



Scale-model steam engine tractors work, sound and move like the full-size ones, but run slower and quieter.



"Everything is pretty much open so you can see all the tractor parts working," says builder Leslie Proper.

Working Model Steam-Powered Tractors Built From Scratch

It takes a good-size building to store 8 full-size steam engine tractors. That's one reason Leslie Proper builds scale models which all fit on a couple of shelves in his Minnesota home. Amazingly, his built-from-scratch machines work, sound and move like the full-size tractors - just slower and quieter.

Proper was first attracted to steam engines as a boy attending an engine show with his father.

"I was fascinated by the gears, pistons, and other components. Everything is pretty much open so you can see all the parts working. And they move silent and slow," he says.

Proper also builds stationary engines and model steam boats - and he even wrote a book about them. He built his first Minneapolis steam traction engine at 1/20th scale in the late 1970's. It took about a year of his free

time, while working as a civil engineer.

Gears, plumbing parts and other materials he had access to fit that scale and the resulting foot-long models are small to display, yet large enough to see details. Instead of casting parts, Proper makes built-up parts. He bolts and rivets, solders with high-temperature silver solder, and finishes with low-temperature soft solder. Models include a variety of materials - wire, brass, steel and iron in all forms. The realistic spokes in his wheels are made from street gutter broom bristles, while tire lugs are cut from wire used to hold utility location flags.

For the boilers, Proper uses copper water and plumbing pipe.

"The models run on 5 to 10 psi, very low pressure steam," he says, noting he adds a pressure relief safety valve in the cap on

the boiler, which he fills with water. Butane heats the water to create steam. Proper adds a torch end and fill valve from inexpensive pencil torches to the ends of the butane fuel tanks that are concealed in the model.

"Younger kids like to see them operate. Older people want to tell you their experiences or where they've seen one," Proper says.

He carefully picked models that are unusual versions of the steam tractors seen at shows, such as the Western Minnesota Steam Threshers Reunion in Rollag, Minn., that Proper frequently attends.

His models include a Minneapolis 30-90, a Minneapolis 22-66 heavy gear engine, a 1915 Case, an 18 hp. Avery, a New Huber 25 hp. plow engine, a Birdsall, a 35 hp. Buffalo Pitts, and a Type F 15-30 Rumley OilPull that runs on alcohol with an atmospheric engine,

instead of steam.

They are based on his own plans or plans from other model builders. Each had its own set of challenges and interesting characteristics, and Proper estimates the models take more than 500 hrs. each to complete. Examples of some unusual features are the boiler on top of the engine on the Avery. And, the Birdsall has automobile-style steering with king pins and a tie rod.

More than six decades after seeing steam engines for the first time, Proper is still fascinated with them. He finds inspiration at steam shows and is willing to share his model building knowledge with others.

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Wool Masks For Year-Round Comfort

Ramblers Way in Maine makes a wool mask suitable for all season comfort. It uses fine worsted wool cloth for the outside layer and soft jersey-knit cotton on the inside next to the face.

"It's super lightweight. Cotton is against the face for comfort, and wool wicks away moisture from the cotton so the mask stays cool and dry," says Chris Chappell, marketing director for Ramblers Way.

The mask is also very effective with its tight weave, because the wool is woven, not knit. You can't blow out a candle through the mask, Chappell says.

Ramblers Way, known for its quality organic wool clothing (using imported wool), had a stock of shirting wool from American Rambouillet/Merino sheep, and a good stock of elastic, used in over-the-shoulder dresses. They recognized a need and seamstresses started sewing pleated masks.

"We maintain that wool is the best material and has the competitive advantage for long-term use," Chappell says. Masks can be washed in a washer and laid flat to dry to use over and over again.

Testimonials indicate the wool masks stayed dry and cool - even while working in summer's heat. With wool's excellent wicking, it even reduces glasses from fogging up.

Because wool is naturally fire-retardant, the Oklahoma Forest Service also purchased the wool masks.

Demand for the masks (\$15/each) has



Mask has a wool cloth outside layer and soft jersey-knit cotton on the inside.

remained strong and Ramblers Way also added lines of cloth masks including one that features pine tree and star symbols from Maine's 1901 flag. The business also works with companies to produce quantity customized orders for masks with logos.

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Standing just 36 to 45 in. tall, Pirates and Pandas mini-cattle were developed for improved feed efficiency and easier handling than full-size breeds.

New Breed Of Mini-Cattle Catch On

Michigan livestock producer Dave Wheeler is raising mini-cattle for specific beneficial traits. "We call the breed Pirates and Pandas and we're developing them for improved feed efficiency and easier handling than full-size breeds," Wheeler says. "They can be raised in smaller facilities and are much easier for young people to handle."

Wheeler used a cross-breeding program to gain traits that he couldn't achieve from a single breed. He started with two mini belted Galloway females and used sexed semen embryos sired by a mini Hereford bull for the offspring. He also bought 4 excellent females from a Nebraska breeder.

"The Galloway have a lot of eye appeal, are great mothers, have a double coat for protection in cold weather, and are naturally polled. The pair we started with also had great longevity and were very easy to keep on grass because they're aggressive foragers," Wheeler says.

He chose the mini Hereford as a sire because "those bulls have been around for several years and are known for excellent conformation. Some of the newer mini breeds have structural problems because they haven't gone through a selection process like the Herefords have," Wheeler says.

The Hereford sire was also selected for

eye pigmentation because without that trait the offspring might be susceptible to pinkeye and eye cancer. His breeding program has produced offspring that are a color combination that look like a panda bear. Calves are red, brown, silver and black, with some of them having two patches. He calls those calves Pandas, and those with one patch are called Pirates.

"Our goal is to have cattle that are 36 to 45 in. tall, which is large enough to artificially inseminate and palpate for pregnancy," Wheeler says. "Any smaller than that limits our sire selection for calving ease." Wheeler isn't selecting for muscling and big bone structure, so calving has been very easy. Mature cattle weigh 500 to 600 lbs., with desirable females selling for \$3,000 to \$5,000 and bulls \$500 to \$1,000.

"If you're running mini cattle or just looking to raise easy-to-handle beef that are friendly and great at grazing, or if you want to add color or improve grazing ability in your herd, these cattle are a great place to start," Wheeler adds.

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