Simple Fix For Diesel “Blowby”

David Luttrell says he fixed the “blowby” problem on his 1975 Ford 4400 industrial diesel engine with just a little creative plumbing.

“Whenver the tractor sat idling for a few minutes, it would leave a puddle of oil and nasty residue on the ground,” Luttrell says. “One day I was talking to my father, who was an engineer, and I asked him about plumbing the breather tube line back into the engine. He suggested giving it a try because with all his experience working with engines, he didn’t see why it wouldn’t work.”

Luttrell first cut the breather tube shorter. Then he plumbed a solid line back and into the air intake behind the air filter. He says that simple fix solved the problem of oil and blowby smoke and the tractor has run great for the past 5 years.

“I thought when I first ran the tractor after I plumbed the line that it sounded different that it did before,” Luttrell says, “and I guess that would make sense since air, smoke and oil from the breather tube was making a full circle back to the intake. However, the engine didn’t misfire; it seems to have just as much power as it did before, but all the smoke and oil is gone.”

Luttrell bought the 4400 from an equipment auction in Pennsylvania with the understanding that it had a bad engine. “The equipment auction in Pennsylvania with the oil is gone.”

“I’ve used the tractor 5 years for loader work and heavy lifting and it runs just fine,” Luttrell says, who never overhauled the engine after making the fix. “I change the oil, the oil filter and air filter regularly and beyond that, it’s never caused me a nickel’s worth of problems.”

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Powder-Coat Extends Life Of Metal Parts

Chris Borning makes a good living powder-coating all kinds of metal objects.

He says his customers like the speed of the process and the durability of the coating.

“As soon as the coated part comes out of the curing oven and cools, it is ready to go,” says Borning.

Powder coating is a multi-step process. Older parts may be sandblasted, while new parts often go through an acid wash process. Then the powder is electrostatically charged to stick to the bare metal as it is applied. When the part goes into the oven, the powder liquefies and bonds to the surface.

“The cure time is 10 min. at around 400°F,” explains Borning. “Actual time in the oven depends on the thickness of the metal. Curing is achieved when the entire part reaches the required temperature for the full time.”

The size of the oven can be the limiting factor. C&L started out in 2009 with a 6 by 6 by 10-ft. oven. This past summer they added an 8 by 8 by 22-ft. oven to handle bigger jobs, like a request to coat 6 Deere tractor wheels.

“The farmer had planned to get them painted, but decided to go with powder coating,” says Borning. “We sandblasted them and applied a primer, top coat and clear coat. I put a 1-year warranty on the finish, but I expect he won’t have to touch those wheels for 20 years.”

Borning explains that the number of coats and the powder used can depend on how the product will be used and where. He won’t do an automotive wheel if the customer doesn’t agree to all the proper steps.

“Wheels take a lot of abuse and often don’t get cleaned,” he says. “If you don’t go with the primer, color coat and top coat, you’re asking for failure.”

Different powders offer different features, such as UV protection with polyurethanes, and rust and acid protection with epoxies.

“We may use an epoxy primer with a poly topcoat,” says Borning. “Acids won’t eat through the epoxy, and you get the color you want with the poly, plus UV protection to keep it from fading.”

Color choices used to be limited, but that has changed. “One powder manufacturer has more than 6,500 colors,” says Borning. “You can even get special textures like wrinkles.” Special colors can also add to the cost.

He notes that the yellow for the Deere tractor wheels costs around $9/lb. Each job is bid accordingly. The Deere wheels were approximately $150 each.

Limiting factors to powder coating are the thickness of the part and the ability to hold it at the right temperature. Borning suggests that FARM SHOW readers interested in powder-coating should give him a call to discuss size, expected use and shipping. If considering other powder coating, he recommends comparing the steps they follow and costs they recommend. He points out that not all powder-coating is the same.

“I have a regular customer from Illinois who ships parts for us to coat,” says Borning. “He went through 5 different powder-coating operations before he tried us and was satisfied. It is a matter of quality and the time the operator is willing to put into the job.”

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Sanding attachment consists of an 8-in. long, 1/2-in. dia. wooden dowel rod that fits into the chuck on Wallrath’s cordless drill.

Simple Way To Sand Inside Cylinders

“Works great for polishing the inside of any hole,” says Robert Wallrath, Houston, Texas, who came up with this sanding attachment for his 1/2-in. cordless drill. It consists of an 8-in. long, 1/2-in. dia. wooden dowel rod that fits into the drill chuck.

“The end of the dowel rod has a saw cut that’s deep enough to slip in a strip of 2-in. wide coated sandpaper,” says Wallrath. “The sandpaper wraps itself around the rod, and centrifugal force pushes it out as the dowel turns. It actually does a nicer job than using a file. Works great for removing corrosion from inside a cylinder that covers the tines on my garden rototiller, for example, and for cleaning out corroded brake calipers and other jobs.”

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“Swamp Cooler” Built From Old Furnace

Gary Eberspacher converted an old furnace into this evaporative “swamp cooler” that hooks up to a garden hose.

There’s no way to drain the cooling coil, so before winter sets in Eberspacher pumps antifreeze through it to make sure it doesn’t freeze up.

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