



Ron Flynn equipped his first motorized bike with a 2 hp Briggs & Stratton engine.



He recently mounted a 6 1/2 hp pressure washing engine on a mountain bike. A torque converter purchased from Northern Hydraulics serves as the drive and clutch.

## Low-Cost Way To “Motorize” A Bike

Ryan Flynn, Plainview, Minn., has found a way to get around high gas prices. He motorized his pedal bike by mounting a 2 hp Briggs & Stratton engine on it.

“It saves on fuel and is cheap to maintain,” says Flynn.

The engine, mounted between the bike’s wheels, has a large pulley attached to it that belt-drives a jackshaft located where the pedals used to be. A moveable idler pulley, controlled by the bike’s left brake handle, serves as the clutch. The jackshaft chain-drives the rear wheel. The bike’s chain and derailleur still function.

“I use the bike’s right shifter to shift gears, while the bike’s left shifter serves as the

throttle,” says Flynn. “The pulley isn’t coupled directly to the jackshaft, but instead drives an old rake tooth spring that drives the jackshaft. This setup keeps the pulses of the engine off the bike chain.”

Flynn says he’s surprised by the motorized bike’s durability. “It worked well right from the start except that I had to install a guide on the front sprocket to keep the chain on. I’ve taken it to town a few times and in high gear it goes about 25 mph, which is pretty fast on a bike.”

Ryan recently made a “second generation” motorized bike by mounting a 6 1/2-hp pressure washer engine on a mountain bike. A torque converter purchased from Northern

Hydraulics serves as the drive and clutch.

He cut the bike apart and attached the engine and torque converter to a home-made frame. The engine is coupled to the torque converter system first, and then to a jackshaft that drives the rear wheel. “I geared the bike so it has a top speed of about 50 mph,” says Flynn.

“I’m well-pleased with how it turned out,” says Flynn. “My goal was to build a comfortable, light and reliable vehicle that would be cheap to maintain, and I think I reached that goal. I can buy bike parts at most hardware stores, and they’re much cheaper than parts for cars and motorcycles. For example, a set of brakes costs

about \$2 and a new tire about \$15.

“The bike is light enough that I can lift it into my pickup by myself. I couldn’t do that with a motorcycle or even a moped.

“Riding it feels like riding a dirt bike. It has plenty of power and I think it could go 50 mph or more if I modified the throttle linkage or changed the gearing.”

He installed motorcycle handlebars and made a seat that mounts on rubber to reduce vibration. He also added a motorcycle rear fender and kickstand.

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## Popcorn Museum Features Amazing Machines

The Holcomb & Hoke popcorn machines in Jim Fentress’s popcorn museum don’t just pop corn. Gates open, signs rotate, conveyor belts roll, and finger-like devices spin.

Rube Goldberg would love the machines and so did Fentress when he bought his first machine from a friend. Then he bought a few old popcorn boxes to match, then another machine, and another.

Today Fentress has 35 popcorn machines and is a sought after expert about Holcomb & Hoke Mfg, the Indianapolis, Ind., company that made them. His museum in Holland, Ohio, attracts visitors and collectors from all over the U.S., Canada and England.

“I always fire a machine up for tours, just because they are neat to watch,” Fentress says. “The appeal is universal for kids and adults.”

In their day - from 1913 until 1934 - Holcomb & Hoke popcorn poppers were on the expensive side, at about \$1,000 or the same price as some Sears and Roebuck pre-packaged homes. Besides popcorn - and an optional peanut roaster - H&H machines were well constructed with mahogany and oak wood, lots of shiny nickel, and glass that allowed customers to view the machine in motion.

“This was a dry pop machine, so there’s no odor from lard and no smoke,” Fentress explains. “It made very clean popcorn since it was never touched by hands. It’s all enclosed in glass. Butter-Kist popcorn machines - so named because every kernel was mechanically and uniformly ‘Kist’ with pure creamery butter - became hugely popular in theaters, five-and-dime stores, hotel lobbies and numerous other local businesses.”

Prior to the late 1920’s, popcorn ma-

chines were outside of theaters because of their smell. Machines like the H&H made it possible to bring popcorn - and high profit margins - inside the theater. Most of the machines ran on electricity, though there were also gas options.

Because they were expensive, H&H offered payment on credit - only the second company ever to do so.

Fentress purchased company literature and the prototype of the popcorn machine invented by Dan Talbert to add to his 2,000 sq. ft. museum. In addition to machines, he has 300 popcorn boxes, 200 popcorn tins, burlap bags that hang from the ceiling, 100 advertising pieces, and peanut roasters. About 95 percent of the items are from H&H.

“My goal is to get each model and each variation. When I bought the old advertising, I found there were machines I didn’t have,” Fentress says.

One of his favorite poppers is a 1919 H&H that he believes is the most complete model in existence.

“It has a rotating sign, an optional peanut roaster and vendor, the original franchise agreement with it and official store sign. It’s 100 percent original,” Fentress says.

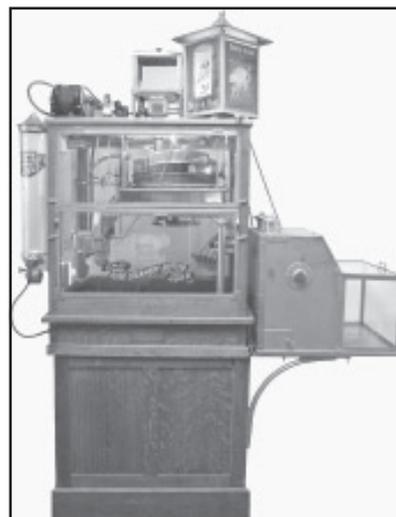
Fentress, a semi-retired construction worker, offers tours by reservation. There is no charge, but he accepts free-will donation.

And yes, popcorn comes with the tour. “Everybody likes it,” Fentress says. “It’s similar to air popper popcorn. Most people comment on how tender it is.”

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Jim Fentress has 35 popcorn machines at his museum in Holland, Ohio. Visitors and collectors from all over the U.S., Canada and England have viewed his collection.



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