

High-Tech Filter Pre-Cleans Cab Air

“Construction, mining, farm equipment and other heavy machinery all operate in extremely dusty conditions that are tough on cab air filters, not to mention the operator,” says Jeff Moredock of Sy-Klone, International. “Our company designed a compact high-tech filtration device that pre-cleans air and pressurizes the cab.”

“Professional harvesters can’t believe the difference once they install this system on their cabs,” says Moredock. “They stay clean, cool and comfortable all day long. The system is better for the equipment, and definitely a healthier environment for the operator.”

Dirty air is drawn into the system, spun around the outer wall of the unit and the larger debris particles are ejected. The filter is located at the calm center of the vortex where the air is clean. The spinning process removes particulates larger than 5 microns before the air is pushed through a .5 micron filter. A 5-micron dust particle is too small to be seen by a human without a magnifying glass.

Moredock says the approach is simple. “It’s best not to put dirt on the filter in the first

place. It’s a simple principle that’s the secret to Sy-Klone’s unique patented technology.”

The unit also provides positive pressure within the cab, pushing clean air out instead of pulling dust into the cab through cracks and small openings that every cab has. The included real-time electronic pressure monitor alerts the operator to loss of cab pressure due to an open door, or leaky seal, and tells when to change the filter. Moredock says the filter should be changed every 1,000 hrs. of run time.

Sy-Klone tested the system on 6 machines in the extreme debris conditions of a landfill. After more than 4,500 hrs. of run time, three of the machines had exceeded 1,000 hrs. of use on the cab air filters, which was more than 30 times the normal life of a fresh air filter. The technology has been successfully used by many companies to achieve compliance with standards dealing with cab air quality and operator exposure limits. These standards are enforced by MSHA, OPA and the EPA, and in many cases the cost of installing the system is less than a single fine for non-compliance.

Moredock says, “The benefits extend to the most important aspects of the machine,



Sy-Klone’s high-tech filtering system provides ultra-clean air to machinery operators, in part by pressurizing the cab.

the operator’s health and the health of cab electronic systems and HVAC, which are most sensitive to dirt load.”

Pricing is determined at the dealer level. Check the website for the location of a dealer.

Contact: FARM SHOW Follow up, Jeff Moredock, Sy-Klone International, P.O. Box 550859, Jacksonville, Fla. 32255 (ph 904 448-6563; www.sy-klone.com).



Sheldon Sivak’s manifold-mounted lunch box produces a warm meal even when the weather is cold. Magnets on bottom of box hold it tightly against any hot metal surface.

Engine Heat Used, To Provide A Warm Lunch

Sheldon Sivak spent many years eating sandwiches and cold leftovers for lunch. “One day I noticed a dozer operator heating up his lunch in an aluminum funnel attached to the exhaust manifold on the engine,” Sivak says. “I figured there had to be a better way to do it.”

It dawned on Sivak that the exhaust manifold could be used to heat up his lunch every day at work if there was a special device to heat it in. During the next few weeks, Sivak designed a die cast aluminum box large enough to hold food containers or food wrapped in foil. Then he mounted magnets on the bottom of the box so it would magnetically attach to hot metal surfaces on an engine. After several months of testing the box on heavy equipment, he made it bigger.

“It’s just over 6 in. square, 4 in. deep and has a tight seal to keep the food clean. The magnets hold it tight against the manifold or turbo and I added a cable to secure the box to the engine for extra safety.”

It worked so well, Sivak’s wife Katrina and children Kobe, Alexis and Brady now help him build and market the heated lunchbox. “I took it to Kobe’s class at school for invention week and got a thumbs up,” Sivak says. “I’ve had a lot of farmers, coal miners, oilfield workers and people in the military interested in the product.”

Sivak says when the box is attached near the turbo or exhaust manifold, it will heat up



Die cast aluminum box is 6 in. sq. and 4 in. deep and has a tight seal to keep the food clean.

to 300 to 350 degrees in less than an hour. The food inside the box warms to about 160 degrees. “The box gets hot to the touch, just like a pan in the oven,” Sivak says, “so it’s important to use gloves or an oven mitt to remove it from the manifold.”

Sivak’s nephew Seth used one of the boxes in the fall of 2011 on the farm and says it worked great. Sivak recently delivered 18 lunch boxes to two oil companies in western North Dakota’s oil fields.

Sivak says, “this invention is just like a stove, but it’s more convenient because there is no electricity or power source needed.” Sells for \$98 plus S&H.

Contact: FARM SHOW Followup, Sheldon Sivak, 2500 Centennial Rd., Lot 308, Bismarck, N. Dak. 58503 (ph 701 527-0845; www.lunch-solutions.com).



Frank Orr built this low-cost portable generator using the 22 hp engine off a riding mower. Twin belt pulleys on both engine and alternator provide increased rpm’s.

Spare Engine Serves As Low-Cost Generator

Frank Orr wanted to be able to power his basement sump pump even if the power went out. So he put together a portable generator that produces 110 or 220-V power, doing a lot more than just keeping his basement dry.

“I’ve used it to power the whole house when the power goes out,” he says. “I’ve also put it on a trailer and taken it to the woods when I needed to do some welding or needed to run the air compressor.”

Orr used a spare engine from his lawn care business for the generator. Needing more power for side hill lawns, he had replaced a 22 hp engine on his Skag zero turn mower with a 27 hp engine.

Orr fabricated a frame out of 1 by 2-in. steel tubing and mounted it on lawn mower wheels. He bought a \$500, 10,000-watt alternator with voltage regulator and initially mounted it directly to the engine.

“I couldn’t get enough rpm’s to drive the alternator, so I tore it apart and put twin belt pulleys on both the engine and the alternator,”

says Orr. “The difference between the 6 1/2-in. drive pulley and the 5 1/2-in. pulley on the alternator gave me the increased rpm’s I needed.”

With the pulleys, he needed a way to adjust tension. Orr built a mount for the engine that rides on a twin track of 1 by 2-in. steel tubes on the cart frame. A long bolt runs through an end plate on the track and back to the engine mount.

“I put a socket on the bolt head to adjust belt tension,” says Orr. “It works slick.”

Orr hired an electrician to wire the house for the hook up in the garage. When the power goes out, he simply opens the garage door, pushes the engine to the opening and hits the switch.

“I just idle the engine down a bit,” says Orr. “You don’t want the alternator running too high, just high enough.”

Contact: FARM SHOW Followup, Frank Orr, 255 S. Mentzer Rd., Robins, Iowa 52328 (ph 319 378-0646).

Do Friends & Neighbors Borrow Your FARM SHOW?

You probably don’t mind sharing your copies of FARM SHOW with friends, neighbors, relatives or co-workers, but wouldn’t it be nice if they all had their own subscriptions? Now you can “gift” a year of FARM SHOW to anyone and renew your own subscription at a cut-rate price. See enclosed order form or go to www.farmshow.com to order.