Massey Harris 44 Repowered With Chevy V-6

Ed Pacha's Massey Harris 44 with its Chevy V-6 engine has clocked out at more than 40 mph on the road and well over 100 hp on a dynamometer. Equipped with a Turbo 350 3-speed automatic and its original Massey transmission, Pacha can pick from 16 gears forward and 15 reverse.

"My dad Merle and I got the idea from a story in FARM SHOW about putting a V-8 in a Massey for a loader tractor," says Pacha. "I found an old Massey 44 with a stuck engine sitting at an abandoned farmstead. I had a V-8, but it was too long for the frame. The fuel-injected V-6 from a 1987 Chevy Caprice fit just fine."

Initial plans were to replace the fuel injection system with a fabricated carburetor. Instead, Pacha decided to tackle the injection system. It took several years of tinkering to get the electronics and the fuel pump set right.

"With fuel-injected engines, the pump is in the fuel tank," he explains. "I went with an in-line fuel pump instead, mounting it after the fuel filter. It's kind of a submersible pump as it has to be in fuel at all times."

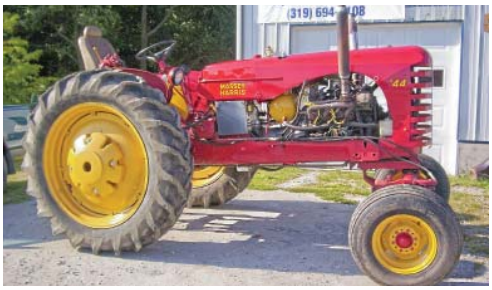
The computer controls for the fuel injection system sit inside a small stainless steel box that also holds the tractor battery. Pacha fabricated it from an old hog feeder and mounted it under the fuel tank, just ahead of the dash.

The fuel injection system required an oxygen sensor in the exhaust system. This required turning the exhaust manifolds upside down and reversing them to provide outlets pointing upward. That also meant fabricating header manifolds and running the exhaust pipes and mufflers up the sides of the hood. Pacha installed the sensor on the left side.

To get hydraulic power for a front-end loader, Pacha mounted a hydraulic pump from an old M6 Gleaner combine to the left front side of the engine. It's belted to the front crankshaft pulley. A hydraulic oil tank was fabricated from two old Freon tanks and mounted between the engine and the battery box.

A valve on the hydraulic pump also supplies oil to the revamped steering system. Installing the V-6 required removing the original steering shaft that ran from the dash to the front end. To replace it, Pacha pulled a steering system from an old 510 Massey Ferguson combine. He cut down the steering column and installed it over the transmission, attaching the orbit motor behind the dash. Lines run to a power steering cylinder from an old IH combine installed on a new Schwartz wide front end.

The double transmission gives Pacha added versatility. The rebuilt 3-speed automatic sits



Ed Pacha repowered his Massey Harris 44 tractor with a fuel-injected V-6 engine out of a 1987 Chevy Caprice.

between the engine and the original tractor 5-speed. If either transmission is put in reverse, the tractor travels in reverse. Put both in reverse and the tractor travels forward, giving him the 16th forward gear.

The 3-speed has an extra deep transmission pan with transmission oil cooler that is mounted ahead of the radiator.

"There wasn't room for the original fan or the one from the V-6, so I installed an electric fan from an old Dodge Daytona," explains Pacha.

The pto shaft is connected to the drive shaft just ahead of the 5-speed. Downshifting the 3-speed slows the pto. If a pto-driven implement like a manure spreader plugs, Pacha simply puts the 3-speed in reverse, reversing the pto shaft.

"I thought the automatic would work like a shuttle transmission for loader work, but I've ended up not using the 44 with the loader," says Pacha. "I was afraid the 3-speed might not stand up. I have used it for everything from plowing to pulling harrows and wagons. The hydraulics only have about 1,200 lbs. pressure, but that's enough to handle a post hole digger."

To mount a digger and other implements, Pacha fabricated a 3-pt. hitch. It's attached to the old cultivator lift, original with the tractor.

