"The rollers and the main frame come off easy - put a pallet down, lower them and drive away," says Justin Kinnan. "It takes about 10 minutes. Just remove four bolts on each side and cut the zip ties for the hydraulic hoses."

Easy-To-Mount Corn Stalk Rollers

By Bruce Derksen, Contributing Editor

Corn stubble stalk rollers designed to protect rubber tractor tires from damage have been available for years, but most were cumbersome and time-consuming to install and remove.

Nebraska farmers Justin and Sheena Kinnan decided to improve on the existing equipment and began building their own design in their farm shop.

Since mounting was the main issue, they designed a quick attach mounting system that installs between the tractor frame and front weight bracket. It's built to not interfere with the weights and remain permanent if desired.

"The rollers and the main frame come off easy - put a pallet down, lower them and drive away," says Justin. "It takes about 10 minutes. Just remove four bolts on each side and cut the zip ties for the hydraulic hoses. The hydraulics are only for lifting the rollers during road travel or turning corners so they can be run out of the box or tied into a 3-pt. hitch."

Heavy-duty 6 to 7,000-lb. hubs on the front end manage the lifting and lowering rotation. The assembly weighs about 1,500 lbs. and is made from 1/2-in. to 1 3/4-in. plate. The hollow rollers are 3/8-in. wall tubing and are almost 13 in. around. A 1 15/16-in. shaft runs through the center of each roller and is supported by plates and bearings. The drums weigh approximately 400 lbs. each.

"We've had so much interest," Kinnan says. "We built our first ones for Deere because that's what we had on the farm, but we've also done some for Case tractor owners."

Completed assemblies including mounting sell for approximately $9,000 plus S&H.

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Built From Scratch Stump Ripper

"Digging out big stumps with the 16 and 24-in. buckets on my excavator puts a lot of stress on them and creates big holes in the ground, so I designed and built a special tool to handle the job," says Mark Yax, Solon, Ohio. "It acts like a big knife to cut roots and lift a stump without doing as much damage as a bucket."

Yax built his Stump Ripper from three pieces of 1/2-in. thick abrasion-resistant steel. He sandwiched them together and welded them using 7018AC welding rods. For added strength, he cut two 3-in. dia. holes on the outside two pieces and welded the edges of the holes into the center piece. He cut a 1-in. hole through all three pieces to attach a clevis or hook if he needs to use the tool for pulling.

"I gave a full-size drawing of the ripper to a friend who owns a fabricating shop, and he made the pieces with his plasma cutter," Yax says. "He cut teeth into the front and back of the pieces and I built them up with hardfacing rod. I also hardfaced the front tip and then ground all of those areas sharp to cut roots."

Yax welded the shank to a 1-in. thick plate that has four gussets and six holes for bolting it onto the excavator's mounting plate. Six high-strength 170,000 psi 3/4-in. bolts hold the two parts together.

Yax says, "I made the ripper in two parts because I wanted to be able to attach other accessories that I'd like to build. To fit them together easily, I cut a 1-in. hole in the center of the excavator receiver that mates up with a 1-in post on the ripper." He figures the whole setup cost him about $600 in parts, machining and labor, not much different than buying one already made, but his can also be used for other accessories.

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"I may also use the ripper to cut a slot in the soil for burying electrical lines for low voltage wiring," says Yax.

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He Makes His Own Protective Hose Wrap

John Bennett makes durable wraps for hydraulic hoses, fuel lines and even computer cables using his home-built cutter. He cuts PEX pipe into spirals that can stand up to wear and UV rays for himself, his friends and neighbors, and area retail shops. It all started with a worn hose in a garbage truck.

"I drove truck for a garbage handler, and a hydraulic hose was getting worn," recalls Bennett. "They didn't have any wrap and didn't know where to get any, so I made some."

Bennett's first wrap cutter was simple. He welded a washer slightly larger than 3/4-in. blue PEX onto a piece of rebar. He notched the washer and sharpened the edge to make a cutting blade.

