Skid Steer Repowered With 16 Hp Briggs & Stratton

When the original engine on his old Case 1816 skid steer loader went bad, Chris Kornkven, Helenville, Wis., replaced it with a new Briggs & Stratton 16 hp engine.

"It was the first snow of last winter and, with three driveways to clear, I fired up the skid loader. A few hours later I was finishing with the last bit of snow when the engine suddenly lost power.

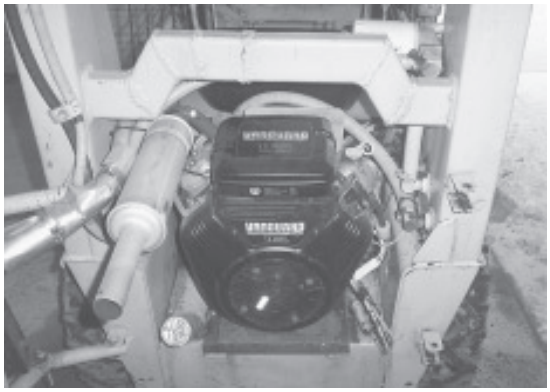
"I managed to limp the skid loader back to my shop. I contemplated taking the engine out and rebuilding it, but I thought it would be nearly impossible to find parts, even if I could quickly identify the problem. I also didn't think I'd have the time to rebuild it before the next snow fell.

"The factory engine on my Case 1816 was a Tecumseh OHC160 16 hp model."

Kornkven had remembered reading in FARM SHOW about other readers who repowered skid loaders, so he searched the internet for more info. He came across "smallenginewarehouse.com", an Indiana company that sells repower kits and engines.

"Smallenginewarehouse recommended a 16 hp Briggs & Stratton Vanguard engine for my machine because of the dimensions of that engine. I ordered one, and it arrived about three days later," says Kornkven.

"I had to fabricate motor mounts for it since the bolt holes wouldn't line up. Everything else worked out better than I expected. The gas line, wiring, throttle and choke cables and even the original belts matched up. However, the muffler interfered with the cross-connect between the hydraulic tanks so I had to use a different one. After a couple of days I was able to start my skid loader up and drive it. It was quite a relief since it snowed again a couple of days later. It snowed a lot the rest of the winter, and the repowered loader always started and ran great."



Chris Kornkven fabricated motor mounts for this Briggs & Stratton engine, which he used to repower his Case 1816 skid loader.

Kornkven says total cost of the project was about $1,200. "It was money well spent. The new engine has plenty of power, and it's much easier on gas than the old one."

Contact: FARM SHOW Followup, Chris Kornkven, N6280 County P, Helenville, Wis. 53137 (ph 920 699-2376).

Grooved Engine Heads Catch On

Grooving engine heads as a way to cut fuel use and gain power is catching on. FARM SHOW reader Frank Akins first reported on his experiment with the modification in FARM SHOW's Vol. 32, No. 1. John Shrock and his uncle Robert have both used grooving. John ground a groove into the head on a Kohler gas engine on a riding lawn mower and Robert grooved the pistons on an Imperial Diesel. Both saw impressive improvements in efficiency.

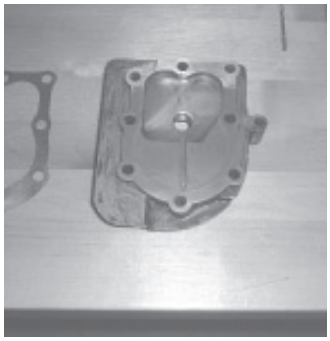
"I think I'm saving between 25 and 30 percent fuel and increasing the horsepower, too," says John. "It seems to burn better resulting in better fuel combustion."

He used his drill press and grinding stones to groove the mower head to a depth of about 3/16 in.

Robert normally uses a 12 kW genset to power his shop and charge batteries for his home's power. Recently he grooved the heads on a small diesel he had rebuilt. It's a model he has sold for years to use with 8 kW generators.

"I ground a groove 3/32 in. deep and 1/16-in. wide from the combustion cup straight out to the outside wall and two more grooves from the cup, but angled one to either side of the first. Looking down at them, the grooves look a bit like a bird track," says Robert.

"I figure I gained 50 percent more power," he says.



Impressive improvements in efficiency are possible by grooving an engine head, say John Shrock and his uncle Robert.

