

## Easy-To-Repair Diesel Engines Ideal For Stationary Use

Want a dependable, long running, fuel-efficient and easy-to-repair diesel engine? How about if, as a bonus, the water-cooled engine can run on 100 percent vegetable oil or biodiesel?

Lister-type engines (called Listeroids if made in India) have all the attributes listed above and more.

"These diesels run at 1,000 rpm's or less and run forever at a low noise level," says George Breckenridge, owner of [www.utterpower.com](http://www.utterpower.com). He imports and sells Lister and Listeroid engines and also acts as an information clearinghouse. "The cast iron pistons last a lifetime, and the rest of the engine can be rebuilt for as little as \$125."

Breckenridge says that anyone with the skill to tear down a lawn mower engine can easily rebuild a Lister engine. He notes that the heavy (600 lbs. or more) engines were first built in England in 1929 to power generators and water pumps. Because of their simple design, heavy flywheels and low rpms, they far outlast newer, high-rpm engines.

Breckenridge has been running one Lister engine out in the open for four years. "It always starts on the first or second compression stroke. It runs a deep well pump and uses about three gallons of fuel per 24 hours."

Breckenridge stocks and sells parts. His website remains an excellent source of information, articles, and links to more information. He was shut down for a while when the EPA restricted importation because the engines didn't meet new Tier III emission standards on straight diesel. However, the EPA backed off recently, in part because the engines burn very clean on vegetable oil fuels.

Importing from India was tricky since quality control at many Indian plants is nonexistent. He often received engines that had been tested with casting sand still in the engine, flywheels mismatched or reversed, and other problems. Luckily, the engines are so simple that most problems could be fixed.

"There is a lot of trash out there, but two



**With a simple design, heavy flywheel and low rpm's, the Lister engine will far outlast newer, high rpm engines, says George Breckenridge, who sells Lister engines.**

companies that provided the best product were Loveson and Jkson," says Breckenridge.

Lister engines run well on vegetable oil and have been particular favorites of people who press their own oil seeds.

"I know a number of farmers who have run these engines on vegetable oil for thousands of hours," he says.

Private sales between individuals are another way to get your hands on a Lister engine, since they've been around for a long time.

Breckenridge encourages Canadian readers to contact John Ferguson, Bourget, Ontario and visit his website. Ferguson sells Listeroids and uses them himself for his off-grid operation.

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## "Bubble-Up" Auger Fills Combine Bin Extension

"My neighbor, Jamie Payton, had a Case-IH 1660 combine equipped with a flare-top extension," says Glen Woodside, Thorndale, Ontario. "In wet corn, it was very hard to fill the top part of the bin."

To remedy the problem, Woodside made a "bubble up" auger by removing the original cross fill auger and replacing it with an auger that just goes to the center of the bin, where it fastens to a right angle gearbox which then drives another auger that goes straight up.

Once the bin fills half full, the vertical auger grabs the corn and carries it up to fill the top portion of the bin.

"We didn't have to modify the combine hardly at all when we put it on."

They made the auger with a gearbox and scrap iron on hand. They spent less than \$500 on the project.

Contact: FARM SHOW Followup, Glen Woodside, R.R. #3, Thorndale, Ontario, Canada N0M 2P0 (ph 519 284-3509).



**"Bubble up" auger was made by replacing the original cross fill auger with an auger that just goes to the center of bin. There, it fastens to a right angle gearbox which then drives another auger that goes straight up.**



**New-style air filter doesn't interfere with hard hats or hearing protection gear.**

## Snorkel-Type Air Filter

Jim Duxbury is a scuba diver who also does woodworking as a hobby. He never liked conventional dust masks that cover the entire head and one day he started wondering if he couldn't somehow bring his underwater breathing apparatus into his shop.

The result is a totally new style of respirator that's a lot less bulky than helmet-style masks and costs a lot less.

"There are no batteries to charge or replace and no annoying fans that buzz or need maintenance. It can be worn with safety goggles, ear protection, most welding helmets, and big beards. Maybe best of all, it doesn't restrict your visibility at all and it filters out 99.97 percent of nuisance dust," says Duxbury, who founded a company to manufacture and market the "Resp-O-Rator".

It consists of a snorkel-type mouthpiece on a plastic tube that draws air from behind the user's head. Fresh air is pulled in through two large disc-shaped filters with active media inside and out. Air is exhaled downward so it won't fog up glasses or a face shield.

When you're away from the dust, you just drop the respirator out of your mouth and it balances on your shoulder. It comes with a nose clip on a string tether.



**Full-size Resp-O-Rator has two disc-type filters. A "junior" model is available, below, for less dusty conditions.**



Sells for \$49.95 plus S&H. A Resp-O-Rator junior model, which consists of a single disc worn in the mouth, sells for \$8.

Contact: FARM SHOW Followup, Jim Duxbury, Duxterity LLC, 3141 Shelly Graham Dr., Graham, N.C. 27253 (ph 336 227-7168; [www.duxterity.com](http://www.duxterity.com)).



**Holst's 55-gal. composter rides on the running gear from an old cattle loading chute. An old silo distributor turns both the shaft and drum for mixing.**

## Homemade Portable Composter

"My wife wanted a composter for years but I didn't want to spend \$200 to \$300 on one so I decided to use items on the farm to make one instead," says Kevin Holst, Eldridge, Iowa. "It hardly cost me anything except too much time."

The 55-gal. composter rides on the running gear from an old cattle loading chute. Using a jig saw, he cut a 12-in. wide door into the side of the drum.

An old silo distributor turns both the 1-in. shaft and drum for mixing. "It goes really slow at one revolution every 15 seconds," he says.

"I mounted the drum off to the side so I could add a second drum adjacent to the first one if I wanted to double my production," Holst says. "I already have a sprocket mounted on the existing shaft ready to drive



**Using a jig saw, he cut a 12-in. wide door into side of drum.**

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