



Martens' skid steer loader uses parts from a pair of old swathers and has a 6-ft. wide custom-made bucket mounted on tractor loader arms. It also has a rollover cage.

**IT COST ONLY \$3,100**

## He Built His Own Skid Steer Loader

"I built my own skid steer loader for \$3,100, saving thousands of dollars on the cost of a comparable new one," says Rob Martens, Steinbach, Manitoba, who used parts from a pair of self-propelled swathers.

"It's so comfortable to operate that I can hardly wait to find jobs to use it for. When my wife hears me start it up, she wonders if I'm really working or just playing around," says Martens, who raises hogs.

He bought an International swather for

\$100 and stripped off everything except the hydraulic components, gas tank, seat, and 15-in. wheels. He used 4-in. sq., 1/4-in. thick steel tubing to make a frame and welded on two steel posts that attach to the loader arms off a Deere tractor. He used 1 1/4-in. steel rod to make axles and welded steel plates onto each end, drilling holes in the plates that match up with the bolt holes on the swather wheels.

The skid steer is powered by a Wisconsin 4-cyl. air-cooled gas engine (rated at 37 hp) and transmission salvaged from a junked Co-Op self-propelled swather. Originally, Martens used the swather transmission and clutches to chain-drive the wheels, but the clutches needed constant adjustment and wore out quickly so he replaced them with orbit motors powered by a 28 gpm hydraulic pump that's belt-driven off the engine. The orbit motors chain-drive the rear wheels which in turn chain-drive the front wheels. Each orbit motor is controlled by a Gresen 400 single spool valve. A splitter valve runs off the hydraulic pump to divide the flow equally to each of the valves.

Martens used 1 1/2-in. sq., 1/4-in. thick steel tubing to build a rollover cage. The 6-ft. wide bucket was custom made. A separate 12 gpm hydraulic pump operates a pair of hydraulic cylinders that raise or lower the arms. Two more cylinders are used to tilt the bucket.

"It has a lot of pushing power. With a 12-tooth sprocket on the orbital motor and a 72-tooth sprocket on the drive wheel, I get about 5,500 lbs. of torque on each side," says Martens. "By pushing one lever forward and the other back, I can turn the machine around on a dime.

"I built it because I needed a tractor with a bucket but couldn't justify the cost of a new tractor. The least expensive tractor that I could find to do what I wanted would have cost about \$10,000. It took about a year to collect the parts and another two winters to build. I got the loader arms from a neighbor who had used it on a tractor that was too big, causing the loader to break. My custom-made, 6-ft. bucket is stronger than anything on the market. It's made from 3/8-in. steel and has extra wear plates on the bottom. I'm only 27 but it'll probably last as long as I farm.



Giant articulated forage harvester has four sets of hydraulic-driven rubber tracks.

**DESIGNED FOR DIFFICULT CONDITIONS, IT'LL CARRY A 20-TON LOAD OF SILAGE**

## Giant Tracked Forage Harvester Works In Mud

"We're specialists in severe silage harvesting conditions," says Sam Morgan, of Morgan Forage Harvesting, Menlo, Kan., which takes crews all over the country doing custom forage harvesting with one-of-a-kind harvesting equipment.

Morgan, his brother Bob and father Willard are the inventors and builders of the "never stop" forage harvester (featured in FARM SHOW's Vol. 18, No. 6) that has a built-in hopper on back like a combine so an operator can unload on-the-go into a truck or wagon driven alongside. The concept has been so successful for the Morgans that they're now making machines for sale, based on Deere 5000 Series self-propelled harvesters.

This past year the Morgans designed and built another innovative machine - a giant rubber-tracked, articulated forage harvester that carries a 20-ton load of silage yet works right through muddy ground. The tracks exert less than 10.5 psi ground pressure even when fully loaded.

"There's nothing else like it. We put more than 500 hrs. on this machine in tough conditions in Florida last season and it performed even better than we had hoped," says Morgan. "It gives us tremendous harvest capacity no matter what the conditions."

The machine works on the same prin-

ciple as any self-propelled forage harvester except that you can keep harvesting without a truck or wagon alongside by blowing silage into the rear hopper. There are four sets of hydrostatically-driven tracks on the machine. The front tracks are 30 in. wide and the rear are 36 in. wide. The chassis was built completely from scratch with an articulated steering joint at center. The engine, cutterhead, knife and feed rollers came off an existing machine.

"It's very maneuverable, considering how big it is, and will haul a full load through mud with little damage to the field," notes Morgan.

When a truck is not available or can't be used because of muddy conditions, chopped forage is blown back into the high-sided hopper on back. To unload, material is conveyed back up to the front where it's blown out through the blower into a truck or wagon driven alongside. It will keep cutting as it unloads on-the-go.

Morgan Harvesting is considering building the new machine for sale and is also currently lining up custom work for the coming year.

For more information, contact: FARM SHOW Followup, Morgan Forage Harvesting, Rt. 1, Box 39, Menlo, Kan. 67746 (ph 913 855-2283; fax 913 675-3084).



Morgan used components off an existing Deere self-propelled forage harvester, building the chassis from scratch with an articulated steering joint at center.

"The gas tank mounts under the seat and the hydraulic reservoir behind the operator's shoulders. I kept the swather gauges so I can monitor everything from electrical voltage to hydraulic oil temperature."

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