

## Simple Low-Cost Automatic Gate Closer

"It's inexpensive and virtually fool proof," says inventor Lyle Abernathy of Yacolt, Wash., about his automatic gate closer designed for tubular-framed metal gates.

The patent pending "Gate Shut" consists of a single spiral spring that simply slips onto the hinged side of a gate. A catch arm at the top of the spring rests against the gate post, while the bottom end of the spring is clamped in place. The spring tightens up when the gate is opened and it shuts the gate when it's released.

"It's a simple idea but it works," says Abernathy. "The gate must be square, level and swing freely for the closer to work properly. In most cases you'll need to remove the gate from the post before installing the closer. You screw the spring down around the gate. Spring tension can be adjusted by loosening and rotating the clamp.

"The metal clamp is designed to fit around a 2-in. dia. pipe, but spacers for 1 5/8 and 1 1/2-in. pipes are also included. It can be used on gates that swing open in either direction - all you do is flip the spring upside down to reverse it. In most cases livestock will be inside the gate so you won't even need a latch - when the gate swings shut the fence post will stop it from going further and the spring will keep it closed. However, if livestock are outside the gate you will need a latch."

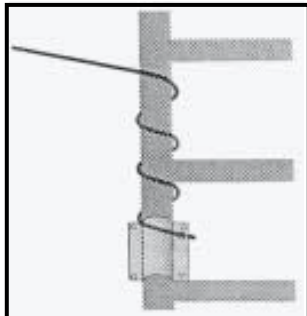
Abernathy says that if you want the gate to be kept open, he can supply the hardware (optional).

The gate closer comes in two sizes - one for 4 to 8-ft. gates (1/4-in. dia. spring) and the other for 10 to 16-ft. gates (5/16-in. dia. spring). Both models sell for \$59.95 including S&H.

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"Gate Shut" consists of a single spiral spring that slips onto hinged side of a gate. A catch arm at top of spring rests against gate post.



Bottom end of spring clamps in place.



Moss's "mini dozer" started out as an old David Bradley SP trencher.

## "Mini Dozer" Made Out Of Salvaged Parts

Don Moss, Tallula, Ill., made this "mini dozer" out of salvaged parts. It's equipped with a 4-ft. blade on front.

"I built it mostly as a fun project, but it can do some serious work," says Moss.

He started with an old David Bradley self-propelled trencher, using the trencher's undercarriage, 10-in. wide steel tracks, and blade. The rig is powered by a 305 cu. in. 6-cyl. gas engine out of an El Camino car. The engine direct-drives a hydraulic pump that shaft-drives the transmission. The tracks are driven by a big roller chain. The seat is out of an old Jeep and the fuel tank mounts behind it. The blade is raised or lowered by a single hydraulic cylinder.

"I park it in front of my machine shop where it gets a lot of attention," says Moss. "I built it last spring. I use a pair of levers to steer it, much like an old fashioned dozer. I built it so that it's easy to service. By removing three bolts I can take the engine and pump off the frame. By removing four bolts on back I can take the seat, battery, and fuel tank off.

"A pair of steel mufflers come up out of the hood. I cut the engine manifold off and blocked it up, then cut a pair of holes in the top of it and mounted the mufflers in them."

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Siemens lowered the swather cutterbar 1 1/4 in. using a piece of square tubing that bolts to the bottom of platform.

## Inexpensive Swather Conversion Gets Cutterbar Down Lower

After Jack Siemens and his son Jonathan had grown two dried bean crops on their 2,000-acre farm near Plum Coulee, Manitoba, they decided there had to be a way to cut the crop closer to the ground.

They heard about an idea developed by Bill Elias, Morden, Manitoba, and went to work to convert the 25-ft. MacDon 960 header on their self-propelled Premier 2900 swather.

First step in the conversion was to take the knife guards off. Then they installed a length of 1 1/4-in. square steel tubing underneath the bar and mounted the guards below that. They had to replace the bolts with new ones to fit, but the result was the knife was moved 1 1/4 in. lower.

Once the guards were back in place, there was still the matter of the hold-down brackets for the sickle. There was no way to bolt them lower, so Siemens solved that problem by welding 3/8-in. square steel key stock, cut 3-in. long, onto the square tubing in place of the brackets. He says the key stock works as well as the hold-down brackets.

To give the sickle room to move back and forth, they had to cut a small notch in the header's end divider. They had a local machine and welding shop make the cut and then reinforce the divider so there'd be less likelihood it would break if it hit something.

This simple change lowers only the knife, Siemens says. Everything else about the header works the same.

Lowering the knife mounting also meant that the shaft that attaches the pitman arm to the knife was 1 1/4 in. too short. Siemens says the machine shop solved this problem by making a new, longer shaft out of a piece from a hydraulic cylinder. "The diameter of the hydraulic cylinder shaft was the same as the one we were replacing, so all they did was cut it the right length, drill through the center, and install a grease zerk so we could grease the needle bearing in the knife head,"



Pitman drive was extended downward 1 1/4 in. using a short section of steel cut out of a hydraulic cylinder.

Siemens says.

Before the conversion, skids on the header kept the knife up out of the dirt. Now they can actually run the knife in the dirt if they need to, in order to cut the beans as low as necessary. While they're able to harvest a lot more beans this way, they do have to change knives at least once during the season.

Says Siemens: "Running 1 1/4 in. lower on the bean stalk makes a big difference in the number of pods left on the field." He feels the extra amount of beans harvested more than makes up for the added maintenance from running the knife in the dirt.

He figures the entire conversion cost only about \$200. MacDon has recently introduced a new, low-profile header that cuts about as low. This new header has the advantage of a totally different knife system. However, it sells for more than \$20,000, depending on size and options.

While lowering the knife in this way increases its value in harvesting beans, it doesn't ruin it for swathing other crops like canola. "We usually change it back for other crops, but there's no reason we couldn't swath all our crops with it this way," he says.

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"We can run the knife in the dirt if we need to when cutting beans," says Siemens.