Though he hasn't hooked it to a dynamometer, he went to a load bank and pulled 50 to 52 amps. He then hooked it to his 12 kW generator, and it's handling the load fine on less fuel.

"With the price of fuel today, we have to be looking for ways to save fuel," he says.

Contact: FARM SHOW Followup, John Shrock's Repair, 611 North Summit Road, Jamestown, Penn. 16134 (ph 724 932-5183).

Screwdriver Has Built-In Wire Twister

This new tool makes twisting wire ends together a much easier job.

The patent pending Whiz Twister is a screwdriver with a twisting mechanism inside the handle. It's designed to twist 10 to 18 gauge wires. It can be used to twist multiple wires and can also be used to untwist them.

To twist the wires you simply insert the wires as far as you can into a hole in the screwdriver handle, then turn the handle to twist the wires tightly together. "Steps" in the twisting mechanism accommodate different size wires.

"It makes a nice, tight twist and works great for everything from electrical wire for houses to electric fence wire," says inventor Merle Robinson. "It works faster than a pliers and also doesn't scar the wires like a pliers often does. I came up with the idea because I was an electrical contractor for years and thought there had to be a better way."

The Wire Twister is available in three models - standard, Phillips, and a small "pocket clip" model. "The pocket clip model works great for twisting low-voltage 18-gauge wire, such as telephone wires, lamp cord wires, and speaker wires," says Robinson.

Whiz Twister has a twisting mechanism inside the handle. You simply insert wires into screwdriver handle, then turn the handle to twist wires tightly together.

The standard and Phillips models each sell for $17 plus S&H; the pocket clip model sells for $11 plus S&H.

Contact: FARM SHOW Followup, Merle Robinson, Box 538, Hesston, Kansas 67062 (ph 620 327-5115 or 620 327-7440; merle @whizreel.com; www.whiztwister.com).

Garage door opener mounts from purlins between rafters and is used to raise and lower objects in shop.

"Storage Lift" Frees Up Space In Shop

One evening last fall Chris Kornkven was storing things in his shop for the winter and found himself standing high on a step ladder, trying to lift a bicycle up to a hook on a rafter.

"The bottom of the rafters is 10 ft. above the floor, so hanging things from them is a difficult job. Space is at a premium in my shop, and I thought there had to be a better way of storing things by making use of the wasted space between the rafters," says Kornkven.

After thinking about it for a couple of days, he got the idea for a new-style storage lift. It has worked out so well that he says he's interested in patenting the idea.

He had been given a used garage door opener which still worked, so he decided to mount it from the purlins between the rafters. The opener is mounted in such a way that the motor is toward the lower part of the roof, with the lift chain pointed toward the peak. The rafters are spaced 10 ft. apart, so Kornkven bought some garage door tracks and 10-ft. long by 1 1/2-in. dia. pipe. The tracks are bolted onto each rafter facing each other like they would with a garage door. Kornkven welded garage door rollers to the inside of the pipe and attached 1/8-in. cable to the lift chain. The cable runs through pulleys to hooks that he bolted onto the lift pipe. Counterweights are connected to other hooks bolted to the pipe in order to offset the load.

"The button to operate the garage door is located in such a way that the operator doesn't have to stand under the lift, and pins inserted in the tracks make the operation as safe as possible," says Kornkven.

Light chains are attached to other hooks that are spaced across the width of the pipe and hang down freely.

"Now when I want to store bicycles, garden tools or other items I just press the button and the lift lowers down toward the floor. I can stand on the floor and attach things to the chains. Then when I press the button again, the lift raises them up between the rafters where I can store them out of the way," notes Kornkven.

Total cost of the project was about $75, he says.

Contact: FARM SHOW Followup, Chris Kornkven, N6280 County P, Helenville, Wis. 53137 (ph 920 699-2376).

Magnetic Finger Holds Small Parts

Have you ever been working on a project in a hard-to-reach place and had trouble hanging onto a small screw or nut?

The Magnetic Finger is a single finger glove with a small, powerful magnet sewn inside the tip. The built-in magnet allows you to hold and retrieve small metal objects easily.

Two sizes are available - small/medium and large/extra large - and they each sell for $10.95 plus S&H.

Contact: FARM SHOW Followup, TurnPro, 410 Tuxedo Ave., San Antonio, Texas 78209 (ph 866 774-0055; fax 815 572-8729; casper@magneticfinger.com; www.magneticfinger.com).

Single finger glove has a small, powerful magnet sewn inside the tip.