

While earning his engineering degree, he commuted 25 miles a day on a bicycle. He never escaped his passion for outdoor fitness. Eventually, he purchased an early example of an e-bike. Its performance was not impressive, and the range was a disappointing six miles. With his engineering background, he was certain he could do better. His early bikes had an aluminum frame that looked more like a moped than a bicycle, but his customers are passionate about those bikes.

THE BIKE

In this time of specialization in e-bikes, they don't come much more "special" than the Optibike R15C. It isn't merely an e-bike; some would say that it isn't an e-bike at all but an emission-free motorcycle with pedals. Where many e-bikes are the sum of parts—and that is especially true of the assist parts—the Optibike uses a proprietary assist motor, battery, frame and swingarm. Rather than

a derailleur, it relies on a heavy-duty Rohloff internal-shifting rear hub with 14 speeds for a 562-percent span of gear ratios. Add in a massive 52-volt battery pack, along with a 1500 watt-hour battery, and you quickly realize that the Optibike is something far out of the ordinary.

If you're still looking at that price tag and shaking your head, consider the following: each R15C is built to order by hand in Colorado using many proprietary parts, in addition to some top-line suspension



and drivetrain components. Consider, too, that a normal 500-watt-hour battery pack has a replacement cost of around \$900. The R15C has a 1500-watt pack that is three times the size, so you would expect the price tag to be \$2500 to \$3000 just for the battery pack alone.

Add in the fully adjustable Fox shock that antes up 220mm of rear-wheel travel,

plus the e-bike-spec'd Fox fork with 160mm of travel. The best price we saw online for that Rohloff rear hub was roughly \$1300. And if you absolutely must eschew Henry Ford's black Model T for the frame finish, you are looking at \$500 more for pearl white or silver, \$1000 for custom colors and \$2000 for two-color custom paint.

THE MOTOR

Turner is on record saying that he got in the e-bike biz to join the worlds of off-road motorcycling with the sport of cycling. We will be the first to say that he has certainly done that. In the R15C manual it says that this bike is a class 2

e-bike (limited to 750 watts and 20 mph, but with a throttle) when set at levels 1, 2 or 3. Once you jump to level 4 or 5, it legally becomes an off-road dirt bike in many places. We have ridden e-bikes on dirt bike trails, and a lot of them are not especially fun. On the R15C, you can stick to legal off-road motorcycle riding areas and trails, and have a rocking good time!

THE RIDE

We began by ball-parking the suspension settings, and setting tire pressure, seat angle and lever position. There is a toggle switch in a protected opening in the frame that powers on the battery. You must still push the power button on the handlebar switch to light up the display and energize the system. The right-side Ergon grip is split in two to allow for the twist-grip throttle function. Hold down the assist level-up button to fire up the massive dual headlight. The lights are super bright with a wide-spread and a warm tone to the light output.

With the display set at level one, the assist is actually pretty mild. Level two

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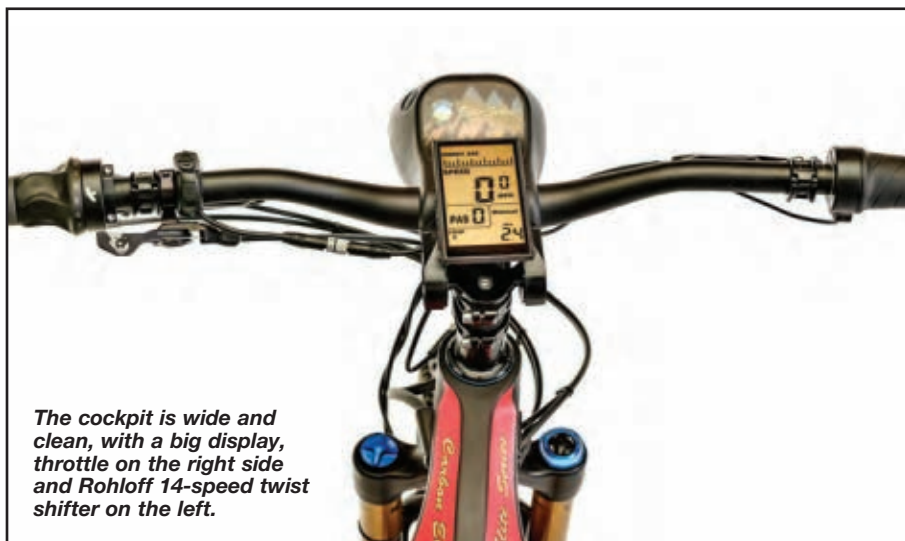




The Rohloff 14-speed, internally shifting rear hub is bulletproof and able to handle the extreme forces this bike can put on it. However, we found that it won't shift under load, even if it's just leg power.



