

Home-Built Model Engines Are “Mechanical Masterpieces”

“I’m 75 years old and a former high school shop teacher, and I’ve never known anyone with the skills this man has. It’s a story that your readers should know about, before the engines are auctioned off,” says Curt McGhee.

He recently called FARM SHOW to tell us about a 91-year-old acquaintance of his who took up a new hobby in his retirement. Bob Surhe worked for an aircraft company. When he retired he started a new hobby that he knew nothing about - making model engines. Over the years he has built 18 different engines, and they all run. His friends say they’re “mechanical masterpieces”.

“These engines are incredibly complicated, and even though Surhe had never cut a piece of metal in his life before starting out he learned how to make his own crankshafts, blocks, cylinder heads, valves, etc.,” says McGhee. “He works in a 1-car garage that he converted to a shop. There’s not an inch of space in that garage that he’s not using.

“Surhe had no formal training. He read some books, and consulted with a local machinist whenever he needed help.”

Surhe has built several model V-8 engines, three 4-cyl. engines, and 5 hit and miss engines. There’s also a mini Caterpillar engine from the 1930’s.

“I decided to build these engines because I was looking for a challenge. Each time I finished building an engine I would find a little more complex engine to work on,” says Surhe.

“I built my first engine in 1989, a year after I retired. It was modeled after a hit and miss engine that I read about in Home Shop Machinist magazine. The writer called it an ‘odds and ends’ engine, and that’s what I call mine, too. Once I got it built I was absolutely amazed that it would run.”

Surhe recently moved into a nursing home, and all of his engines will be auctioned off on January 26 (Aumann Auctions, Inc., Nokomis, Ill. ph 888 282-8648; www.aumannauctions.com).

Contact: FARM SHOW Followup, Bob Surhe, Cedarhurst of Highland, 220 Field Crossing Drive, Apt. 42, Highland, Ill. 62249 (ph 618 882-4422).



Bentley-BR2



Twin V



Canfield



Challenger



Odds ‘n Ends



Silver Bullet



McLaen added an 8-ft. deep porch to one end of the 14 by 28-ft. granary, which he uses as a guest house for friends and relatives.

Old Granary Building Gets New Life As Cabin

Dale McLaen gave an old granary new life when he turned it into a guest cabin. One of the last buildings standing at an abandoned farmstead, the solid 14 by 28-ft. building was easy to move.

“We jacked it up and backed a gooseneck flatbed trailer under it,” says McLaen. “We hauled it home in the fall and put it up on blocks for the winter.”

The next spring, he built a treated wood foundation under the 3-bin granary with a gravel bottom crawl space for access. He also added an 8-ft. deep porch to one end.

“There was very little I needed to do aside from removing the walls and vacuuming the dust out of the floor board spaces,” says McLaen.

The flooring was tongue and groove Douglas fir with a subflooring of boards on the diagonal. It was still in very good shape, with the only marks being where the bin walls had been.

McLaen left the interior open with the exception of a newly installed 7 by 9-ft. bathroom. There’s a sleeping area with bunk beds next to the bathroom. The remainder is a combination living, dining and cooking area.

“The walls are shiplap, and we put corrugated tin on the ceiling,” says McLaen.

“We used a lot of salvaged materials, so the cost wasn’t high, but it took about a year to finish.”

McLaen refers to the project as mostly a labor of love. He uses it as a guest house for friends and relatives.

The granary/cabin turned out so well that McLaen is already looking for something similar, but slightly larger. “I would like to find a taller, 26 by 26-ft. granary and turn it into a home for myself,” says McLaen.

Moving the cabin simply reinforced a family tradition. He recalls his father moving a 1911 granary to their farm in 1963. It was set on a house foundation after the house was moved and turned into a garage. At the same time, he bought an old schoolhouse and remodeled it into a 2-story, 4-bedroom home with a full basement. Several other buildings were bought and moved over the years.

“The current building count on our farm is 22,” says McLaen. “About half of them have been moved in.”

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Amphibious vehicle has inflatable wheels that run on power tool motors. It travels at speeds up to 18 mph on land.

Amphibious Vehicle Rides On Giant, Inflatable Wheels

Just for fun, Axel Borg made a one-of-a-kind vehicle with inflatable wheels that runs on power tool motors. Borg says he wanted to be able to drive across water and ended up combining the fun of a kid’s bouncy castle with an ATV.

He made the inflatable wheels from heavy-duty laminated pvc tarp that he sewed together on a conventional sewing machine using professional vapor barrier sealing tape. The tarp was attached to plywood wheels mounted on tubular axles. To power the vehicle, Borg used 4 motors from AC immersion concrete mixers already geared down to 80:1. He added a 3:1 sprocket reduction to move the 6-ft. diameter wheels with 1/2-in. chain. Borg used motor control circuitry from a cordless drill to control the bigger motors, which are powered by 15

14.8-volt batteries connected in sequence.

To inflate the tires, Borg ran a garden hose to each tire from a shop vac. He used a 3D printer to make connectors for the air hoses and electrical components. He says the 3D printer is ideal for producing lightweight parts that aren’t readily available elsewhere.

He configured a pivot steering system to turn the vehicle, which has a top speed on land of nearly 18 mph. On the water, Borg says it travels at about 1 1/2 mph. Whether land or water-borne, Borg says driving the vehicle is “wonderful, like taking off in an airplane”.

When he’s done driving, the fabric wheels deflate to make the vehicle easy to store.

Contact: FARM SHOW Followup, Axel Borg (makershare.com/projects/inflatable-car-sort).



Borg sewed together heavy-duty laminated pvc tarps to make the wheels, which motor easily over water and collapse for storage.