"I stuck it in a drill, and it cut the PEX, but I could only go as far as the length of the rod," says Bennett. "I decided to make a machine that could cut the PEX to any length."

His improved version is a 9-in. dia., 12-in. long drum made from an air tank salvaged from an old truck. A knife with pipe guides is bolted to the inside of the tank. The guides are washers on a bolt fixed to the center of the blade with spacers to match the size of the PEX pipe being cut. As the PEX feeds through, the guides keep it centered. The bolt matches the angle of the knife. Bennett keeps different size knives and guides for different size PEX pipe.

"I just remove three 3/4-in. bolts when switching pipe sizes and install the correct knife and guides," says Bennett. "I have cutting knives and guides for 1/8-in. up to 4-in. dia. PEX pipe."

Bennett used a 1/2-hp. electric motor to drive a 5-speed gearbox from a wheelhorse garden tractor. "You can shift the transmission without a clutch," he explains. "It has the five speeds plus reverse, which is handy if I have to back out of a job."

Bennett made a machine to custom cut PEX tubing for use as protective hose wrap.

The motor, gearbox and cutting mechanism, along with pipe guides and supports, are mounted to an 18-in. by 22-in., 4-ft. tall steel tubing framework. The uprights are 1/8-in. thick, 1 1/2-in. sq. tubing. Two rectangular cross supports of 1-in. tubing butt welded at each corner to 2-in. tubing, slide over the uprights. The 2-in. tubes are drilled and threaded for 1/4-in. bolts that act as set screws.

Additional cross supports using steel strap and 2-in. slides are mounted between two uprights as needed. They support various guides, as well as the vertically mounted electric motor.

"I can raise or lower the cross supports as I want," says Bennett. "The design also makes it easy to disassemble and move the cutter to my basement from my unheated shop for the winter."

With the framework in place, Bennett mounted the motor and the gearbox on a lower level. A 1 1/2-in. pulley on the motor is belted to a 9-in. pulley on the gearbox. In addition to the gearbox gearing, rpm's are further slowed by a 1-in. drive sprocket on the gearbox and a 9-in. drive sprocket on the cutting drum.

The drum is mounted above the motor and gearbox on a second cross frame. It rides on four support wheels Bennett picked up at Tractor Supply. Rollers mounted to the cross frame at each end of the drum help retain it in place with about 1/8-in. play.

"The support wheels have ball bearings instead of nylon, so they will last longer," says Bennett. "The retaining wheels were salvaged from an old pair of roller skates."

Hose wrap cutter shaving PEX exiting the cutter.

Bennett used No. 40 roller chain to drive the cutting drum. Initially, he planned to cut out the interior of a 9-in. gear and weld it to the drum. He bought a gear and then had second thoughts.

"I hated to waste a new gear like that," says Bennett. "Instead, I used it as a template over a piece of steel. I drilled holes to match the gaps between the teeth of the gear and then cut away the waste using an angle grinder, leaving a 9-in. dia. hole to mount over the drum."

Bennett mounted roller guides for the incoming pipe, using hose guides like those used on propane trucks. After the cut hose passes out of the drum, it travels through a pvc pipe sized for the PEX being cut. Both incoming and outgoing guides are mounted on sliding arms. The outgoing pvc pipe is mounted between two cross arms, making it easy to replace as needed.

"The incoming guides straighten out the pipe as it comes off a reel," says Bennett. "As the cut pipe travels through the pvc guide pipe, it drops down and coils in a basket below."

Bennett's hose protector has literally sold itself. He swaps cut wrap for fresh PEX pipe with his son, who is a plumber. When he was shopping for a drive belt, he described what he was doing to an auto parts store manager. He asked to see the finished product. When looking for a 9-in. drive sprocket, he told a friend who sells parts for old Allis Chalmers equipment. The friend found the large drive gear for him and asked to see the finished wrap.

"Now they both sell it for me," says Bennett. "I have a few other local places that sell it for me."

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