

Henry Milburn, Cutler, Ind.: “I have an older Husqvarna 54-in. mower. I mow a lot of ditches which can be hard on a mower. The rear axle tore loose from the tractor and sheet metal tabs that bolt to the axle also broke loose.

“To repair the mower, I attached pieces of 3-in. angle iron to the mower body and then I fastened the axle to them.

“When I needed to align the axle and its support bracket on the angle iron, I couldn’t find a way to get a punch through the axle support holes to mark where I needed to drill.

“So I got a pencil with an eraser on one end. I put paint on the eraser, put the pencil up through the bolt holes, and made my marks to drill the 2 bolt holes. Then I bolted the axle back up. After this repair, the mower is now much more heavy duty. Using paint on the pencil eraser really helped get it done.”

steel pipe with an air hose fitting at the other end. To blow out a hose, he just hooks the hose up to the valve, snaps on an air hose, and shoots enough air through to clean it out.



Bob Payne, Coldwater, Miss.: “Hoyer patient lifts are used by hospitals, nursing homes, and home health agencies to move patients that cannot move themselves. They are built to handle very large people. Although quite expensive if purchased new, they can be found used online at reasonable prices. They’re relatively easy to rebuild, if necessary. I think of it as a mini engine hoist with legs that can be width-adjusted several degrees. I do a lot of small engine work and other tinkering so it’s very handy – such as for removing mower decks and holding them up for service.”



Tom Dufrense, Grant, Minn.: “The drawbar on my Ford utility tractor spins freely in the hitch pins and was a constant annoyance when hooking up trailers or other equipment. So I came up with a pair of ‘stops’ to hold it in place.



“They consist of two 6-in. long pieces of 2-in. sq. angle iron. I drilled two holes into one side of each piece. One hole is used to bolt the stops to each arm of the hitch. When the drawbar is not being used, the stops pivot up and are held in place by zip ties.

“When installing the drawbar, I pivot each stop down and stick the drawbar pin through the hole in the stop before going through the hitch pin hole. The stops hold the drawbar firmly in place with no more spinning.”

David Matthews, Chapin, S.C.:

David made a shop fan by salvaging the fan off the top of an old household AC unit. He wired the fan motor to a switch box he attached to the side of the unit and attached a length of power cord to the switch box to power it.



Aldon Cisco, Ohio: “Here’s an idea for a handy shop light you can make out of a regular small LED flashlight. Just zip tie a clothes pin to the light by running the zip tie through the spring on the clothes pin. Then you can just clip it to a hat when needed. It works great to free up your hands. You can pick up these lights for almost nothing and they really work great.”

Dexter Brahn, Ionia, Iowa: “In a recent issue, a reader talked about drilling holes in an Echo weedeater exhaust screen because it was plugged up with carbon. I think the plugging problem was caused by using too much oil in the fuel mix or using cheap oil not rated for the equipment. If you have carbon buildup on the screen, you probably have carbon buildup inside the engine. I’d recommend using Echo’s oil, which burns clean.”



Daniel Gladstone, Ithaca, N.Y.: “When we have to add a hitch to the back of tillage equipment to tow finishing harrows or packers, I buy aftermarket 3-pt. hitch linkage replacement ends and weld them into the hitch frame to provide a slick swiveling hitch pin hole. The hardened ball doesn’t wear much and the swiveling action just about eliminates pin bind when crossing ditches and making sharp turns. It also saves time finding a suitable piece of heavy steel and drilling or torching a hole.”



Gary Swensen, Yankton, S.Dak.: Blowing air out of garden hoses is a putzy job each fall for people who live in the north country. Gary made the job easier by attaching a garden hose valve to a length of



Steven Reining put a Predator engine into a Wheel Horse lawn tractor saving money over other engine options.

Predator Engine Installed In Wheel Horse Tractor

“I run a lawn mower repair shop and last summer I installed a Harbor Freight 23 hp. horizontal shaft Predator engine into a Wheel Horse 520H garden tractor. The customer was happy because the Predator sells for about \$1,000 less than a new Kohler engine,” says Steven Reining, Mt. Zion, Ill.

In the past Reining has installed several 2-cyl. engines in Wheel Horse tractors, but this was his first Predator. “The conversion I made can be easily and affordably done to any Wheel Horse tractor, and possibly other garden tractor brands, too,” says Reining. “When I was done the tractor ran great, and the customer used it all year with no problems. Most people don’t even notice that the engine isn’t original.”

He was able to install the engine by using the tractor’s original Onan engine to build and install a “locator frame.”

“The locator frame’s purpose was to make sure the original belts would fit,” says Reining. “I drilled a hole approximately in the center of a 14-in. long, 1-in. wide, 1/4-in. thick steel bar, which fit onto the existing bolt in the end of the Onan engine’s crankshaft,” says Reining. “I then ran two steel supports from the bar back to a random bolting point on the tractor’s frame and welded them to the bar. With the Onan engine removed and with the locator frame bolted to the tractor, I knew exactly where the Predator engine needed to

go – side to side, front to back, and height so the crankshaft would line up to the hole in the locator frame.”

He used a 3-in. long bushing with a 1-in. ID and a 1 1/8-in. OD to adapt the crankshaft to the Wheel Horse components. “The engines on most Wheel Horse tractors come with a 1 1/8-in. dia. crankshaft, whereas the Predator has a 1-in. dia. crankshaft, so I also had to cut a key slot in the bushing,” says Reining.

The customer wanted to save money by rewiring the tractor and engine himself, including the safety switch wiring. To make the job easier, Reining disassembled the Predator’s speed and choke controls. He also installed longer wires and relocated the Predator ignition switch to the original Wheel Horse key switch position. “The customer was then able to rewire the safety switches at his convenience, which wasn’t a difficult job,” says Reining.

With a little cutting and welding, he also modified the engine’s exhaust pipe so it fit under the tractor’s hood. “I cut the flanges off the Onan engine’s muffler and welded the flanges off the Predator muffler to the Onan muffler,” he says.

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Jig Helps Make Perfect Stairways

With the Step Doctor jig, each stair tread and riser you cut fits perfectly. Plus it’s simple to use and moderately priced.

Retired telephone worker George Ireson came up with the design 14 years ago to help a neighbor install hardwood stairs.

“It articulates up to about 3/8 in. on each corner,” Ireson explains, so pieces fit, even when the space isn’t perfectly square.

The front and 2 back pieces spread like wings and are held secure with wingnuts. Videos on the Step Doctor website show exactly how to set up the jig, mark the board, and place it on the table saw to cut correctly.

The basic model works for stairs up to 49 in. wide and sells for \$90. The deluxe model has longer wings that extend to 61 in. and sells for \$100. Shipping is additional.

Ireson also invented and sells the 3n1² to cut risers. The simple square is easier to read than a traditional square to mark step risers and roof rafter pitches. It sells for \$50 including shipping.

Ireson notes he has a couple more projects



The Step Doctor jig makes cutting stair treads and risers easy, allowing for easy marking and cutting.

he is working on, and welcomes inquiries from anyone interested in making and selling the Step Doctor and square tools.

“Engineers have told me the Step Doctor is so simple and so good. It’s a simple tool for complicated jobs,” Ireson says.

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