Money-Saving Repairs & Maintenance Shortcuts

"Reefer" Engines Make Low-Cost Gensets

Joas Bontrager pairs low hour Kubota engines repurposed from reefer trailers with new generators to make low cost gensets. Gensets are also available with new motors

'We offer dependable, Kubota, dieselpowered generators from 9 to 68 kW in size," says Bontrager. "We also have natural gas-powered gensets up to 150 kW in size."

In the case of the used engines, Bontrager strips them down and replaces component parts such as wiring, air filters, oil filters, etc. Engines are equipped with auto-start systems or can be started manually. They can also be run on vegetable oil when temperatures are above 50 degrees

"These are solid, compact units rebuilt from the ground up," says Bontrager. "A common size is the 25 kW model, which is priced at \$5,450. With a new engine, it would sell for about \$9,000.

The engines are also available by themselves. Bontrager says they are used to repower cars, trucks and tractors. They also can be mounted on a skid to power beltdriven equipment.

"A 4-cylinder 40 to 48-hp engine runs about \$1,800," says Bontrager. "We ship by truck freight."

He points out that if using vegetable oil for fuel, it does require a catalyst/additive. He is a dealer for a catalyst that he has found works

"The catalyst will work with vegetable oil in any diesel engine, not just the ones I sell," says Bontrager. "Just call for pricing of the quantity you need.

Contact: FARM SHOW Followup, Joas Bontrager, 11630 West 450 North, Middlebury, Ind. 46540 (ph 574 642-1256).



"Reefer" engines can be used to make lowcost gensets, savs Joas Bontrager, who pairs low hour Kubota engines with new generators.

360-Degree Welding Table Makes Big Jobs A Snap

When John Martens was building large liquid fertilizer caddies, he needed a way to handle the big frames. His 360-degree table and hoist made it easy.

"I manufactured 135 carts over an 8-year period and the table was a big help," says Martens. "I can clamp frames in place, weld them up, and attach wheels. Using the overhead hoist, I can then pick the caddy off the table, set it down on the floor, and roll it out the door.'

The welding table is made from 4 by 6-in. steel tubing. At one end, the table is attached by a pipe-in-pipe bearing to an irrigation wheel gearbox with forward and reverse drives. It's powered by a 3/4 hp electric motor. A large pulley from an Oliver model 40 combine on the gearbox drive, slows motor speed.

The other end of the table also is attached to a pipe-in-pipe bearing. Both ends are supported by 3 by 3-in., 1/4-in. angle iron

"I put adjustable screws made from threaded rod between the legs and the floor," says Martens. "The rods have steel pads that rest on the floor. The rods turn through 2 nuts welded together at the base of each leg. They make it easy to adjust the height or level the welding table ends."

Martens put a goose leg in the table to accommodate the design of the fertilizer caddies. He points out that it could be any design; however, it continues to work with other projects as well.

"This past winter I used it to weld a frame for a neighbor's picnic table," says Martens. "I just made the clamps I needed to hold the



John Martens made this 360-degree welding table and hoist, which he uses to handle the frames on large liquid fertilizer caddies that he builds.

piece in place."

Contact: FARM SHOW Followup, John Martens, 45156 Road 3 W, Sanford, Manitoba Canada ROG 2J0 (ph 204 736-2723).

Deere Lawn Tractor Parts

"My son started collecting lawn tractors and the hobby pretty much got out of control," says Dave Kendrick of J & D Lawn Tractor. "The next thing he knew he had enough equipment to open a parts business, and here we are 10 years later, still going strong."

Anyone needing new or used parts for Deere lawn tractors from the early 1960's to the current models would do well to call Dave or his son, Jon. "We've parted out about 200 tractors, and we've got parts inventories for another 50 to 60 tractors from dealerships that have gone out of business," Kendrick says.

All of J & D's parts are inspected, tested and carefully packed for shipment to customers. Their inventory has a wide range of transaxles and parts for 110, 112, 200, 300 and 400 series Deere garden tractors. Parts for Kohler engines from 8 to 16 hp are one of their specialties, including cylinder heads, bearing plates, flywheels, starters, carburetors and complete engine blocks. They carry engine rebuild kits, new replacement starters, valve guides, gasket and seal sets, pistons, rings and connecting rods. Hoods, air cleaners, fender pans, grills, headlights and tail lights are also available, as well as hundreds of manuals for older model Deere tractors and Deere attachments. Kendrick says there always seems to be a call for manuals because most used tractors aren't sold with a manual.

J & D locates old machines and parts inventory from a variety of sources. Kendrick says "I'm always going to auctions, estate sales and checking out dealers to see what's available. We also buy parts inventories of dealers who've gone out of business and we stock new OEM parts as needed. If someone doesn't want to pay the high price for a new replacement part, chances are good we've got a used part at a lower price that will fit their needs.

J & D also has an inventory of 30 to 40 refurbished and rebuilt lawn tractors for sale. Most are used Deere models from the 1960's that have been mechanically checked and are in good working condition. They carry a large stock of attachments including lawn mowers, snow blades, snowblowers, wheel weights and garden equipment. Kendrick says tractors and attachments are priced separately so buyers can choose the model they need, add an attachment or set of weights if they want, or buy any item individually.

Although J & D started as a business serving customers in their immediate area, their service area has grown dramatically. 'We've got a website that gives a general listing of what we have for sale, and we get calls and e-mails from people all over who are repairing or rebuilding machines," Kendrick says. "In the past few years we've shipped parts all over the U.S. and to many countries

Quick Fix For Ford Hydraulic Clutch

Lauris Bailey fixed the hydraulic clutch in He bought a new reservoir and tube and his 1987 Ford F350 when the local dealer couldn't. Bad hydraulic clutches in that vintage Ford are so common that Ford puts out a repair kit. However, once repaired, it can't be repaired again.

"The problem is Ford started building the firewall too thin, and over time it flexes when you push in the clutch," explains Bailey. "The hydraulic reservoir on the other side of the firewall malfunctions. The repair kit is a flat plate that is installed between the reservoir and the firewall.'

The mechanic at the dealership saw that the plate was already in place. Over time the firewall had started to flex again.

"I could push the clutch most of the way down, but I couldn't change gears," says Bailey. "The tube from the reservoir was not delivering enough fluid to the slave cylinder. It didn't have enough throw to release the clutch plate. Sometimes I could shift for awhile, and other times I would have to fool

Bailey figured that if the problem was firewall flex, he would give it some backbone.

measured from the firewall to the engine side of the radiator support bracket. It was just 3

To stiffen the firewall, he went to a salvage yard and bought a 3-ft. long, 3/4-in. rod and screwed 2 nuts on either end. He then installed the rod between the firewall next to the reservoir and the radiator support.

"I screwed the nuts on either end out half a turn at a time until the rod was secure and then locked them in place by screwing out the second set of nuts," says Bailey. "Over time, the firewall flexed again, and I screwed the nuts out a little more.

Bailey says the first fix lasted for months, and the second allowed him to cut and haul firewood with the truck throughout the

"Hydraulic clutches were the worst idea Ford ever had, and I've driven them all my life," says Bailey. "This was just the best way to deal with a poor idea of a clutch."

Contact: FARM SHOW Followup, Lauris Bailey, 173 Bailey Hill Rd., New Sharon, Maine 04955 (ph 207-778-4005).

Contact: FARM SHOW Followup, J &D Lawn Tractor, 1254 N. 2150th Ave.,

Mendon, Ill. 62351 (ph 217 440-8365; www. indlawntractor.com).

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