



Rotering had just 200 miles on his new Chevrolet 1-ton crew cab pickup when he decided to replace the 454 cu. in. gas engine with a 6-cyl. Deere diesel.

BRAND NEW PICKUP FITTED WITH A DEERE DIESEL ENGINE AND A 5-SPEED TRANSMISSION

He Spent \$18,000 To Modify A New \$25,000 Pickup

"My pickup has more power and gets better mileage than any other comparably sized 1-ton 4-WD pickup on the market. It'll haul just about anything you can hitch it to," says Jerry Rotering, Cochrane, Wis., who spent \$18,000 to install a 175 hp 6 cyl. Deere diesel engine (model 6359A) in his new Chevrolet K-30.

Rotering bought the 4-door, crew cab pickup new in the summer of 1986 for \$25,000. It was equipped with dual rear wheels, an 8-cylinder 454 gas engine and an automatic transmission. After putting 200 miles on it, he decided to switch to the Deere diesel and a 5-speed manual transmission. He sold the gas engine back to his pickup dealer.

Switching to diesel power was expensive at \$7,000 for the new engine, and \$11,000 for a 5-speed transmission, remote transfer case, drive shafts, ring gear and pinions, and labor. And that doesn't include the pickup's \$25,000 price tag. But Rotering says he can justify the cost. "This pickup now has the power to pull any type of trailer - stock, flatbed or grain - so we can use it for most any hauling job. The diesel engine will outlast any gas engine. I expect it to wear

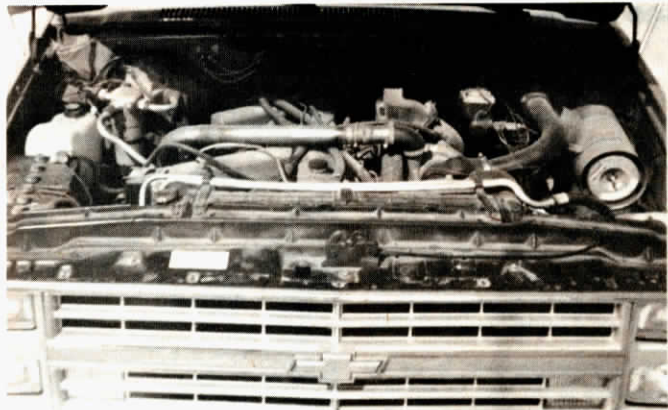
out 2 pickups, even if we put 200,000 miles on each rig. And we now get 20 to 22 miles per gallon.

"There's also less maintenance with a diesel. There are no spark plugs, points, or timing to worry about, and only fuel and oil filters to change. I can get engine parts and service at any Deere dealership, agricultural or industrial. What's more, Deere warranties the exterior of their diesel engines for a full year and the interior for two years, compared to a 6 month General Motors warranty."

The diesel engine weighs about 700 lbs. more than the original gas engine. "The extra weight gives the pickup much more traction," says Rotering. "It also helps to counterbalance the fifth wheel trailer's load."

Rotering, who raises beef, dairy, hogs and horses, mainly uses the modified pickup to pull a 24-ft. fifth wheel livestock trailer. "Pulling up to 26,000 lb. loads, the pickup got poor mileage of 6 1/2 to 7 mph," explains Rotering. "It was losing a lot of power through the automatic transmission, so I decided to substitute a 5-speed transmission at the same time."

Rotering believes manufacturers of 1-ton



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pickups should offer bigger diesel engines. "The biggest General Motors diesel you can buy in a factory-equipped pickup is an 8-cylinder 6.2 liter model. Ford's biggest model is a 6.9 liter V-8. Those engines may handle a 1-ton pickup's bed load, but they won't adequately pull a loaded 24-ft. trailer."

Mondovi Implement Co., a local Deere dealer, spent 3 months installing the new engine. "In order for the engine to fit, we had to make numerous modifications," says Mike Slater, service manager, who notes that from the outside, the only noticeable difference is an oversized 4-in. exhaust pipe that replaces the muffler. "With a turbo-charger, you don't really need a muffler."

