

4-WD Road Grader Built From Scratch

"It looks professional. Everyone who sees it can't believe I built it," says Jack Hockenberry, Orrstown, Penn., about his "made it myself" 4-WD road grader.

The machine rides on 6 wheels and is equipped with a 6 1/2-ft. wide blade. The four 15-in. powered wheels on back are off a Jeep Wagoneer and are mounted backward, and the 15-in. lugged steering wheels on front are off an old Gravelly tractor.

"I use it on my small farm to grade my driveways and farm lanes. I built it almost entirely from scratch," says Hockenberry, who is a retired machinist. "I started with an older Cub Cadet but soon realized it was too small and not heavy or powerful enough. The only thing left of the old Cadet is the seat and steering wheel."

The machine is powered by a 37 hp, 4-cyl. Wisconsin engine, a Ford clutch/flywheel, and a pair of right angle gearboxes. The gearboxes power two 3-speed transmissions, one off a GM car and the other off an IH Scout. "I needed to use two transmissions in order to get the ground speed low enough," says Hockenberry.

He built his own 4-WD system. The rear axle is off an old homemade tractor that he found at a salvage yard, and he used 2-in. cold rolled steel to build the front axle. The rear axle's brake drums chain-drive the front axle. Hockenberry bought 4 big 14-in. sprockets

and cut the centers out of two of them, then slid them over the brake drums and welded them on. He welded the other two sprockets to the front axle. "The bolter suspension system from an old car is built into the front wheels, which allows the wheels to raise up or down independently so the chain won't get loose," says Hockenberry.

The Jeep Wagoneer wheels were too narrow so he cut the centers out of the wheels, flipped them, and welded them back in to widen the wheels.

The blade is the top half of a blade designed to plow snow on front of a pickup. Hockenberry cut the blade in half lengthwise and shortened it to 6 1/2 ft. wide. Then he turned the blade upside down. A pair of hydraulic cylinders are used to change the blade angle. The cylinders hook up to a homemade yoke mounted behind the blade.

The blade rotates on two 1/4-in. thick steel plates located between the top of the blade, and a frame that extends forward to the front steering wheels and connects with a trailer hitch ball, which allows the blade to move. "The blade can go up or down, left or right, and move from side to side."

The Wisconsin engine belt-drives a hydraulic pump that controls all blade operations. The hydraulic controls are located alongside the steering column. "I use a key on one side of the steering wheel to start



Jack Hockenberry built this 4-WD road grader that's equipped with a 6 1/2-ft. wide blade that can be moved in any direction.

the engine, and a master electric disconnect switch behind the seat.

The 3-speed Scout transmission is equipped with high and low range. "Running both transmissions in high gear would make the machine go too fast and be dangerous, so I blocked out the two high gears in the GM transmission. Now my top speed is 15 to 20 mph, and I can go slower than I can walk," says Hockenberry. "By putting the GM transmission in low gear and the Scout transmission in low gear I can just creep along. There are two gearshift levers — one to run the GM transmission and the other to

run the Scout."

He used 4 and 6-in. channel iron to build the frame.

"It turned out well and I couldn't be happier with it," says Hockenberry. "By removing a few bolts I can take two side panels off for access to the starter engine. I built the front steering axle from scratch, and the steering box is off an old Plymouth car."

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Bee Supplier Builds Beautiful Hives

"Our Lincoln log beehive is popular with beekeepers who garden, and they like to go over the top with the look," says Sheila St. Clair, co-owner of Queen Right Colonies (QRC) in Spencer, Ohio.

The design is exclusive to the family business that has been selling everything beekeepers need since 1995. They currently have the largest bee equipment showroom and warehouse in Ohio. Since St. Clair and her husband are also beekeepers, they can provide practical advice to customers.

"Everyone used to have bees," St. Clair says, and interest in raising them is growing again. People recognize bees' importance for food production and appreciate a hobby that helps the environment and produces healthy food.

QRC provides bees and all supplies needed. It stands out with its classy product line. For example, they custom-built a red Lincoln logs hive with a slate roof for the A.I. Root Company, a well-known apiary business. The roof alone costs \$130, St. Clair says, but the beehive is a beautiful part of the company's landscape.

Besides slate, QRC offers wooden shake roofs and other customized details. They offer a couple of unique options besides painted hives.

Pine wood hives are submerged into vats of hot paraffin to thoroughly coat them to hold their natural bright color for 15 years. QRC also dips older hives to eliminate disease (such as American Foulbrood). Or, the hives can be preserved with non-toxic copper

Naphthenate that results in a green color.

The top-of-the-line hives start at \$360, but St. Clair notes QRC offers a full line of supplies, including regular hives made of Cyprus and pine, starting at \$75. Their hives sell to a wide variety of customers from folks who live in cities and suburbs to schools and museums to rural landowners.

The St. Clair family wants to share their knowledge to grow the industry even more, and thanks to QRC hives, beekeepers can also add beauty to their backyards.

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QRC hives add beauty to rural landscapes.

Hereford Hogs Bring Color To The "Other White Meat"

The "other white meat" isn't always white, according to Hereford hog breeders. The reddish hogs produce meat that is darker red than most pork and well marbled "like pork used to be".

"Meat quality is one of the breed's biggest advantages," says Philip Kramer, president of the National Hereford Hog Association (NHHA).

Kramer appreciates the qualities of the typical commercial breeds, but when he started his own small herd he remembered the Hereford hogs that his neighbor owned when he was a boy. He tracked down breeders of the rare breed and purchased four gilts and a boar and began attending NHHA events.

Iowan John C. Schulte developed the breed. He wanted hogs to match his Hereford cattle and started crossing Dueroes and black Poland China hogs in the 1920's. Eventually he got what he wanted — a 2/3 red body with white feet and ears, at least 2/3 white face, and a white tail or tail tip that's white. The breed has gone through ups and downs with numbers but is currently on an upswing, Kramer says. Hereford hogs are beginning to

compete with other breeds at events and are becoming more common as 4-H animals.

"They're easy to work with," says Kramer.

On the farm, their gentle nature makes them easy to care for. Kramer has 10 sows and 7 gilts. Gestating sows live in a brick shed with bedding and outdoors access, and pigs are farrowed in pens where the sows can come and go. Though they gain slower than hybrid breeds, the Hereford breed grades well.

Sows average 10 to 12 pigs a litter, with an 8 to 9 weaning rate. Typically one pig per litter doesn't meet the breed's standard, so Kramer sells them or butchers them for his family. He notes that when his father tasted the meat, he said it was the best pork he had ever eaten. Repeat customers who have purchased his pigs say the same thing.

The uniqueness of the breed and the meat quality make it ideal for people who direct market to customers. But the breed is also appropriate for someone who wants to raise a couple of hogs for personal use — and perhaps to match the Hereford cattle in the pasture. Hereford hogs have a thick hide and



Hereford hogs have a 2/3 red body with white feet and ears, at least 2/3 white face, and a white-tipped tail. Some people buy them to match their Hereford cattle.

do well in the Midwest and colder climates. The NHHA has members as far north as Minnesota, South Dakota and New York.

The price of breeding stock is competitive with other purebred stock. Gilts average \$300 to \$400. To learn more and to connect with breeders, Kramer suggests attending the 2013

NHHA National Show and Sale Aug. 23-24 in Wilmington, Ohio.

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