

## Building and Sportsman's eBike for State Game Land Access.

by Christopher Meyer

Chief Adventure Officer - Willow and Cane

04/01/17

Recently I lost my favorite private hunting grounds. Which turned my attention to a large track of state game land approximately 20 minutes from my home. It had the normal state land hunting pressure, but mostly near the first mile of the logging trails. So, I decided to look for ways to access deeper sections of the state game lands and find those sneaker big bucks. I enlisted my product R&D team at Willow and Cane.

In our process. We decided to look toward an old hobby mountain biking. Well, a great deal has changed in the decade since I was an active mountain biker. Smart phones, fat-tire bikes and now hunting accessories for bikes and ATVs. Not to mention a personal additional of 25 lbs. With that, I decided to look for an acceptable way to add power to my mountain bike. eBike kits looked super intriguing to me. These great kits allow you to convert almost any style road or mountain bike into an electric moped style vehicle. Very cool. So, it was decided. I would find a local plot of state land to explore in 2017, build and ebike and see where the adventure took me.



Step one, decide on a bike and style.

We reviewed several online sources and articles. Decided to go with a fat-tire mountain bike. 26" dia with a 4" wide tire, seven speed with disc brakes. There are several base frames and forks on the market. MONGOOSE makes a nice lower end version.

After that, we needed to decide on the speed and battery power of my custom eBike. As well as, an electronics Sherpa to locate the parts. Be aware of some import suppliers. Keep your eye on their lack of quality. Lithium batteries are scary when not constructed well. Don't settle. The decision on the price point for the build was made and we ordered our parts. They all needed to match my careful calculations on required power to meet the state park requirements. All parts paired to be under 500W.

Here's my basic formula for an average bike and 185 lb. adult male riding and using the battery power to enhance your ride. This build is meant to add in powering up inclines and when towing weight, like a deer, stand or decoys.

A 250-watt motor will burn 250 watt hours in an hour and will last you an hour and 20 minutes at full throttle on those 360 watt hours, but it will not provide you with very much assist.

A 500-watt motor will burn through the same pack at full throttle in less than 45 minutes, but you will be given twice as much assist as you get from the 250-watt motor. If you are peddling with your 500-watt motor and run it at half throttle (250 watts) and pedal a lot, you will get the same efficiency as you get with a 250-watt motor. Note: the exhilaration of available electric power is sometimes hard to resist.



Build Cost as shown = \$1,900.00 USD

***Our builds bill of materials:***

Depending on the quality of items purchased. Batteries are \$300 to \$400 per.

1. The Mongoose fat tire bike.
2. Sun Battery system 36V for a 500W 36V motor

3. A front eBike conversion motor/ hub
4. Harness and power charge LED monitor
5. Bike grips
6. HD Carrier
7. Bike peddle puller tool
8. Camo Pant
9. Zip ties and tape



Light enough to throw on a HD bike rack. Weight 35Lbs. Battery not shown.

After the build was complete and tested, we then sprayed the entire bike with camo paint. Using a layered paint technique. Bottom coat, flood coat of black primer. This should be a primer that can adhere to any surface or finish. Next I used a stencil to spray over a tan camo paint. Leaves and plant patterns. Then completed our sniper look by hitting areas with a pine needle pattern. Simply by using a faux pine branch and side spraying it. It left a nice ghosted feel. Great contrast and color combo.

Finally, we made several daylight test-runs into the field. The bike was built for three different outdoor sports: Fly Fishing, Bow Hunting and Turkey Hunting.

Here's what we tested, with surprising success:

**Ride** = super fun, good speed and super quiet.

**Camo** = great...don't forget where you locked it up in the woods.

**Ease of use** = super helpful on the long trails and easy to load and un-load.

**Equipment** = amazingly useful to haul stuff. Cameras, stands, bows, guns and blinds.

We even turn the bike into a full-on turkey blind by using cloth camo netting.

**Hunting Experience**= My first experience was with Deer hunting in the winter months. Jan in Ohio. It worked great. Performed better than expected. I have also used it since to scout out new areas for turkey and set and check my trail cams. I was also able to track down several good areas and cover miles of terrain. No sweat.



Trail cam image from State Land in Ohio. 2017

If you decide to build a similar eBike, our suggestion is to have a serious bit of patience and some real technical know-how. If you don't ...no worries, just give us a call.

We will custom build one for you. Our prices range from \$1,200 to \$2,500.

If you are interested, please contact us and we'll send you some info, include your phone number:

RE: WCX eBike Build Team

Willow and Cane

P.O. box 98

Springboro, OH 45066  
[www.Willowandcane.com](http://www.Willowandcane.com)



Christopher Meyer - Chief Adventure Officer at [www.WillowandCane.com](http://www.WillowandCane.com)