Tire Baler Generates Income, Free Building Blocks

Mary and Dave Falk killed two birds with one stone when they rented a tire baler machine from Encore Systems. They've helped get rid of old tires in their county and they ended up with a bunch of tire bales that they're now using to construct a new storage building. Best of all, the disposal fee they charged for the tires paid for the rental of the machine.

"We wanted to use alternative building materials from the area and build as cheaply as possible," explains Mary. "We had considered rammed earth tire construction, but we didn't have the time and labor. Then we found out about Encore Systems and tire bales."

Encore makes a tire baler which packs 100 car tires into a brick 30 by 50 by 60 in. Each bale weighs a ton and is fastened with five 9-gauge galvanized or stainless steel baling wires. The 5-to-1 volume reduction leaves very little room for air and creates an easy-to-move building block.

The tire bales provide great insulation, act as load-bearing walls, and are virtually indestructible. Like a child's wooden building block, they are easily stacked and require no stabilizing structure around them.

"They have approximately R-200 insulation," says Ed Drews, owner, Encore Systems. "There is a 3,000 sq. ft. home built with tire bales in Colorado that heats with propane for $40 a month in winter and needs no air conditioning in the summer because of the super insulation."

Drews sells the $50,000 tire balers around the world. He sees them as a preferred alternative to burning and has seen them used for buildings, erosion control and even for building roads in swampy areas.

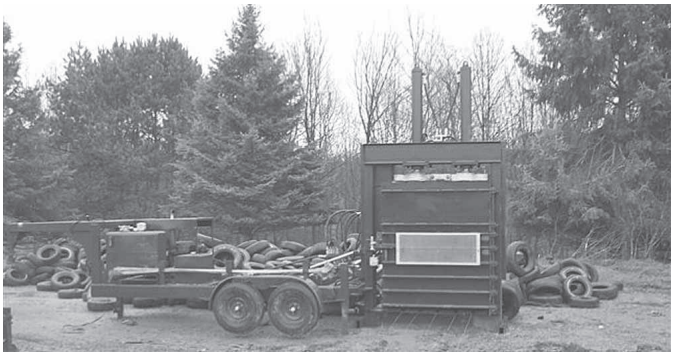
Drews warns prospective buyers not already in the tire business that getting in is not easy. The established relationships with tire dealers and existing used tire vendors are not easy to break into.

"If you are interested, try to hook up with a local tire vendor that already has the area business," says Drews. "Local dealers will continue to give him the business."

After getting in contact with Drews, the Falks rented a baler for $1,000 a month. A state permit allowed them to buy and stockpile 10,000 tires. They put out the word, and after a few false starts, they finally got a supply of used tires. One false start involved a local tire vendor who reneged on a deal part way through. The Falks learned the hard way to have a contract in place.

"People pay $2.50 or more to dispose of tires, which is why so many end up in the woods and ditches," explains Mary. "We figured we could charge 75¢ and people would bring them to us. The charge would pay for the baler."

A friend got the word to some folks with large illegal stockpiles of used tires. Others brought in two or three at a time. It took the Falks two months to get enough tires for their project.



Tire baler packs 100 car tires into a brick 30 by 50 by 60 in. that weighs about a ton. Five 9-gauge galvanized or stainless steel baling wires hold each tire brick together.

"We have an underground cheese aging room for the sheep milk cheese we produce on our farm," explains Mary. "We have started providing aging room for other small artisan cheese makers in the region, but we needed a better unloading area."

Initially the Falks planned to build a small room with a loading dock so semis could back in and unload pallets of cheese. With the tire bales, they decided to build a larger multipurpose room. They settled on a 1,600 sq. ft. room with 10-ft. tall bale walls. The bales are set into a hillside, and the room will encompass the entry to their current cave or aging room.

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Tire bales provide great insulation, can act as load-bearing walls, and are virtually indestructible. They can be easily stacked and require no stabilizing structure around them.

4-WD Sprayer "Not Just Another Combine Rig"

"I built a state-of-the-art self-propelled, 4-WD sprayer out of a 1987 Case IH 1660 combine for only about $60,000. That's only about one third the cost of a new self-propelled sprayer," says Gary Koehler, Upper Sandusky, Ohio.

The sprayer is equipped with a 1,200-gal. stainless steel tank off a John Blue sprayer, as well as an 80-ft. hydraulic-fold boom equipped with nozzles on 20-in. spacings. The front axle was formerly the combine's rear axle, and the rear axle is a Mud Hog hydraulic-driven axle. The engine, transmission, radiator, hydrostatic pump, cab, ladder, and air cleaner are all off the combine. The rear wheels have 46-in. dia. rims and the front wheels have 34-in. dia. rims.

He paid $12,000 for the combine at an implement dealer. He stripped the combine completely apart and built a new frame. He moved the combine's engine over the front axle and used sheet metal to make a hood for it.

Hydraulic wheel motors are used to power the front axle. He relocated the combine's transmission to the back of the machine and turned it around to face forward. He also reversed the combine's hydrostat hoses to make the transmission go in the opposite direction so that the rear drive wheels operate correctly. The sprayer has about $2,000 worth of hydraulic oil coolers on it to keep the hydraulic oil cool.

The sprayer is equipped with a Tee Jet light bar that mounts on the hood, and a receiver that mounts on top of the cab. A Micro-Trak unit is used to control the spray. The sprayer still has the combine's original air ride seat. There's a hydraulic-fold ladder on one side of the cab (he used the original ladder off the combine and mounted a hydraulic cylinder on it). The 100-gal. fuel tank is off a Freightliner semi tractor and mounts on one side of the machine. The hydrostat oil reservoir mounts on the opposite side of the machine. The muffler came off a Deere 4440 tractor and he made the air intake out of 3-in. dia. steel pipe.

"I use it to spray herbicides and insecticides on corn and beans and to top dress 28 percent nitrogen on wheat. I really enjoy driving it," says Koehler. "The only limitation is that it doesn't have air ride suspension so it rides a little rough. This is the third self-propelled sprayer I've built out of old combines over the years. My dad Vernon and my brother Jerry and son Jason helped me build this one. I use a 16-row, 30-in. corn planter that's exactly 40 ft. wide, so the 80-ft. boom matches up perfectly."

Koehler says he used the Case combine because the engine is not computerized, which makes it much simpler to work on. "If something goes wrong with the fuel injector or pump, there's a good chance that I can fix it myself instead of having to call someone."

He paid $14,500 for the boom which is made by Precision Mfg. "I had Unverferth build special wheels for me which cost about $5,500. The wheels are 1 in. thick at the center so I don't have to worry about busting them."

Koehler flips an electric switch in the cab to engage the hydraulic motors that drive the front axle, which reduces the machine's speed by half in the field. "Whenever I want to go on the highway, I turn the switch off and the machine will return to normal speed. I can go up to 25 mph on the highway," he says.

Even though he saved a lot of money by building his own self-propelled sprayer, Koehler says he could have built it even cheaper if he wouldn't have had to rebuild various components. "I had to rebuild the Mud Hog axle at a cost of about $2,000. Also, the engine needed a new turbocharger and fuel injector pump, which cost a total of about $1,400. And I had to spend about $4,000 to repair the hydrostat unit which had gone bad. Without these extra expenses, I might have been able to build my sprayer for only about $40,000."

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