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## “Single Pour” Floor Eliminates Need For Separate Foundation

Matt Eby saved time and money when building a new workshop by drilling holes for concrete piers and filling them with concrete at the same time as he poured the floor. When complete, the slab floor and in-ground columns were one solid base.

“It was a lot cheaper than a traditional foundation,” says Eby. “A standard pole shed would have been a little less initially, but when I go to insulate and finish out the interior, I’ll be money ahead.”

Eby’s plans for the 24 by 36-ft. workshop included an insulated slab with in-floor heat. He sloped the ground so the outside three feet of the slab would be 6 in. thick and the interior 4 in. thick.

“We drilled 15-in. dia. holes, 42 in. deep, every 6 1/2 ft. around the load bearing sides of the slab,” says Eby. “Holes at either end, which only support the walls and not the roof or snow load, were spaced every 8 ft.”

A uniform 2-in. thick layer of foam insulation was laid down with PEX waterline, floor drain and rebar laid out above the foam. Three pieces of rebar were placed in corner holes with right angle bends at about a 46-in. height. Two rebars with similar right angle bends were inserted into the remaining holes.

Two pieces of rebar also passed over each hole. The top legs of the bent rebar were



“For the building’s exterior, I picked up fiber cement siding at a farm sale for pennies on the dollar,” says Eby.

tyed into surrounding rebar. These further reinforced the connection between the concrete slab and the in-ground columns after the concrete was poured.

Once the concrete cured, Eby put up the stick-built structure. About half the materials were recycled at little or no cost.

“I picked up fiber cement siding at a farm sale for pennies on the dollar,” says Eby. “The total cost was about \$7,000 compared to about \$30,000 with all new.”

Contact: FARM SHOW Followup, Matt Eby, 56641 Glenwood Rd., Cassopolis, Mich. 49031 (ebyfarmsllc@gmail.com).

## Patio Doors Used To Help Keep Shop Warm

When Nelson Brubaker of Lena, Wis., built a big new 50 by 64-ft. shop building, he used the sun to help keep his heating and air conditioning bills down. But he didn’t install new solar panels. Instead, he bought 19 used kitchen patio doors and installed them in a row along the entire south side of the building, just underneath a 2-ft. overhang.

The insulated building has 16-ft. high sidewalls and an uninsulated floor. Brubaker uses the building to construct storage sheds for sale. A wood stove provides additional heat during winter.

The patio door windows measure 80 in. high and range from 30 to 48 in. wide. They’re screwed to a wooden frame at the top and bottom.

“The large windows take advantage of free sunshine and provide both heat and light,” says Brubaker. “It’s really nice to walk into the shop on a cold winter day when the wind chill is at 30 degrees below zero, but the thermometer inside shows 50 degrees -

with nothing more than God’s good gift of sunshine keeping it warm. On days like that the sun pours in like heating oil.”

He paid \$15 apiece for the doors and spent a total of \$285. “If I had bought all new glass windows I would have had to spend about \$3,000,” says Brubaker. “When I bought the windows I had no idea if the seals were good or not. I’ve had trouble in the last couple years with some of the windows fogging up because the seals went bad, but it isn’t a big problem.”

He lives close to the 45 degree latitude and uses a simple 2 to 1 rule of thumb to determine how much sunlight the building can expect to receive. “On December 21 the sun is at its lowest point on the horizon. The tops of the windows are 16 ft. high so the sun shines 32 ft. into the building at noon, which is about two thirds of the way across the floor. This 2 to 1 ratio also works on June 21 when the sun shines in only one foot for every 2 ft. in height. But with the 2-ft. overhang and

## “Built With Quality” IH Carb Kits

Steiner Tractor prides itself on parts, with more than 5,200 products stocked in their 45,000-sq. ft. warehouse, many of them made by the company. They’re especially proud of their new comprehensive carburetor kits for Farmalls.

“Our goal is to produce premium kits,” says Dan Steiner. “Our kits have 90 percent of the internal components of a carburetor, so customers don’t have to piece their own kit together. A lot of kits are incomplete, and many use throttle shafts with plastic index stops. We have the original steel design.”

Steiner offers carburetor kits for a wide variety of Farmall tractors including the M, H, Super H, MTA and more.

Steiner says aftermarket parts are traditionally about getting a bargain. That is the way Steiner Tractor Parts began in the 1970’s. Started by his father Dave as a salvage business, he soon began making low-cost, hard-to-find parts. With a background as a finish carpenter, Dan changed priorities when he took over.

“We changed the focus to produce the best quality possible, not the cheapest part,” he says.

Parts made by the company go through a rigorous process. Prototypes are designed with a CAD program on the computer and then produced in plastic with a 3D printer, measured and checked for accuracy and then installed on a tractor to ensure fit. Only then is it produced in the appropriate metal and tested in a working tractor.

“Every part we produce goes through 14 steps of development with an electronic history of who signed off on what,” says Steiner. “Quality control for every part we distribute has 7 steps. Every part that is returned is documented and reviewed.”

In the case of carburetors, parts are tried on the original tractors for which they were made. A tractor is fired up and run on a dynamometer. While they don’t have a formal testing lab, Steiner feels it’s the next best thing.

“We try to buy original tractors to test parts on,” says Steiner. “We also have some sophisticated equipment, including hand held spectroscopy. There is always room for improvement. We try to do better all the time.”

Steiner has 10 employees in quality



Steiner Tractor offers new carburetor kits for a wide variety of Farmall tractors. “Our kits have 90 percent of the internal components of a carburetor, so customers don’t have to piece their own kit together,” says Dan Steiner.



control and 4 in the technical department. They each have decades of experience to back up the advice they share with customers. The company website is designed to share that knowledge with product details, specifications and instructions on installation.

The website offers a wide range of videos and other support materials. Steiner says the company tries to make a new video weekly on everything from identifying parts to replacement and installation. However, it is parts that drive the business.

“We encourage customers to offer reviews of parts online,” says Steiner. “We welcome feedback and constructive criticism.”

Free 2016 catalogs are available from the company.

Contact: FARM SHOW Followup, Steiner Tractor Parts, 1660 S. M-13, Lennon, Mich. 48449 (ph 800 234-3280; sales@steinertractor.com; www.steinertractor.com).



When Nelson Brubaker built this big 50 by 64-ft. shop building, he bought 19 used kitchen patio doors and installed them in a row along the entire south side of the building, just underneath a 2-ft. overhang.

the high summer sun, the windows are almost completely shaded.”

People often comment to Brubaker that it must get pretty hot inside the building during summer, but he says that’s not the case. “Sunrise on the longest days of the year is far to the northeast and sunset is far to the northwest. As a result the sun only shines inside the building for several hours during the middle of the day, and even then it’s only a thin 4-in. line.”

He says he doesn’t expect to achieve normal room temperature every day during the winter with his system, “but you can count on temperatures in the 40’s on any given winter day, and on days when the sun shines it’ll often reach 50 degrees.”

Contact: FARM SHOW Followup, Nelson Brubaker, 5515 McCarthy Rd., Lena, Wis. 54139 (cell ph 920 373-4822; cedarcreekstorage@gmail.com).