

Patcher plugs potholes, permanently

WHEN FREEZING, thawing, and traffic pound pavements full of potholes, City of Beloit plugs them permanently. Operators Nolan Garcia and Eligha Boatner wave a wand over the damage and it's gone in seconds. It's not magic, just the business end of their Wildcat spraypatch road repair machine.



The system is faster, safer, and less dependent on the weather than cold patching with a truck and shovel. "You're not out there in the middle of traffic, carrying shovels full of material across intersections, then running them over with the truck," says Garcia.

With a hydraulically operated hose, large feed tube, and quieter more powerful engine, the 2-year old machine is ergonomically designed and safer for the operator to use.

Mounted on a trailer, the machine has a 90 gallon heated tank of emulsion, a hopper of clean chip stone, and a compressed air sprayer. The operator first clears the pothole with a blast of air, then jets it full of emulsion-coated rock at a speed of 50 mph. The patch is fully compacted and ready for traffic right away.

"With our streets getting older and money getting tighter, there's not enough money to overlay the streets. We keep the crew busy patching pretty much full time all year round," says Richard Kinzer, Beloit Streets Supervisor. In 2003 they repaired nearly 23,000 potholes, using up 8622 gallons of emulsion and about 240 tons of chip stone. They got their first patcher in 1997. The new one cost \$45,000 in 2002, equipped with lighted arrow board.

The most important feature, though, is the quality of the patch. "It's about as close to a permanent repair as you can find. Our patches are much better by far than a cold patch," says Garcia. "We have places that we patched six or seven years ago that are still in good shape."

They found the spray system can be used to overlay pavement sections with bad alligator cracking. "It lets you get a few more years out of a pavement," says Garcia. "Five years later when they go to tear out the old pavement the patch is still there." Also, they save money on repairing pavement around manholes and have even used it to fix broken curbs.

They still use some cold patch, however, when there is a pothole "epidemic," such as after the first spring thaw and rain. "We send three or four crews out, patching holes, to get a handle on them. Later we send the patchmobile out to those locations to seal them permanently," says Kinzer.

"The machine needs employees that take a serious interest in running the machine," he says. "They must be well trained and have good eye hand coordination so they can make patches with smooth transitions." Apparently Garcia and Boatner have the right stuff. In 2004 they were patching 19 holes an hour, on average, up from 17.3 in 2003.

For more information on Beloit's spray patcher, contact Richard Kinzer at: 608/364-2929.

Quick coupler release hazard

QUICK COUPLERS are handy devices that make it fast and easy to change the attachments on hydraulic excavators. Unfortunately, a worker died last year in Wisconsin, struck by a bucket that accidentally released from a quick coupler. A locking pin had not been manually installed to secure the connection.

An OSHA investigation revealed 14 other accidents in the last six years where excavator buckets unexpectedly released from quick couplers. There were eight fatalities. Manufacturers recognized the hazard and redesigned the couplers. They also have provided users with a retrofit locking pin.

Unintended releases continue, however, because some employers and contractors do not know about the hazard, some don't install the locking pins, and some users are not adequately trained

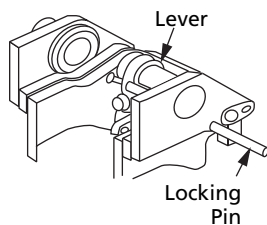
on installing and testing the couplers. An OSHA Safety and Health Information Bulletin describes the problem and recommends actions to prevent unintended releases.

- Check your quick couplers to see if they present a hazard.
- Get and install retrofits if needed and available, or replace with new, safer model.
- Maintain and inspect couplers to prevent malfunctions.
- Test connections every time an attachment is made. Follow manufacturer's instructions.
- Train employees to use properly, inspect, and test. Require them to use proper procedures.

Hazards of Unintended Release of Buckets from Quick Couplers on Hydraulic Excavators, OSHA bulletin SHIB 08-26-2004, is available in print from the TIC. On the Web at: www.osha.gov/dts/shib/shib082604.html



Quick couplers make it easy to switch attachments.



Locking pin or other safety device prevents unintended release.