Engine Hoist Modified For Finger Touch Control

Next time you're trying to crank the lift on a hoist at the same time you guide the engine in or out of place, think how nice it would be to have remote control. Robert Sladky modified an engine hoist to respond with finger touch control.

"I restore old cars and trucks and need to do a lot of work by myself," says Sladky. "A typical engine hoist with a hydraulic jack can be dangerous to handle by yourself. I decided to develop an engine hoist with battery-powered hydraulics."

Sladky started with a standard engine hoist, but stripped out the hydraulic ram with its jack action. He replaced it with a hydraulic cylinder with the same reach after welding new brackets to fit. To power the cylinder, he installed a 12-volt pump and motor designed for use with a pickup-mounted snowplow. The motor and pump were bracketed to uprights on the backside of hoist upright.

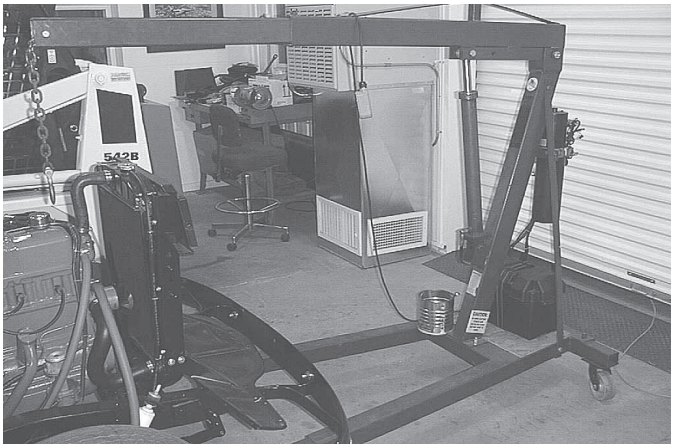
Power for the motor is provided by a deep cycle battery that sets on the hoist base where it also provides added counterweight to the lift.

"I use the remote control that would have run from the snowplow hoist to the pickup cab," says Sladky. "Hydraulics move the hoist up, and gravity lowers it. I put flow controls on the system back by the pump so speed is infinitely variable."

Sladky says the flow controls are "gotta have" items. He explains the original system had an orifice that slowed upward movement and a control valve for downward movement.

"It was still too shaky," he says. "With flow controls, I can lift or lower at a snail's pace without a bunch of jerking. I set it on slow, and it stays there for the most part."

Sladky made a few other modifications to the hoist, replacing the original castors with larger, heavier duty castors. The larger ball bearings make it easier to roll the hoist into place and swivel easier under load than the smaller originals did. The larger castors required welding bigger mounting plates.

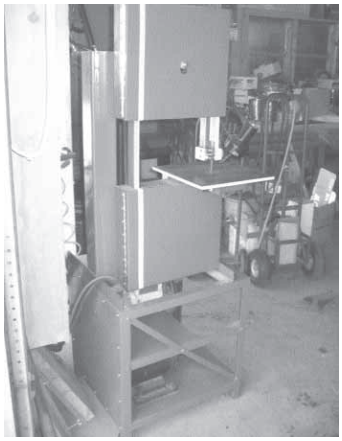


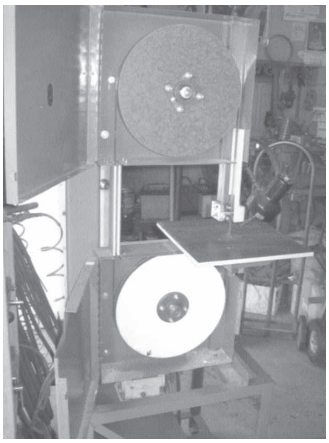
Sladky modified this engine hoist to respond with finger touch control.

Sladky estimates the original hoist cost him around $200. Modifying it cost another $450 plus his time. It has all been well worth it, he says.

"There's no such thing as a powered hoist on the market like this, as far as I know," he says. "I use it for all kinds of things. It really saves my back."

Contact: FARM SHOW Followup, Robert Sladky, 10940 North 142nd, P.O. Box 149, Waverly, Neb. 68462 (ph 402 786-2604; robert_sladky@yahoo.com).





Using a lathe and milling machine, Bruce Chandler built his own metal-cutting bandsaw.

"Good As New" Home-Built Bandsaw

Cutting metal with a hacksaw gets old fast. That's why building a metal cutting bandsaw seemed like a good idea to Bruce Chandler, a former auto mechanics instructor who likes to build miniature engines. He already had a lathe and milling machine. He just needed a bandsaw with multiple speeds.

His first step was to take the dimensions of his wood bandsaw and draw up plans. He made wheels out of wood by glueing two plywood disks (larger than his desired final size) together and sandwiching them between Formica sheets, clamping the entire affair to an automotive flywheel.

Chandler used his lathe and mill to make a drive shaft for the lower wheel and bearings for both wheels.

"I drilled holes in the discs to fit the bearings and drive shaft, installed them on the discs, and used them to turn the wheels in my lathe," he says. "This ensured the wheels were perfectly round rather than having to turn them first and then try to find the center."

Chandler built an E-shaped main frame out of 1/4-in. thick 4 by 4-in. box iron. The drive and idler wheels as well as the motor were mounted to this frame.

