



“Leveler” Breaks Up Clods, Pulls Up Trash

After pricing various “levelers” for use behind chisel plows, Iowa farmer Ken Cowman of Cambridge decided to make his own.

It consists of a solid steel 3-in. square bar towed behind his Kewanee chisel plow by chains. He got the bar off a junked Oliver planter.

“The original idea was for the bar to break up chunks and somewhat level the ground. One surprising benefit I discovered is that it pulls trash back on top of the ground. That’s a nice feature when you’re concerned about conservation compli-

ance,” notes Cowman.

The leveler is pulled by chains hanging from a pair of arms clamped to the back bar on the chisel plow frame. He made the arms by cutting the rear hitch from a Brady field cultivator in half.

When the chisel is raised, the bar swings up against the back row of shanks. The chains should not be so long that they allow the bar to swing under the shanks.

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Big Self-Propelled Brush Cutter Powered By Chevy V-8 Engine

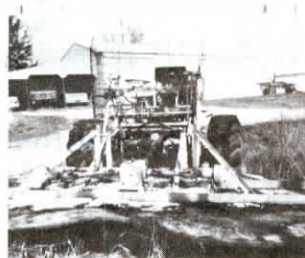
“No other machine cuts brush like this home-built self-propelled brush cutter,” says Lawrence Penka, Garnett, Kan.

The self-propelled brush cutter makes a 13 1/2-ft. cut and is powered by a Chevrolet 348 cu. in. V-8 gas engine. The front drive axle is the rear axle from an Allis-Chalmers WD tractor (the axle is turned upside down to reverse direction of travel). The rear axle is off a 1971 Ford 622 combine. The 3-speed transmission also came out of the Allis-Chalmers tractor and is connected to a variable speed transmission off a Massey Harris self-propelled combine. Two 7-ft. Rhino blades that overlap 6 in. do the cutting. The engine belt-drives a pto shaft that drives a Bush Hog splitter gearbox mounted in the middle. A pair of 3 1/2-ft. long pto shafts extend out in each direction from the splitter gearbox to a pair of 90 degree gearboxes mounted on top of the blade housings. A belt-driven hydraulic pump is used to operate the variable speed transmission and to raise or lower the blades.

“It’ll cut through trees up to 6 in. in diameter,” says Penka, who operates a beef and cow-calf operation and has over 300 acres of pasture. “The operator bends the tree over with the housings and slowly drives forward as the blades cut through. However, it really throws big brush so you have to keep people away while in operation. The operator is protected by a cage made from wire cattle panel.

“The operator pushes a lever to engage an idler pulley that tightens the belt to the pto shaft. One other lever is used to raise the platform and one operates the variable speed transmission. We had been belt-driving the gearboxes off the pto shaft, but the engine has so much power that the belts stretched out too much.

“My dad built it in 1968 to save wear



and tear on his new tractor. He built it with a single wheel at the rear, but it was hard to steer so we mounted the combine axle on back. At first we used dual tractor tires on front with 38-in. wheel rims, but we had a lot of flat tires from thorns. It got expensive to replace the tractor tires so we switched to smaller, wider, heavier ply tires. We bought them from a company that sells used airplane tires for agricultural use (Hey Machinery Co., Baldwin, Kan.). The tires are on 22-in. wheel rims. We used the steering sector off an AMC car to provide power steering.”

The Penkas used angle iron, 4-in. channel iron, and 1/8-in. sheet metal to build the blade housings and 3-in. angle iron to make braces between the blade housings and operator platform. The blades mount on spindles connected by a heavy steel bar. One blade is mounted 6 in. higher than the other one.

The 40-gal. gas tank is off the Massey Harris combine and the radiator off a Deere 55 combine. A platform around the engine provides access to the engine and radiator.

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1-Ton Pickup Pulls 50,000-Lb. Loads

“It gets excellent mileage and rides like a Cadillac,” says Eldon F. Koethe, Dubuque, Iowa, about his 1974 Ford F-350 1-ton crew cab pickup that’s equipped with dual tandem axles and is powered by a 354 cu. in. turbocharged, aftercooled Perkins diesel engine. He uses it to custom haul machinery on a home-built, 45-ft. triple axle fifth wheel trailer that carries gross weights up to 50,000 lbs.

He bought the pickup for \$3,000 seven years ago with 149,000 miles on it. He removed the box and mounted a fifth wheel hitch and 100-gal. gas tank behind the cab. There wasn’t room for dual wheels between the pickup’s frame and springs so he used 1 1/4-in. thick steel plates to move the wheels out. He removed the original gas engine and replaced it with the Perkins diesel engine from a Massey Ferguson 2705 tractor. The engine didn’t fit under the hood so he used spacers to raise the cab 3 1/2 in. The engine has two turbochargers. An aluminum semi-truck radiator mounts in front of the grille and cools air coming out of the turbocharger before it goes to the engine.

He replaced the truck’s original automatic transmission with two transmissions - a 5-speed transmission in front that’s out of a Chevrolet C50 2-ton truck, and a Spicer 3-speed transmission salvaged from an old cement truck.

“I take it a lot to farm sales and right away everyone wants to look under the hood,” says Koethe. “I paid only \$600 for the engine and fuel injection pump and \$400 for the radiator. The engine produced 120hp when used in the tractor, but in the pickup, with the two turbochargers and the injection pump set on high, it has about 175 hp. I’ve put over 300,000 miles on it. One problem is that it has too much power for the rear end. I’ve already knocked out three rear ends. It averages 9 to 10 mpg and, with the 100-gal. fuel tank, I can go about 1,000 miles before I have to refill. I mounted air bags under the tag axle in back so that I can regulate the amount of weight on the other axles. Putting more weight on the other axles provides improved traction whenever I pull into a muddy field. The tandem axles and soft pickup springs, along with the triple axles on the trailer, give it a very smooth ride.

“I had been using a Chevrolet C50 2-ton truck equipped with a 454 cu. in. gas engine to pull a gooseneck trailer. However, it lacked power and never averaged more than 3 mpg. One time while driving



into the wind I was able to go only 78 miles on 40 gallons of gas. I spent \$11,500 a year for gas but now I spend only about \$4,000 a year for diesel fuel. Another problem with the 2-ton truck was that it rode rough. On long trips I got sick to my stomach from all the bouncing.

“The 3-speed Spicer transmission together with the 5-speed provide 15 forward speeds and 3 reverse speeds. The Spicer transmission has underdrive, overdrive, or direct drive so I can do a good job of matching up speeds to rpm’s. The overdrive really comes in handy when I need more power going up hill. I can change gears every 4 to 5 mph at high speeds.

“The two turbochargers really boost engine horsepower, especially at low rpm’s.”

Koethe mounted the aftercooled radiator on steel plates welded to the pickup’s front bumper. Air from the radiator is transferred via pipes and hoses to the engine manifold. He mounted the exhaust pipe behind the cab and extended it 4 ft. in order to comply with state regulations and to keep exhaust smoke off machinery on the trailer.

Koethe spent about \$4,000 to build his dovetail flatbed trailer, using steel beams and parts off International and Kewanee disk frames. “A comparable commercial trailer would cost about \$16,000,” says Koethe. “It’s built heavy. I had been using a gooseneck trailer that tilted up or down hydraulically and had a winch on front to load implements. It was powered by a self-contained hydraulic pump mounted on top of the pickup’s fuel tank. An oil reservoir was built into the neck of the trailer. However, I had trouble with broken springs, wheel bearings and the frame cracked so I built the new trailer.”

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