Burk's loader tractor is equipped in this photo with its 4-ft. wide bucket. Arms raise and lower with a pair of 6-ton hydraulic cylinders. A 12-in. by 6-in. cylinder tilts bucket.

Articulated 4-WD Loader Tractor Powered By Volkswagen Engine

"It works great for moving snow or digging holes and is light enough to go across wet lawns without even leaving a mark," says Bob Burk, Hutchinson, Kan., about the small articulated 4-WD tractor he built.

The tractor is totally hydraulic-powered and can be equipped with either a 4-ft. wide bucket or a posthole auger. It's powered by a 40 hp Volkswagen air-cooled engine and rides on a pair of rear axles taken from two Chevy cars. Burk cut the axles down to 3 ft. wide and positioned them so that they face each other, then bolted a hydraulic motor to the input shafts on each one. The engine direct-drives a hydraulic pump that operates the motors. The articulation joint was formed by using a pair of front spindles off a Chevy car. Each spindle is welded to a steel plate, with one spindle horizontal and the other vertical. One spindle is bolted to each half of the tractor. The spindles are connected to each other by a pair of steel pins. "It works similar to the articulation joint on a Versatile tractor," notes Burk. The rig rides on 15 in. car wheels.

Post hole digger quickly reverses which is handy when it gets stopped by roots.

He used an old truck frame and scrap iron to build a frame that supports the loader arms, which are made from 2 by 3-in. steel tubing. A pair of 6-ton hydraulic cylinders raise or lower the arms and a 12-in. long, 6-in. wide cylinder tilts the bucket. The bucket pins to the loader arms while the auger attaches to a separate framework and is operated by its own hydraulic motor. Power steering is provided by the steering gear, hoses, and fittings off a Chevrolet car.

"My wife calls it my salvage yard special. A lot of people look at it and try to figure out what it is," says Burk. "It operates much like a big articulated 4-WD tractor. It works good in deep snow because all four wheels pull and because it articulates. I can turn the wheels up to 90 degrees so that all four wheels take a different track, allowing me to drive out. If I do get stuck I can drop the bucket to the ground and use it as leverage while backing up. I can raise the bucket 10 ft. in the air.

"My son gave me the steering wheel which was designed for hot rod cars and is only 12 in. in diamteter. With power steering I don't need a big steering wheel. I move a lever left to go forward and right to go backward. The rig starts and stops so smooth I can block all four wheels with 2 by 4's and drive up on them and stop.

"The post hole auger can be reversed which is handy when it gets stopped by roots or other obstacles. I use a two-way valve to control the auger motor, which telescopes within itself and can go as deep as 8 ft. It's not heavy enough to dig into hard ground.

"The 6-ton cylinders that operate the loader arms are longer than necessary, but I was able to buy them cheap. The cylinder that controls the bucket was was off a dump truck. My biggest expense was $175 for the forward-reverse valve. The pump that I used is dual hydraulic, cast aluminum. It's really two pumps in one. I use the 8 gpm pump to drive the motors on the axles and the 12 gpm pump to operate the auger."

Contact: FARM SHOW Followup, Bob Burk, 106 N. Mayfield Road, Hutchinson, Kan. 67501 (ph 316 663-1845).

He Built His Own "Bobcat" Skid Steer Loader

When David Madar decided he needed a skid steer loader for his operation, he first went looking for a used machine. After checking out the price tags on several units, he decided he couldn't justify the expense. Instead, he set out to build his own unit.

He patterned his home-built rig after a Melroe Bobcat. It took him about 6 months working in his spare time in his garage. At the time Madar was supplementing his income by hauling scrap steel so whenever he spotted a piece that might work on the loader, he'd hang on to it. He built the entire machine from scrap.

"I started with two Chevy 3/4-ton axles. I used 3 by 10-in. channel iron to build the bottom frame and the uprights that the loader arms mount on.

"Power is supplied by a GM 4-cyl. gas engine out of a junked Chevette. It's bolted to a large hydraulic pump off a Hyster forklift truck. A hydraulic valve body out of a backhoe - which had five operations - mounts under the seat. I rigged up two foot pedals to operate the loader and forks and two levers - one on each side of the seat - to operate the drives.

"A hydraulic gear mounted on each side drives a large gear on the inside, which is driving a 1-in. shaft to the outside of the machine. I took two large chains off a cement mixer to drive the wheels on each side.

Madar's "Bobcat" is powered by a 4-cyl. Chevette engine. Two large chains off a cement mixer drive the wheels.

The outside sprockets are four single dually rims with lugs welded on the rims for the outside drive chain. The ROPS cage is made of 2-in. mesh from a gravel pit. A friend gave me his take-offs from his Bobcat for tires. A pair of 4-ft. hydraulic cylinders were cut down to 3 ft. to fit my needs.

"Anyone with good fabricating skills could build one this way. I could make up plans for sale if anyone's interested."

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Skid Steer Loader Built From Pair Of SP Swathers, Loader Tractor Arms

After reading in FARM SHOW about a skidsteer loader built using parts from two self-propelled swathers (Vol. 20, No. 1), Ray Skoglund, Murdock, Minn., decided to build his own skidsteer using parts from a pair of Versatile 103 swathers and the loader arms off a small Kubota tractor.

He bought the swathers for a total of $250 and used one of the engines as well as chains, sprockets, foot pedals, and four 15-in. wheels and hubs. He used 10 by 4-in. steel tubing to make a frame and 1 1/2 by 3-in. rectangular tubing to make the cab. The cab windows were salvaged from a Hiniker cab mounted on an old Deere tractor. His friend Chris Yost used cold-rolled steel to make the axles and installed eight 4-bolt flange bearings in the wheel hubs.

The skid steer is powered by a Wisconsin 4-cyl. air-cooled gas engine rated at 37 hp. The engine direct-drives a 16 gpm hydraulic pump that operates a pair of orbit motors, with each motor chain-driving the wheels on one side of the machine. A splitter valve controls flow of fluid to each of the motors via two levers that are used for steering. The pump also operates hydraulic cylinders that raise or lower the loader arms and tilt the bucket.

"It does everything I expected it to do," says Skoglund. "I mounted different size sprockets on the front and rear wheels to provide a 4 to 1 reduction so it has plenty of power. It can go up to 5 mph. By pushing one lever forward and the other backward I can turn the machine around on a dime. I started working on it in March 1996 and was operating it by the following July. I spent 400 to 500 hours working on it. I built it because I couldn't justify buying a skidsteer loader. My total cost was only about $2,200. Also, I know how it's built and how to fix it.

Skoglund's loader can use both a 60-in. snow bucket and 54-in. dirt bucket.

"I can raise the loader about 7 1/2 ft. high and can use two buckets with it, a 60-in. snow bucket and a 54-in. dirt bucket. I plan to make a hydraulic-driven post hole auger and mount it on the loader."

Skoglund used the swather frames to build a trailer that he uses for hauling the skidsteer loader on the highway.

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