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Self-Propelled Grain Cart Built From Mack Truck

"It gets grain out of the field fast and frees up a tractor," says Gerald Bruner, Conrad, Mont. He and his son, Brad, built a self-propelled grain cart using the frame of a 25-ton Mack "rock truck" used to haul rocks out of mines. It's equipped with a home-built 900-bu. hopper on back that measures 20 ft. long by 13 ft. wide. It travels at speeds up to 28 mph.

The cab came off an Elgin street sweeper, complete with dash, steering column, seat, heater and air conditioner. The 450 hp Cummins diesel engine, with Allison automatic transmission, was pulled from an old semi truck. The hood is off an old Versatile 950 4-WD tractor. The machine rides on 5 1/2-ft. tall wheels on back and 5-ft. tall wheels on front.

"We used it on our wheat and barley crops for the first time last fall. It worked great with

no problems," says Bruner. "It'll unload the 900 bu. load in only about 5 min. with its 16-in. dia. auger.

"My son drives the combine and I haul the grain. In the past, every time I took off for the grain bin I knew that when I returned to the field the combine would be waiting for me. I didn't think adding another pull-type grain cart would be the answer because it's too slow and would need another person to operate it."

The two men lengthened the Mack truck frame 6 ft. on front and 4 ft. on back, using 3 by 2 and 2 by 2-in. sq. tubing to build a frame for the hopper. The sides were fashioned out of sheet steel from old fuel tanks. A pair of side by side, 12-in. dia. drag augers bring grain to the back. One auger discharges grain out a chute on one side of the hopper

to load grain bins, and the other feeds grain into a 16-in. dia. fold-up auger that's used to load trucks. Both drag augers are covered by a series of trap doors that are connected together by a metal rod, allowing a hydraulic cylinder to open and close all the doors at the same time to adjust grain flow. Each door sets inside a separate compartment, making grain cleanout an easy job.

The grain cart has four hydraulic systems, which were designed by Big Sky Hydraulics of Great Falls, Mont. One system drives the twin augers at the bottom of the hopper; one drives the 16-in. dia. unloading auger; one opens and closes the trap doors; and one operates the machine's steering system.

"It's an awesome machine and works amazingly well. We spent about \$40,000 to build it," says Bruner. "We scrounged most of

the materials and worked on it for 3 winters. The Mack truck came with an awesome set of brakes, which is really important when hauling this much grain. We even made our own fire extinguisher system, mounting a 30-gal. water tank and 75-ft. hose reel on one side of the hopper. The water tank is pressurized off the Mack truck's air brakes.

"We also fitted the machine with 3 remote-controlled cameras – one on each side of the hopper and one on back – and they really come in handy," notes Bruner.

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To save trees on worksite slopes, Paul French cut part way through some truck tires and then stacked them around each tree. He then backfilled around tree.

Old Tires Save Trees And Soil

Paul French puts old tires to good use, saving his trees and saving soil on worksite slopes. It started when he wanted to expand a turnaround at his hilltop home without killing the trees down the slope.

"I talked to an extension specialist at Cornell University, and he said to put cinder block walls around the trees to keep the fill away from the trees," recalls French. "I decided to try big tires instead."

French gathered up more than 200 truck tires. He used a chain saw with carbide tips to cut nearly through them, finishing the bead with an 18-in. Skilsaw with a chop saw blade.

With the tires cut, French was able to stack them around each tree. He then backfilled as much as 10 ft. high around some of the trees.

"The tires prevent the trees from being robbed of oxygen, which is what will kill a backfilled tree," explains French. "I had a couple dozen trees, and after 10 years, I've only lost two trees."

Recently, French put in a new waterline across a rocky slope. He will be putting more old tires to work there to stabilize the slope. He used this practice in the past in other similar situations.

"I will lay a single line of big truck tires on level ground at the base of the slope," explains French. "After filling them nearly full of dirt, I'll repeat with another line of tires, partially overlapping the first and fill them."

French plans to repeat the process all the way up the side of the bare rock slope. When he's finished, he will plant vegetation in the dirt within each tire.

"In a few years, the tires won't even be visible," says French. "In the meantime, the slope is protected, and the dirt won't erode."

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Handy Homemade Wire Unroller

By Heather Smith Thomas

Idaho rancher Lynn Thomas needed to build several miles of barbed wire fence so he came up with an easy way to unroll the wire.

He started with a homemade unroller that a neighbor had given him; a device that attached to the rear bumper of a pickup. It consisted of a U-shaped piece of metal a little bigger than a roll of barbed wire, with a metal rod running through the middle to hold the roll.

The idea was to park the pickup and pull the wire out from it, or drive the pickup along the fence line and unroll the wire with the end of the wire affixed to a post. But wire tended to catch on sagebrush, creating a jerk, and then the spool of wire would unroll too fast and get tangled up.

Thomas created his own version by using one of the round metal plates from the device as a starting point. The plate sets on the wheel rim of a tire and has a hole in the center. The roll of barbed wire sets on the plate, with the bar going through both the roll and the plate and down into the ground a few inches to hold everything in place.

Thomas used the 13-in. tire off a small car. "It works best to leave the tire on the rim in order to provide more stability," he says. "The main reason this idea works so well is the friction between the plate and the unrolling wire creates a bit of drag that acts like a brake. That way the wire won't go spinning off out of control," says Thomas.

He used the method last year on about 4 miles of 5-strand barbed wire fence, using up more than 20 rolls of wire. "I make sure the rim doesn't stick up higher than the plate so the wire won't catch on the rim," he says.



Roll of barbed wire rests on round metal plate on top of wheel rim. Pipe goes down through into the ground a few inches to hold everything in place.

He says the tire should be level and that the wire should be unrolled either on flat ground or heading downhill; it doesn't work to pull the wire uphill. Even in uneven, brushy terrain 2 people can readily pull the wire – with one person starting down the hill with the end of the wire, and the other person taking hold about 75 or 100 ft. back to give some added pull.

"Over the last 45 years we've built more than 20 miles of fence on our ranch, but we've never had anything work as well as this," says Thomas.

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