

Ceramic Coating Handles Heat, Looks Great

Ceramic coating of high-heat parts keeps them looking good and working better, according to Kevin Feller. He and his wife Amy run K & A Coatings. While they do powder coatings too, it is the ceramic coatings that set their business apart. They work with motorcycles, cars and trucks, as well as tractors for restoration and for pulling. Dave Nelson, Agri-Crafts (Vol. 38, No. 4) relies on Feller for his tractor restorations.

"Ceramic coatings can handle high heat without discoloring," says Feller. "On internal parts, they can keep pistons cooler and keep heat in the combustion chamber. A coating put on piston skirts self lubricates for less wear and longer life. Ceramic-coated manifolds, heads and exhaust pipes look great and also resist heat."

Parts are first sandblasted to clean them down to bare metal before the liquid ceramic is applied. Feller says he coats the inside of parts as well as the outside.

"We sandblast the inside of the pipes and spray with the liquid coating as best we can, though some of the curves in elaborate pipes can be hard to reach," says Feller. "We swab them to try to cover everything."

Once the parts are well-coated, they're baked in a kiln and cured. In the case of the polished aluminum coating, they're also run through a tumbler with porcelain beads.

Feller offers multiple colors and types of coatings in addition to the polished aluminum. The common ones are a Deere-approved flat black, as well as a cast iron-like tungsten and a champagne-colored titanium. The black is especially heat resistant, tolerating temperatures as high as 2,000°F.

"We do pipes from all over the country," says Feller. "This spring we did a set of \$8,000 headers for a Ferrari. I've done big twisty headers for race cars or muscle cars where they are trying to fit them under the hood."

Feller prices ceramic coatings on pipes at about \$15 per foot or more, depending on the diameter. Tractor mufflers range from \$50 to \$150. Headers range from \$200 to \$250. On classic tractors and cars, Feller is comfortable the cost is worth it.

"If you go to a tractor or car show, you see these beautifully painted and restored vehicles with rusty exhausts," says Feller. "A ceramic coating can keep pipes and other



The exhaust stack on this tractor was coated with black ceramic. Ceramic coatings can handle high heat without discoloring, says K&A Coatings.

parts looking good, too."

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Baler Belt Repair Tools

"Anyone who's ever owned a large round baler knows they're going to break a belt sometime, and there's never a good time or place for that happening," says Mark Burrell. "Fortunately, there's a tool available that makes in-field repairs fairly easy."

Burrell Implement Company sells the Flexco Alligator® Rivet Tool, a device that fixes a belt in just minutes without the need for a vice or tool bench.

"I sell hundreds of these every year to people all over the country," says Burrell, who's the fourth generation family member to operate the half-century old business that bears his name. "People want this tool because they can fix a belt while it's on the baler, on the ground, or on a pickup endgate. All they need is this tool, the rivets, the Alligator rivet lace, and a 1-lb. hammer."

Burrell says the rivet tool is available in a 7-in. version for belts up to 7 in. wide and

a 14-in. tool, which does belts from 4 in. to 14 in. He sells the more popular 7-in. rivet tool bar for \$160. The tool uses self-setting rivets that fit belts from 1/8 to 7/32 in. thick. The connecting pin is a .140-in. dia. hardened spring made of stainless steel to resist corrosion and withstand heavy use.

"We call the rivet lace a heavy plate fastener because it will last 10 to 20 times longer than the old clipper wire lace," says Burrell. "It's more resistant to lace pull-out because the metal is clamped to the rubber belt with big rivets."

Most baler manufacturers now use the rivet lace -type fastener on their belts, except Deere, which uses the mato lace. The Deere Mato lace repair tool costs \$1,000, but the Flexco Alligator tool also works on Deere belts.

"My customers can get the 7-in. tool, the lace and rivets to repair two belt ends for just

a little over \$200," Burrell says. He also sells a number of older style clipper tools and wire lace for older balers. His largest seller by far is the Alligator, which works on Deere belts and all others in the marketplace except older model Vermeers with 3-in. rollers. Burrell says with a laugh, "I have a Mato lace tool in the back room, but it's covered with an inch of dust because people don't want to spend that kind of money to repair belts."

Burrell Implement is also known for its large supply of repair parts for vintage grain drills, a business his father started in the 1960's. "We've got parts for many of the old time machines either in the yard or in the warehouse," says Mark. "I'm trying to phase out of that business, but people around the country keep calling and I just keep answering the phone. People who restore or still use those old machines are on a mission



Mark Burrell says his Flexco Alligator Rivet Tool can be used to fix a baler belt in minutes, without the need for a vice or tool bench.

to find parts and often we're the last ditch desperation call," Mark says.

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You won't have to worry about starting fires with this handy torch holder.

C-Clamp Holder Lets You Set Lit Torch Down

With a C-clamp and a little welding, Pete Krusch of Cambridge, Vt., made a safe holder for welding and cutting torches.

"I made it so that I have a place to temporarily hold a lit torch while aligning or adjusting pieces to be welded," Krusch explains.

He cut off two small pieces of 1/2-in. ID pipe and welded them to a 6-in. piece of flat iron, which is welded to a C-clamp. Larger 3/4-in. pipe also works for larger torches, he adds.

The length of the flat iron keeps the lit torch at a safe distance from whatever the holder is clamped to. With pipes going in two directions the holder can be clamped on a vertical or horizontal surface.

It has come in handy for many applications, Krusch says. Just use common sense where you clamp it.

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Deere Engine Expert Supplies Replacements And Much More

After more than 35 years of working on Deere engines, Gary Hoefling practically knows his way around every green power plant with his eyes closed.

"I started working for Deere in 1980 and worked almost exclusively on 4-WD tractors doing major engine repairs," says Hoefling. He used that expertise to start The Motor Works in 1993, specializing in complete drop-in engine replacement and repowering. Today he's the country's largest supplier of new-in-crate or completely rebuilt engines ranging from 4.5-liter, 4-cyl. models up to 13.5-liter, 6-cyl. models.

"My goal for more than 20 years has always been 100 percent customer satisfaction," says Hoefling with pride. "We have a one-year limited money back guarantee for everything we sell, but over the years we've rarely had an unhappy customer."

Hoefling has kept pace with technology, tools and techniques over the years. "Nowadays we use computers to find problems, but the problems aren't all that different from what we had to find by trouble shooting years ago," Hoefling says. "Computers tell us very specific information, but doing the repairs is the same as it was

years ago."

Hoefling will overhaul or repair any Deere engine from a 404 gas or diesel in a 10, 20 or 30 series tractor to today's diesels in high horsepower tractors and combines. His business also custom builds engines and does transmission and drive-line repair on tractors, combines, choppers and other self-propelled equipment. A recent addition to his services is Green Acre Salvage, which has many used parts for combines, tractors, forage harvesters and construction equipment. "We'll buy a complete piece of machinery or salvaged parts from engines, carburetors, transmissions, you name it," says Hoefling. He also helps farmers by answering questions on component replacement and repowering that they want to do themselves.

Part of his work is supplying upgrade kits such as engine oil pumps, new sleeves and pistons, fuel system updates, high-pressure low-smoke injection nozzles, new-style head bolts and inter-cooler kits.

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