

Built-From-Scratch Articulated Payloader

Stephen Foster of West Plains, Mo., enjoys using the home-built loader he built from scratch. It's painted Caterpillar yellow and black and looks like it just rolled off the factory floor.

"It makes quick work of jobs around the farm and yard," he says. "I built it for only about \$5,000."

He patterned the loader after a Caterpillar 950, but built it with an 8-ft. wide bucket instead of 7 ft. A Z-bar connects the dump cylinder to the bucket linkage. It was fabricated from 3/4-in. thick steel plate and wrapped in 1/2-in. by 4-in. flat bar. The loader arms were fabricated by sandwiching two pieces of 3/4-in. steel plate, with 1/2-in. spacers in between. The edges were wrapped with 1/2 by 2-in. flat bar.

The loader's wheels and axles came from a White twin screw semi truck. The 460 cu. in. engine and automatic transmission were taken from a Ford Mercury car. The frame, cab, and loader were built from scratch with both new and scrap metal. The loader rides on 50-in. tall tires.

"I started work on it in 1996 and worked on it for 2 years. Then when my father died

I lost interest in it. Three years ago I decided to finish it," says Foster.

"I built it just to see if I could do it, but it has become a valuable asset that has paid for itself several times over. I've used it to do everything from bulldozing dirt to digging out ponds. I painted model number 974 on it, which stands for the month and year of my wedding anniversary."

The rig's frame is built from 1/2-in. and 3/4-in. thick steel plate, and the cab and hood and fenders from 1/8-in. plate. A home-built 5:1 gearbox transfers power to the driveshaft. A hydraulic pump mounts to the front of the engine with a universal joint and is used to operate the loader's 5 cylinders – 2 to lift the loader arms, 1 to dump the bucket, and 2 to operate the articulated steering. The engine cooling fan was raised 6 in. to clear the hydraulic pump. The machine's 40-gal. fuel tank and hydraulic reservoir were fabricated from 1/8-in. steel plate.

All controls, including the levers that work the loader arms and bucket, and the brake and throttle pedals, are handmade. The machine also features a home-built automatic bucket leveler made from electrical switches, an



Stephen Foster built this loader from scratch for only about \$5,000, patterning it after a Caterpillar 950.

electric solenoid, and a steel ball inside a piece of steel tubing.

The cab is built with a door on one side, and big windows all the way around. The steering wheel and seat were bought new.

The muffler was made from a piece of 4

1/2-in. dia. steel well casing.

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“Made-It-Myself” Fence Post Mower

Keeping fence lines trimmed up neatly is easy for Michael Yankaitis since he built a 3-pt. mounted mower that reaches under low lying fence wires. It mounts on his Ahrens 18 hp garden tractor.

The pto-driven mower uses an 18-in. mower blade mounted inside a circular steel deck. A right angle gearbox belt-drives a pulley mounted on top of the side mower deck. A pair of small anti-scalp caster wheels allows the deck to follow the ground contour.

"It reaches right under fence lines, automatically gliding around the posts. All I do is drive my tractor along the fence and the mower does all the work," says Yankaitis, of Mosinee, Wis. "I use it to clear away tall grass from my horse pastures."

The mower deck mounts on an arm that pivots on a telescoping steel tube under the gearbox. The deck hits the post and then slides around it as the mower pivots back. A pair of large springs attached to the deck's mounting frame pulls the deck back forward after passing a post.

"It works better than I had hoped," says Yankaitis. "I use the tractor's 3-pt. hitch to

raise or lower the mower to adjust cutting height.

"I already had most of the materials that I used to build it, which kept my total cost to only about \$100. Comparable commercial models sell for \$2,000 or more. All I bought were the caster wheels, one of the V-belt pulleys, and a stub shaft that fits onto the tractor's pto. The blade is off an old Case riding mower.

"One feature that I really like is that I can easily switch the mower from one side of the tractor to the other. It lets me go down one side of the fence and then come back to cut any grass that was missed the first time as the mower deck swings in and out of the posts. To move the mower over I just unhook the springs and swing the deck over to the other side, then hook the springs back up.

"To remove the mower I just pull three pins and lift the mounting frame off the 3-pt. hitch."

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Home-built, 3-pt. mounted mower reaches under low lying fence lines, automatically gliding around posts. A right angle gearbox belt-drives a pulley mounted on top of deck.

Restored 1949 Rock Crusher Put Back To Work

Canadian beef rancher Wayne Hagen found a way to diversify his operation by selling gravel processed by a restored 1949 rock crusher.

After he and a cousin purchased two quarters of land with gravel deposits, they sold tens of thousands of yards of gravel to a couple local governments, which had to run it through a rock crusher. Hagen realized he could make more profit by crushing the rock himself. He found a reasonably priced Cedar Rapids rock crusher in Forks, Wash., and bought it sight unseen for \$60,000 including transportation to his Lake Alma, Sask., farm.

Hagen spent another \$2,000 and many hours rebuilding plates and building a tandem axle with a hitch on the front to pull the 60,000-lb. machine with a payloader or tractor.

"I run a welding shop and have been around machinery all my life," Hagen says. "Basically it's like a combine except a lot heavier. It's fairly basic with everything tied together in one unit, run by one diesel motor and belt driven."

Hagen went through the machine one section at a time, to check bearings, conveyors and screens and change oil and grease zerker fittings.

"I'm just doing road gravel (1-in. or less)," Hagen says. "I started out with a slow feed to make sure everything was working properly. Then I sped up the feed rate as I felt more comfortable with the machine. One of the gravel pits has nice coarse gravel, not a lot of big rock, so everything is going through the crusher. I can speed it up a bit." The hopper takes up to a 10-in. diameter rock.

When he had some problems with rocks getting under a belt, Hagen decided to make modifications. This winter he built a shaft monitor system with a siren and strobe lights that shuts off the feed hopper if a belt stops turning. He's also working on setting up a diesel generator in an old school bus so he can attach the crusher's 80-ft. radial stacker, which allows 10,000 yards of gravel to be crushed in one space without moving the rock crusher. He can also use the generator as an emergency power source for his home



After purchasing this 1949 rock crusher, Wayne Hagen added a tandem axle and hitch on front so he can pull the 60,000-lb. machine with a tractor.

during electric outages.

"I hope to get a stockpile of about 10,000 yards through the summer and go from there," Hagen says, adding that he enjoyed the challenge of fixing and setting up the rock crusher.

Besides selling the gravel for roadwork,

Hagen believes there is a market at nearby oil fields.

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