



Reid Prinkey mounted the rotary deck off a Gravely walk-behind mower on front of his Deere garden tractor. It chews up small trees and brush and also mows his lawn.



He designed a mounting bracket with a pulley drive that uses the tractor's belly mower drive system.

## Front-Mount Garden Tractor Rotary Mower

A Gravely rotary mower deck mounted to the front of Reid Prinkey's 110 Deere garden tractor chews up small trees and brush and also produces a finished lawn. The homemade rig looks factory-built.

"We were using line trimmers and chain saws to clear paths in the woods behind my dad's house," recalls Prinkey. "I used to play on them, and now I have grandchildren who play there. My dad said, 'Why not build a mower?'"

Prinkey's dad, a former Deere dealer, recalled the Gravely walk-behind as a tough machine. Prinkey found one on Craigslist, looked it over and took measurements.

"I checked it against my 110 Deere garden tractor and other than moving the gearbox, decided it would work," says Prinkey.

He designed a mounting bracket with a pulley drive that uses the 110's drive for its belly mower. The pulley driveshaft transfers power from the tractor's right side to the left to line up with the Gravely. It rides in pillow box bearings attached to two 2 by 2-in. angle iron arms extending forward from the tractor.

Crossbars made from 3-in. wide 3/8-in. steel strap, reinforce the arms, which carry the weight and torque of the deck.

The mower's gearbox, which had connected by a pivot to the Gravely, was shifted 90 degrees to line up with the drive pulley. Without the pivot, Prinkey had to fabricate a way for the rotary deck to float over uneven ground.

He welded 2 sets of tabs to the deck of the mower directly beneath square tubes welded to the ends of the bracket arms, later reinforcing them with added tabs. Steel pipes, with one end bolted to the tabs and the other extending through the square tubing, provide both vertical movement and horizontal pivot for the deck. Holes drilled through the upper end of the pipe provide multiple up-stops, preventing the deck from rising too much, while chains attached between the deck tabs and the cross bars provide down-stops, preventing the deck from dropping too far.

The entire bracket/mower design is heavily reinforced. Arms extending out and forward from the sides of the deck are mounts for

dolly wheels. At the rear of the arms, Prinkey mounted smaller rounded wheels that can be adjusted for 3 cutting heights.

"They're gauge wheels and allow the rear of the deck to go up and over things," he says. "Because they are rounded, I can make turns without them digging into the ground."

"Figuring out the pulley sizes was the toughest challenge," says Prinkey. "I needed to get the tip speed right."

With the help of a Gravely owners manual, Prinkey found out that the Gravely motor and the 110's pto speeds were similar. The biggest restriction was the belt drive. It needed to remain tight while flexing with the terrain. With the help of the up and down stops that limit deck movement, an idler pulley attached to the deck by a spring does the job.

Prinkey mounted protective guards over the pulleys and belts, as well as a front brush guard. With fresh coats of JD yellow and black, the rotary add-on looks factory-made.

"I have 3 cutting positions," says Prinkey. "I can change the up-stops to match the cutting heights to let me extend the mower out



Pulley driveshaft transfers power from tractor's right side to the left to line up with the Gravely deck.

over a creek bank if needed," says Prinkey. "If I hit an ant hill or other obstacle, the rear arms let the deck pivot to slide up and down. With the front guard, I've knocked over 1 1/4-in. dia. trees. The mower makes quick work of the paths."

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No-latch, rotary gate lets people walk through without stopping, but horses and cattle can't get through.



## "Revolving Door" Rotary Gate

"You can walk right through our new rotary gate without stopping, but horses and cattle can't get through," says inventor Cloyce Henderson about his "no latch, revolving door" rotary gate.

The 4-ft. wide gate comes with 4 steel "wings" and is designed to revolve in either direction on a center-mounted, 1 1/4-in. dia. galvanized metal post. To install the gate, just set a steel post in concrete and then slide the gate, which is equipped with a 2-in. dia. pipe at the center, down over the post.

"Animals may try to go through it, but most of them give up quickly," says Henderson. "As the animal starts to go through the gate, the next wing comes around and hits it in the ribs or alongside the neck and it backs off."

"It's really handy, especially for anyone who goes through a gate several times a day," says Henderson.

"I built the first one 2 years ago for my son, and then built another for myself. My son has a 50-cow ranch and his children raise and show 4-H animals. They use the gate several times a day. I have a hobby farm with 3 show steers that we feed daily, so I use the gate every day which saves a lot of time. So far no animal has successfully gotten through the gate," Henderson says he's nearing retirement age and has stopped building the gate until his grandson decides whether or not he wants to take over the company. He has just 2 gates for sale now. He uses recycled pipe to save money.

The gate is primed and ready to paint. Sells for \$200 plus S&H.

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"Easy Turner" makes it easy to line up your tractor pto with an implement. It consists of a short length of pipe with a steel peg welded on inside to grab a spline. A metal rod welded to one end of pipe serves as a handle.

## "Easy Turner" Makes Pto Hookups Easy

"Sometimes it's difficult to line up your tractor pto with an implement by yourself. This simple device makes the job much easier," says Steve McKee, Steve's Custom Welding, Flemingsburg, Ky.

His "Easy Turner" consists of a short length of pipe with a steel peg welded on inside to grab a spline. A metal rod handle is welded on at a slight angle to one end of the pipe.

"It slips on easily and provides plenty of leverage for turning the shaft," says McKee.

"It's easy to use, and the angled handle keeps you from busting your knuckles. It's especially useful with bigger, heavier tractors and farm implements."

The Easy Turner sells for \$20 including S&H.

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