The ample Fox Float DPX2 coil-over shock is really good and well protected inside the frame.



The cockpit is wide and clean, with a big display, throttle on the right side and Rohloff 14-speed twist shifter on the left.

is better, but on the street and while climbing in the dirt, we stuck with level three. Those first three levels are fully limited to 20 mph, but level three has enough assist that you run up against the 20-mph limit pretty easily. For a rolling 8-mile commute with many stop signs and red lights, we averaged 17 mph. We'd pedal away from a light in fourth or fifth gear, then jump all the way to 14th gear for cruising along. Easy.

When we checked battery life, the display showed full bars, but the charger had not shut off yet, so it may not have been completely charged. We rode 25 miles on a mixture of streets, dirt roads and trails with just over 3600 feet of climbing. Virtually all of the ride was in

levels 3 and 4. At the end of the ride we had roughly half of the battery left. That means that the Optibike range claims are very close to on the money.

The only flaw in the performance was the Rohloff hub, which refused to shift under a load—and we don't mean under power. Even with no assist, it doesn't like to shift if the rider is pedaling. On the street it was a non-issue because you have plenty of time to cut power, stop pedaling and shift. In the dirt it hampers the effectiveness of the bike until you get used to the traits. We soon learned to chop the throttle and cease pedaling while conducting a fast shift. We got to where we could downshift on hills without losing much speed.

Owing to the 1650-watt motor and 190 N/m of torque, a standard bicycle derailleur is simply not an option, and the Rohloff remains one of the few bicycle-derived drivetrains designed to hold up for extreme torque on the drivetrain. They are ideal for cold, wet climates. If the terrain is steep, you must plan your downshifts. Fortunately, the Rohloff will jump easily from 14th gear to 1st with a single twist if you have no torque on the chain. You must drop enough gears to make up for the momentum and ground speed you lose while coasting during the shift.

Your other choice is to select the correct gear and power level before you start a climb or learn to shift quickly. If you choose a gear that is too tall for the assist level, like any bike, simply pedal your butt off to make up for the poor gear choice. The assist motor spins more rpm than a human. If you are running on throttle, you will need to jump the Rohloff three gears higher to get to where you can pedal effectively.

HIGH POWER

When we boosted the power to levels four and five, we were able to climb some astonishingly steep grades, including a fire road that would have required a 4WD with low range and off-road tires to climb.

The bike's suspension and handling are amazing. This bike is very fun on quick trails and gnarly drops. When it was time to go back up, one test rider



Long before he became an e-bike entrepreneur, Jim Turner was a two-time Canadian National Motocross champion riding for the Factory Suzuki team.



A closer look at the rear triangle and bottom bracket shows how compact this motor is for all its power, the suspension linkage and clever cable routing.

chose a route that would have been frightening on a dirt bike. It only worked since he has superior riding skills on both a dirt bike and a downhill mountain bike, but the point is, it is possible, and without pedaling in level five.

THE VERDICT

There is no doubt that the Optibike R15C is a niche e-bike. It doesn't even pretend that it is intended for much pedaling. The downhill routes we hit were on private property and

neighborhood adjacent, so not only were we still legal with the Optibike, but owing to zero noise, there were no neighbor complaints.

In addition to the R15C, Optibike also has an R8C with the same carbon chassis, but with a battery that is 30 percent smaller with less voltage and mated with an e-bike road-legal 750-watt assist motor.

To make the Optibike work for you, you must understand the e-bike political climate where you live, have access



With 160mm of travel, a slack head angle and beefy 36mm stanchions, we could huck this bike off big stuff with zero worries.

to off-road areas that are open to motorized vehicles and have a Zen-like appreciation of your finances. If you can get all those points to align on your life graph, you will have a blast on this bike for a good, long time. ■

SPECS

2019 OPTIBIKE R15C

Price: \$13,900

Motor: 1650-watt mid-drive with 190Nm torque

Battery: 52 volt, 29 Ah, 1500wh lithium-ion

Battery life: 1000 cycles

Charge time: 5 hours

Top speed: 20, 28 or 36 mph depending on assist level and pedaling

Range: 30–70 miles

Drive: Rohloff 14-speed internal hub with twist-grip shift

Brakes: SRAM Code RSC hydraulic disc brakes with 203mm rotors

Tires: Schwalbe Magic Mary 27.5x2.6

Display: Optibike custom LCD display with 5 power levels, cycle computer functions, battery gauge, and headlight control with backlight

Fork: Fox 36, K, Float, 27.5", F-S Speed-Ped, 160mm, 3 position adjustable, FIT4

Rear suspension: Fox Float DPX2, F-S, 3 position adjustable Evol 230, 65

Frame: Carbon fiber with internal cable routing

Weight: 72 lb.

www.optibike.com