

Washing Machine Sand Blasting Cabinet

After using commercial sand blasting cabinets for years, Bruce Graham knew their shortcomings — dust that causes poor visibility, poor lighting, difficult-to-maintain filters, and expensive and difficult-to-change media. He avoided most of those problems when he built his own sand blaster out of a top-loading washing machine.

Graham made an angle iron framework and set the stripped-down washing machine case in it on its side at a 35 degree angle. He used galvanized sheet metal to close off the top and bottom of the washing machine (which are now the sides). On one side he left a large removable half section on to serve as an access door. Two large windows were cut out of the top and front-facing sides and 1/4-in. thick glass panes inserted in them. A clamp-style floodlight mounts directly against one window.

He cut a pair of 7-in. dia. holes, spaced 16 in. apart, in the front of the cabinet and attached industrial quality rubber gloves inside them. He cut a 2-in. wide opening in the bottom of the cabinet along its entire length, allowing heavy particles to fall through a galvanized steel funnel and into a hopper. A large kitchen strainer mounted across the top of the hopper traps any debris or parts that might fall through the edges of the grating.

Inside the cabinet is an expanded steel grating laid across four 1-in. angle iron supports. A piece of 1/4-in. sq. hardware cloth on top of the grating prevents small parts from falling through.

To suck dust out of the cabinet, he closed off both sides of an old furnace blower and mounted it on the shop wall about 2 ft. above the sand blaster. The blower is activated by flipping a switch on the cabinet. A 6-ft. length of 4-in. dia. flexible hose runs from the blower down to the sand blaster and sucks out light dust particles, blowing them outside the shop through an opening in the wall. A pair of automotive breather units keep the suction caused by the blower from breaking the glass windows.

"I've had very few problems with it," says Graham. "I spent about \$250. Commercial units of comparable size sell for about \$1,000.

"The blower does a great job of removing dust. It pulls enough air through the cabinet to keep the area around the cabinet relatively dust-free. At first I used a canister-type shop vacuum cleaner to suck out dust. However, it was noisy and dirty and tended to clog up. I use inexpensive playground sand to do the cleaning. I sift the sand through a standard window screen sieve as I fill the hopper and discard any larger pebbles that might plug up the unit.

"The blower is much quieter than most commercial vacuum units. These types of blowers are available from junk dealers for little or nothing. The blasting gun I use is an older Craftsman model that has a replaceable ceramic tip."

Graham used wooden frames to install the windows, mitering a groove in the wood that's the same thickness as the glass. "The grooves make it easy to replace the glass," notes Graham.

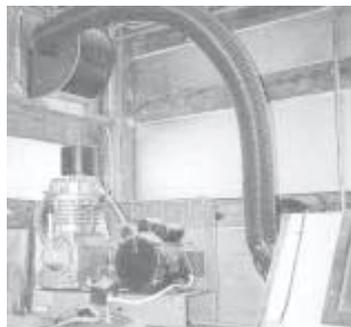
Contact: FARM SHOW Followup, Bruce Graham, 13801 Eastside Rd., Tyler, Texas 75707 (ph 903 566-1248; E-mail: mechtchtyler@yahoo.com).



Graham built his sand blasting cabinet out of a top-loading washing machine. Hand holes and a large window install on front side.



Stripped-down washing machine case was set on its side at a 35 degree angle. Graham used galvanized sheet metal to close off the top and bottom, leaving a large access door for easy maintenance.



To suck dust out of cabinet, he closed off both sides of an old furnace blower and mounted it on the shop wall above sand blaster.

"Oil Vac" Made From Milker Vacuum Pump

A used milker vacuum pump, belt-driven by an electric motor, makes a dandy "oil vacuum" for sucking oil out of engines, transmissions, and gearboxes, says John Rissler, New Enterprise, Pa.

"It was cheap to build and helps keep my shop neat and clean," says Rissler.

He bought the vacuum pump cheap from a local dairy farm and mounted it along with a new electric motor on a 10-gal. tank that oil drains into. The tank mounts on a steel frame outside Rissler's shop.

Rissler drilled a hole in one end of the tank, then welded a pipe fitting into it. A 1/2-in. dia. plastic hose attaches to the fitting and runs inside the shop through the shop wall. There's a 2-ft. length of 1/4-in. dia. copper tubing that serves as a suction wand. To suck out oil, Rissler inserts the wand directly into the engine dipstick tube.

The vacuum pump is also plumbed into the end of the tank to create suction. Once the tank is full, oil gravity-flows out a drain plug at one end of the tank and into a 55-gal. barrel for disposal.

Rissler farms and also operates a business selling and servicing small engines and lawn mowers. "I use it to change engine and transmission oil and to remove excess oil when too much was added to an engine. It also works great for repriming hydrostatic transmissions. I just stick the tube into the return line and work the valve until the oil comes through.

"I flip a switch inside the building to start the motor. It's a lot quicker than draining oil the conventional way and also much cleaner. I can make adjustments, sharpen blades, etc., while draining the oil without having to watch it all the time.

"I paid about \$100 for the motor and \$55 for the vacuum pump. My total cost was less than \$250. Commercial units on the market sell for \$1,000 or more.

"The small vacuum pump I used is no



Vacuum pump outside shop sucks oil from vehicles inside.



Suction hose from tank runs through hole in shop wall.

longer commonly used by dairies because most dairy operations now run more than three milkers. As a result you can buy them cheap."

Contact: FARM SHOW Followup, John Aaron Rissler, 3409 Brumbaugh Rd., New Enterprise, Pa. 16664 (ph 814 766-2117).

"Oil Caddy" Built Out Of Discarded Barbecue

Old propane barbecue grills can be used to make handy, inexpensive oil caddies, says Kevin Sproule of Taber, Alberta, who sent FARM SHOW photos of the portable oil caddy he made for use around his shop.

"It makes it easier to keep my shop neat and clean. I already had the grill so my total cost was less than \$10," says Sproule.

He disassembled the grill, throwing away the entire bottom part but keeping the lid, rack, and control panel. He turned the lid over and mounted it inside the grill frame at a slight angle. He tapped a 1/2-in. ball valve into the lower end and set the grill's two cooking racks inside the lid.

"It works great for draining the oil from our Steiger tractors," says Sproule. "The grill is only 3 1/2-ft. high so I can wheel it right under the tractor. I kept two 5-gal. pails on the base and a 2 1/2-gal. pail on the side. The lid holds about 3 1/2 gallons. When the lid is almost full I open the valve to let the oil drain into one of the pails. When I'm done I set the old filter on the racks to let it drain completely.

"I screwed a piece of plywood onto one side of the grill which I use to hold oil jugs. When I drain oil from my combine, I hang a 5-liter plastic jug from a hook that's attached



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to the plywood. The combine has a canister-style filter that has to be separated. The canister drips oil down into the jug.

"I removed the switches and ignitor from the control panel and screwed the panel to the top inside edge of the lid. I stick funnels through the holes in the panel."

For more information, contact: FARM SHOW Followup, Kevin Sproule, Box 4143, Taber, Alberta, Canada T1G 2C6 (pg 403 223-4052).