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New Trailer Drops Bales Side-By-Side

Most bale haulers carry and drop round bales end to end. That requires cattlemen like Jim Hertzog and Jerry Page, who use a bale bed to feed hay, to reset bales side-by-side before they can use them. To save time and labor, the two came up with the Hayroll hay trailer that lets you haul bales both ways.

"We designed the trailer so bales can be loaded side-by-side from either side or end-to-end from the end," says Hertzog, Mo-Kan Livestock Market. "It holds up to 9, 4 by 6-ft. bales side-by-side or 7 end-to-end."

There are 42, 6-in. dia. rollers on the bed that let the bales slide into place and slide off, not roll. The portion of the roller bed behind the tipping point is 6 in. longer than the forward portion. Fully loaded or with more bales to the rear, the weighted balance design tips the bed when unlatched. Pull the trailer ahead, and bales slide off. Once unloaded, the bed tips back into place and latches under hand pressure alone.

As bales sit, they settle. If set on the Hayroll wide bottom down, the bales slide off to return to the ground wide bottom down. Because the bales don't roll off, nor are they dumped to the side like some trailers, original shape and placement are retained.

With the Hayroll, bales unloaded end-to-end or side-by-side are left with spaces between them. Hertzog argues that 95 percent of spoilage is on the bottom of a bale, and his trailer ensures that occurs on only one side.

"Returning the bale to the same position it had in the field reduces spoilage and loss," says Hertzog. "Hay bales form a protective crust, and the Hayroll maintains it."

Hayroll trailer is designed so bales can be loaded side-by-side from either side, or end-to-end.

With no hydraulics and no electronics, the gooseneck trailer is low maintenance and low cost at only $7,500. Hertzog says the Hayroll trails as smoothly down the road at 70 mph as it does through the field.

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Wood Burning Stoves Converted To Burn Corn

A pair of modified Taylor outside wood burning stoves do a great job of burning corn for Charles Wills and his sons Scott and Brian of Carlinville, Ill.

Both stoves were converted to burn corn, which is stored in a pair of bulk bins. An automated delivery system feeds corn from the bins into each stove. The heat that's generated is delivered through underground pipes that lead to a radiant floor heating system in the building's concrete floor.

"Burning corn instead of wood requires a lot less labor and is far more cost efficient than burning LP gas. In fact, it has reduced our heating bill by about half," says Wills, who farms and along with his sons owns a custom cabinetry business that makes everything from interior doors to cabinets and trims. He also sells hardwood flooring and countertops.

Their manufacturing shop occupies about 46,000 sq. ft. of floor space. To keep dust under control, they have to move about 35,000 cu. ft. of air per minute out of the building, which makes it more costly to heat.

An old coal stoker feeds one corn stove that's located at the north end of the building. A big hole was cut into the stove where the stoker welds to it. The other stove is located at the south end of the building, where a motor-driven, computerized delivery system automatically feeds corn into the stove as needed.

"Each stove burns 1 to 3 bushels per hour. The two stoves produce a total of 1 million btu's per hour, which is more than enough to heat the building," says Wills. "Each bin holds 200 to 300 bu., and we refill the bins every 7 or 8 days.

"There's a lot of flammable materials inside the building. The stoves are located outside the building, which greatly reduces fire danger."

The coal stoker they use was purchased locally. "Years ago a lot of coal was mined in this area, and many people used coal-fired furnaces to heat their homes. The coal was dumped into basement bins, and then the homeowner hand fed it into a stoker bin which delivered the coal into the furnace."

The auger on the coal stoker was originally geared to run at 3 rpm's which was too fast for the stove, so Wills geared the auger down to run at a slower 7/8 rpm's.

The other stove is fed corn by a computerized delivery system, which was invented by a company in the state of Washington. Wills had the stove custom-built to burn on corn. "The Taylor company had already built stoves that could burn flax seed and cotton seed, but not corn," says Wills. "The computerized system they came up with automatically feeds corn into the stove as needed so it burns at maximum efficiency. The system wasn't cheap, but considering the volume of heat we use, it has more than paid for itself through labor savings," notes Wills.

Computerized delivery system feeds corn into stove as needed so it burns at maximum efficiency.

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