

# Garden Tractor Guru Repowers With Engines Of Every Kind

By Jim Ruen, Contributing Editor

Bill Schwab has repowered Deere garden tractors with engines from cars, boats, snowmobiles, ATV's, generators, golf carts and Jet-Ski's. He has garden tractors that can wheelie for 100 ft. or more and do 50 mph or better. He has chopped, lengthened and widened frames and fabricated different hoods and cooling systems as needed.

"I use junked tractors I find in the weeds, with motors that are shot or past the point of fixing. My Deere dealer says I'm his best parts customer," says Schwab.

He prefers to work with hydrostatic drive tractors because it simplifies hooking up the engine to the drive. The one thing he doesn't do is repaint the garden tractors. He has a couple of vocational ed instructors who help with that.

Contact: FARM SHOW Followup, Bill Schwab, 7046 Harrison Ave., Cincinnati, Ohio 45247 (ph 513 353-4262; wilburs@cinci.rr.com).

Here are some of Schwab's garden tractor hot rods:

## Yanmar Patio Diesel

"I used a water-cooled, Yanmar 3-cylinder diesel for this one," says Schwab. "I bought the engine on the internet. It had only about 700 hrs. on it."

The Yanmar was one of his easiest repowers. He ran the transmission off the front of the motor like on newer Deeres, running the driveshaft back to the transmission.

"There weren't even any bugs to work out," he says. "With the rubber motor mounts, it runs really smooth."



## Iron Duke 400

Schwab had to stretch the hood and frame 10 in. on a Deere 400 to make room for a Pontiac 4-cyl., 151-cu. in. Iron Duke. The Iron Duke had been bored out to 160 cu. in., producing 90 hp.

"I added the radiator and an electric fan out ahead of the frame," he said. "The headers were straight open with two cylinders coming out each side. It really sounds loud and hot."

Schwab added a tach to the steering wheel. He fabricated extra large side covers using two panels from another tractor for one side and fabricating the other completely by hand.

"I hooked wheelie bars to the tractor's



hydraulic lift so I can raise them to drive on my trailer and lower them to use," recalls Schwab.

## Ski-Deere

Schwab's Ski-Deere has a 650cc Kawasaki Jet-Ski motor. He says the biggest challenge was reversing the drive direction to match the hydrostatic drive unit.

"I made a gearbox and two gears to reverse direction," recalls Schwab. "I also adapted an electric bilge pump for a water pump. I had a stainless steel exhaust pipe from a Ski-Doo snowmobile, so I used it with a section of a Smitty glass pack muffler to quiet it down."



## Electric 212

Schwab used a 36-volt electric motor and rear end from a golf cart to convert a Deere 212 to electric power. He powers it with two 12-volt, deep cycle batteries.

"Since the motor hooks right on the rear end, I had room for the batteries under the hood," says Schwab. "I could have put in three with one underneath, but the two work fine."

Most of the controls from the golf cart installed easily on the 212. Schwab says the tractor looks so much like a standard 212 that



he painted the word electric on it so people would realize it was different.

## SnowDeere

Schwab started with a 65 round fender garden tractor and repowered it with an air-cooled Rotax with variable clutch drive from a 1972 Ski-Doo snowmobile. To make the variable pulley fit, he had to split the 65 and spread the frame by about 3 in. He also installed a 3/8-in. steel rod gas pedal with variable speed control lever on the right side of the tractor, with a flywheel brake for shifting from high gear to reverse.

"I built it about 3 years ago and am still working on getting the motor to rev right," says Schwab. "With the variable speed, you have to rev it up so one pulley gets smaller



and the other larger, causing you to take off slowly."



Schwab replaced the 11 hp engine on a Deere 111 with a 20 hp V-twin Briggs & Stratton, adding wheelie bars on back.

## Briggs & Stratton 111

"I replaced the 11 hp engine in the tractor with a 20 hp V-twin Briggs and reversed the pulleys on it for even more power," says Schwab. "I didn't change the clutch or brake pedal, but I had to add a gas pedal. With this much power, you can't use a hand throttle."

Schwab put 1 1/2-in. straight pipes on the Briggs. With the 1-in. exhaust pipes coming off the engine, he gets a "Harley Davidson" sound.

"The toughest part was getting the drive belt length right," says Schwab. "I put an

adjustable pulley on it that I could screw in or out, but realized later I could have just used an idler pulley."

Schwab mounted wheelie bars on the back end. He says that with the stick shift belt drive, his son can do wheelies for 100 ft. at speeds of up to 50 mph.

"You better be on a straight and level road, as a crown on the road will pull you to the side," says Schwab. "You have to get the belts and the clutch just right to work in the vertical position."

## Geo Deere

Schwab dropped a 52 hp, 32-cu. in., air-cooled, Geo Metro 3-cyl. into an older garden tractor.

"I didn't want to turn the engine around because then the distributor, which stuck out 6 in., would have hit the radiator," says Schwab, who again reversed direction to match the drive. "I found out I also needed to reverse the charge pump on the hydrostatic and switch the ring gear/differential gear carrier."

He had to trim the frame a bit and make motor mounts. He also painted the repowered tractor Caterpillar yellow at the suggestion of a friend who operated heavy construction equipment. Aside from that, the only real exception to the stock look is a set of modified straight pipes out one side and the distributor out the other. The pipes have lawn mower



mufflers ahead of them.

"I flared out the pipes a little, heating them and using a steel ball to flare them a bit," says Schwab. "That let the mufflers fit them. With the 360 rpm engine, straight pipes alone hurt the ears."

His biggest challenge was installing a 40 hp Johnson outboard motor in this Deere 350.



## AquaDeere

Schwab says the toughest repower yet was installing a 40 hp Johnson outboard motor in a 350 Deere. He started out with two Johnsons, one that worked and one that didn't.

"I cut apart the one that didn't so I could see what I needed to do with the one that did work," he notes.

On an outboard, the exhaust comes out under the water and sucks water back up through the motor. Schwab had to figure out how to circulate water by adding new outlets and hose. He also added a radiator, electric

fan, water pump and temperature gauge and made adapters and sending units.

"There were lots of little things no one would think of," he says.

The next challenge was to hook the drive shaft to the hydrostatic. Not only was the shaft vertical, but also forward and reverse were at the bottom of the shaft at the propeller.

"I shortened the shaft, cutting it and welding it back together and used a right angle unit that directed power to the propeller shaft and then back to the hydrostatic in the tractor," says Schwab.