Rollers Make Great Cutting Table

T.C. Mallett, Austin, Texas, converted a pair of 10-ft. long used conveyor roller sections into a cutting table that can be used with a metal chop saw or a mitre saw.

Either saw sits in the middle of one 10-ft. roller section. The other roller section was cut in half to provide two 5-ft. sections. All sections mount on wheels.

"It really comes in handy for cutting long materials such as 30-ft. sections of oil field pipe or long lumber, because I can move the other 5-ft. sections wherever I need them," says Mallett. "I can easily lift either saw out of the conveyor and exchange it, depending on whether I'm cutting steel or wood."

He started with two 10-ft. long conveyor roller sections that are about 30 in. wide. He welded legs and caster wheels under each corner on one complete section. Then he removed a number of rollers from the middle and welded a section of expanded mesh below the opening, to serve as a platform for the saw. Each saw sits on a couple of 2 by 4's that keep the cutting surface exactly level with the conveyor's roller tops.

The other 10-ft. conveyor section was cut in half to provide two 5-ft. sections. He welded legs and caster wheels on them, too.

To collect debris, he mounted an old metal tub under the saw. It's held on with S-hooks which makes it easy to lift off and dump. He also mounted a curved shield, which was originally part of a protein feed tub for cattle, to deflect dust and chips. It's held on with zip ties.

"It's one of the handiest things I've ever done for my shop," says Mallett. "The caster wheels let me roll the cutting table anywhere I want and also serve as an additional table surface for other projects when needed. I set the conveyor rollers at a 35 1/2-in. height to match the height of my welding table. That way if I want to extend a piece of what I'm cutting over to the welding table, everything will be at the same working height."

Saw sits in middle of one 10-ft. roller section. The other roller section was cut in half to provide two 5-ft. sections.

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Simple System For Removing Rust With Electricity

Using electrolysis - soda, water and electricity - to clean rusty parts isn't new, but Craig Mathews has tweaked the set up to make it more efficient.

"I created a fixture to hang and change out items," explains the Northridge, Calif., gas engine collector. "I have something in the tank year round."

Mathews first learned about the easy, inexpensive way to remove rust on the internet nine years ago. Start with a nonconductive container such as a plastic 5-gal. bucket. Add water and one cup of Arm & Hammer Super Washing Soda detergent booster. The part to be cleaned is suspended in the water with the negative lead clip from a battery charger attached to it. The charger's positive lead clip is attached to a piece of metal above the water. When plugged in, electrolysis pulls rust away from the metal object.

"It's like reverse plating," Mathews says, noting that by reversing the battery charger leads, new parts can be made to look old.

As a mechanical engineer, Mathews modified the setup to establish a good connection and make the process more efficient.

"I made a grid of rebar rods to suspend parts from," he explains. "The key is to not let the part touch the rods."

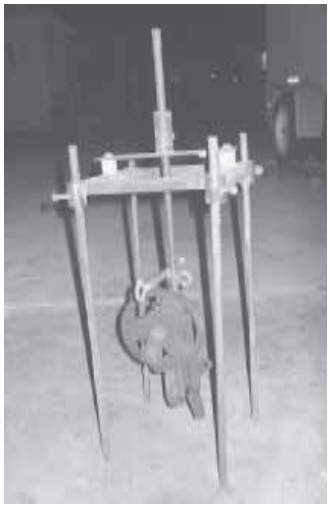
He attaches the battery charger clips to the rods. Insulators connecting the rods separate the positive and negative currents.

The rods become covered with the rust and grime pulled from the parts and need to be cleaned off occasionally to get them back to bare metal. On larger jobs, they may need to be cleaned during the process. Still, they last a long time and parts of the setup can be changed as needed.

"I've bolted 10 to 15 parts together for a big batch," Mathews says. It takes a week or two for the parts to get clean. Using a garbage can, he suspended a 1913 Root and Vandervoort cylinder head in the solution for a month, occasionally pulling it out and brushing it off. The valves, which were completely rusted in place, pulled out easily and the engine was rust-free. A small charger works, he says, but he recommends a battery charger up to 20 amps for most jobs.