Open the hood and the custom work becomes obvious. There was only 30 in. clearance from the engine mounting brackets to the top of the engine. So, to make the turbocharger and intercooler fit under the hood, Slater had to make a special adapter manifold. He installed 3-in. blocks in the front end to get added height for axle clearance and the oil pan. He also installed a different clutch and pedal.

A special flywheel adapter, made by a Nebraska company, allows the transmis-

sion to stand up to the extra power. Slater remounted a remote transfer case in the center of the truck, installing a short drive shaft between it and the transmission. He had to remake all the brackets holding the air conditioner and power steering pump. He added a vacuum pump to the engine to power the 5th wheel trailer's vacuum brakes. He also added a heater and air conditioning controls.

On the pickup's rear end, he changed the differential's ring, carrier gears and pinions to compensate for the diesel's lower rpms. "When you're hauling heavy loads, you're more interested in power than speed so you want to keep the gear ratio low," says Slater.

The job would have been more difficult with a 2-WD pickup. "They have a large cross member in front that would have required a lot of cutting. With this 4-WD, we just removed some small cross members and re-installed a couple of new ones after we installed the engine. Also, with a 4-WD we didn't have to bolt the transfer case to the transmission."

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CLOSED LOOP SYSTEM WITH TWO MINI-RAMS

"Power" Drawbar Pin Has Its Own "Hydraulics"

A new "powered drawbar pin" works better and is safer than any automatic hitch-up system on the market, according to the farmer-inventor who recently won first place in the "new inventions" category at the Western Canada Farm Progress Show in Regina, Canada. Brian Olson, a Tompkins, Saskatchewan farmer, built the patent pending device and hopes to market it within a year.

Unlike other automatic draw-pin hitches, Olson's "power pin" operates under its own closed loop oil system and doesn't use tractor hydraulics which, according to Olson, is the key to its success. "Powerful tractor hydraulics can cause serious injury during hookup and if hydraulic power fails, the pin can accidentally withdraw under load."

The "power pin" is activated mechanically by a lever in the cab. Lever movement controls two mini hydraulic rams which bring the pin up from under the drawbar. "The lever is actually an extension of your hand, delivering one-to-one pressure," says Olson. "As you move it, you can feel when the draw-pin is free for insertion."

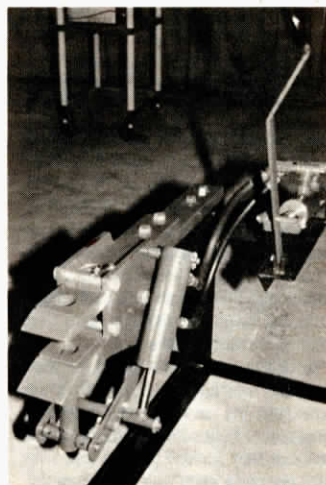
The new device offers other benefits, says Olson. "It doesn't tie up a tractor hydraulic outlet, so if the tractor isn't running you can still operate the hitch. Also, the device is below the drawbar, so it doesn't interfere with a pto, swinging drawbar or drill transport hitch. And you can't accidentally release the pin any more than you could manually pull it out under load. If you're stuck in the field and the draw-pin

binds tight in the hole, you can unlock the lever in the cab and manually pound the pin straight down to remove it."

The unit consists of a three-bolt hitch attachment, a spring, two miniature hydraulic rams and two connecting hoses. The master ram in the cab is linked directly to the pin-moving "slave" ram. The lever that connects to the master ram has a locked position, a sliding position, and an open position.

The hitch is equipped with three safety features to keep the draw-pin secure: (1) a cotter pin that can be inserted manually through the top of the pin; (2) an external spring which keeps upward pressure on the draw-pin; (3) the lever's cylinder lock in the cab.

For more information, contact: FARM SHOW Followup, Brian Olson, P.O. Box 386, Tompkins, Saskatchewan, Canada SON 2S0 (ph 306 622-4301).



Model illustrates how cab-mounted lever and "master" cylinder, right, activate the "slave" cylinder which pushes the pin up through the drawbar. The "closed loop" system eliminates the need for tractor hydraulics.