To create a channel in the wheels for the saw blade, he simply ground down a bit.

To ensure correct speeds for cutting metal and alternative speeds for different types of metal, he employed a speed reducer with a 9-in. pulley. The 1 1/2 hp electric motor had a 2-in. pulley and ran at 1,750 rpm. Connecting the motor and the reducer gave him a15.3:1 reduction. Four stepped drive pulleys on the speed reducer give Chandler four different speed options for different metals.

"I can even cut cast iron with this saw or up to 3/4-in. sheet iron," he says. "Its speed varies by pulley from 57.72 to 240.99 surface feet per minute."

Chandler milled out blocks of aluminum and built bearings to use for guides. They are fully adjustable for thicker and thinner blades and guide from side to side as well as front to rear. The upper blade guide has a maximum height of 7-in. for large projects.

"I made boxes for the upper and lower wheels using 16 gauge iron and a 12 by 12 by 1/2-in. piece of steel for a cutting table," says Chandler.

The base of the saw is fabricated from 1 1/2 by 1 1/2-in. angle iron. Like the rest of the saw, it is built to last. Chandler also added a couple of extras to make metal sawing even easier. A small wire wheel rides the blade. It has a light and flexible tube that supplies compressed air to blow chips away from the cutting blade.

"I started out the process with a set of plans and took lots of pictures," says Chandler. "If anyone is interested in doing something similar, I would be glad to sell them a set of plans and discuss it with them."

Contact: FARM SHOW Followup, A.B. Chandler, P.O. Box 253, Big Arm, Montana 59910 (ph 406 849-5678; sweett@intch.com).

Worn-Out 4020 Wheel Hub Repair

Anyone who owns a Deere 4020 tractor with duals knows that over time the wheel hubs work loose, damaging the key so badly that the hub can no longer be used.

Dale Denton, Cowden, Ill., came up with a way to restore worn wheel hubs to "like new" condition. He cuts a new keyway into the wornout hub and replaces it with a new full-size key.

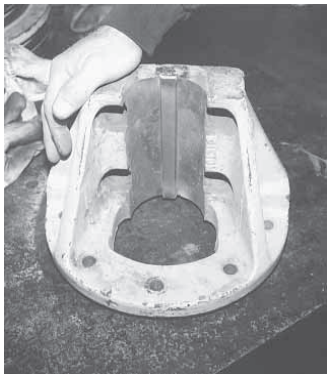
"It costs only a fraction of what a new wheel hub sells for," says Denton, who does the work for a neighbor who sells the refurbished hubs.

The wheel hubs on Deere 4020, 4430, and 4440 tractors are designed to U-clamp onto the axle and have a key that's molded into the hub. "When the hubs get damaged most people just throw them into the scrap pile. My neighbor gathers up those worn-out hubs and brings them to me. He then sells the refurbished units," says Denton.

First Denton removes what's left of the old key and then cuts a new slot in the hub. He uses cold-rolled steel to machine a new key that fits the slot, shaping both sides of the key at a 20-degree angle to fit the tapered groove in the axle. Then he welds the key in.

If the bolt holes in the hub are damaged, he also drills new holes.

"My neighbor charges $50 for a refurbished wheel hub, whereas a new hub costs at least $180," says Denton. "The problem often happens when the farmer uses the tractor with single wheels on back for a while, then installs dual wheels and doesn't get the wheel hub on tight enough. The same idea will work on any tractor that uses wheel hubs with keys in them. Some later Deere tractor models have wedge-type, double-tapered hubs which rarely come loose."



To restore worn wheel hubs to "like new" condition, Dale Denton cuts a new keyway into the wornout hub and replaces it with a new full-size key.

Contact: FARM SHOW Followup, Dale Denton, Rt. 1, Box 168, Cowden, Ill. 62422 (ph 217 783-6530).

Magnetic Socket Inserts

"Our new magnetic socket inserts work great for holding bolts in hard-to-reach places," says Bob Vasichek, Vasichek Enterprises, Michigan, N. Dak.

The removable poly inserts contains a strong neodymium magnet that's designed to securely hold nuts, bolts and self-tapping screws. The inserts are slightly oversized for the socket, so when you push the insert into the socket the insert fits in tight.

"It'll hold a bolt as straight as an arrow, no matter what angle you're holding the socket at," says Vasichek. "It works great for getting bolts started and especially shines with burrs because it'll keep the burr in the socket without it falling out.

"To remove the insert, you take a blunt object such as a bolt, stick it through the ratchet end of the socket and push the insert back out. "A lot of guys put the inserts into a set of sockets and leave them in there permanently," says Vasichek.

Standard magnetic socket inserts are available in sets of nine from 3/8 to 7/8 in. Metric sets contain 10 pieces from 10 through 19. These sets sell for $9.95 including S&H and fit 1/4, 3/8 and 1/2-in. drive sockets.

A combination set is available which has both standard and metric inserts. This 19-piece set sells for $17.95 including S&H.

The inserts are also available from Sears.

Contact: FARM SHOW Followup, Vasichek Enterprises, LLC, P.O. Box 197, Michigan, N. Dak. 58259 (ph 701 259-2288; vasent@polarcomm.com; www.brocket.net).