"This doesn't hurt the metal," Mathews says, noting that some processes remove the metal or make it brittle. "Electrolysis takes off nothing but the corrosion."

However, he cautions, electrolysis only works on all steel or cast iron items, not nonferrous materials that contain copper, zinc and other materials. He adds that the process emits hydrogen gas so it should be set up outdoors or in a very well ventilated area.



Water and soda is added to a plastic 5-gal. bucket (above). The metal part to be cleaned is suspended in the water, with the negative lead clip from a battery charger attached to it. Charger's positive lead clip is attached to a piece of metal above the water. When plugged in, electrolysis pulls rust away from the metal object. A grid of rebar rods (right) is used to suspend parts, with battery charger clips attached to the rods.

The solution can be used up to year; just keep adding water. When changing the liquid, throw the iron rich, phosphate solution on brown spots of the lawn for fertilizer, Mathews suggests.

Besides rust, Mathews has removed paint, dirt and hard-to-remove grease from old parts.

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Gear Down Your Pickup For Better Mileage

Swap out the stock ring and pinion gear in your pickup's drive axle with a lower ratio gear, and you can drop your rpm's and raise your miles per gallon. Jeremy Ayers, J.T.'s Parts and Accessories, has the parts to do the job.

"We've got gears for virtually any vehicle," says Ayers. "Anytime you take a truck with a 4.10 ratio and gear it down, engine rpm's drop. If you're on the freeway for any distance and you drop 200 rpm's, that equates to significant fuel savings. Depending on the truck, it can be one to three miles per gallon savings or more."

He admits that in going from a 4.10 to a 3.42 ratio you lose a little power on the low end, but he says that power isn't likely to be missed by most. Especially if you use your trucks for daily driving and only tow loads a few times a year.

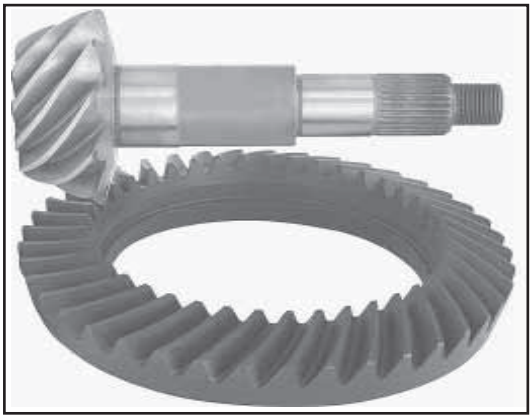
"With any new diesel, you have so much power that it is really insignificant," he adds. "Most consumers feel trucks have too much gear power from the factory."

Ayers suggests installation of ring and pinion kits be left to professionals. He estimates that only about 20 percent of his customers do the installation themselves.

"It costs a fair amount of money, and it's not something you want to screw up on a new truck," he says. "The price depends on whether it is 2 or 4-WD and if it's a master install kit with bearings or a mini without."

Prices range from $465 on the low end for a 2-WD without replacing bearings. A worst-case scenario with bearings replaced would run $1,495 on a late model Dodge with 4-WD. Tack on another $800 for labor, says Ayers.

"Most kits are ordered with bearings simply for peace of mind," he says. He points out that removing bearings from a pinion or the carrier can be tricky if not impossible. Also, they can be hard to find locally. That can mean extra time with a truck torn down waiting for bearings to arrive.



Ring and pinion kit results in a lower ratio gear, which drops your rpm's and raises your miles per gallon, says manufacturer.

Contact: FARM SHOW Followup, J.T.'s Parts and Accessories, 406 S Wenatchee Ave., Wenatchee, Wash. 98801 (ph 509 888-2953 or toll free 866 349-6801; fax 866 399-7532; info @justdifferentials.com; www.ringpinion.biz).