Deardorff says most paint jobs fail prematurely due to inadequate surface preparation. He has developed a new system that makes it easier to do a good job.

Only a complete sandblasting and thorough cleaning of the bare metal to eliminate soluble salts and other contaminants can ensure a long-lasting paint job like this truck received, says Deardorff.

Blacklight Painting System "Extends Equipment Life By Years"

By Jim Ruen

Want to double or triple the effective life of the paint job on your tractor, truck or farm implements, or that fuel tank that keeps peeling faster than you can repaint? Wouldn't you like to know when a paint job was failing before it began to peel and blister?

If you follow Jim Deardorff's advice, paint jobs and the equipment they cover may last a lot longer, thanks to special materials and blacklight inspections. The Chillicothe, Missouri painter takes a lot of pride in his work.

That's why it bothered him when he couldn't get paint to stick to fertilizer equipment and other machinery.

" I would sandblast and paint until I was blue in the face, but I couldn't get it to last," recalls Deardorff. "It took me years to discover that it was the soluble salts in the metal that were blowing the paint off."

Today, Deardorff's paint jobs are lasting years, even on tough soluble salt encrusted equipment like fertilizer spreaders. One fuel tank paint job has lasted 15 years with no sign of failure. They are lasting so well, in fact, that he sees no reason a properly prepared and maintained paint job shouldn't last 100 years. The secret, he says, is to eliminate stress on the coating, both internal stress from the metal and external stress from light and chemicals. Deardorff does this through a combination of rigorous cleaning and coatings he has developed.

The problem, he says, is that the paint industry has little interest in his techniques. The industry wants to sell more paint," explains Deardorff. "Why would they introduce a technology that would double the life of a paint job?"

Deardorff no longer waits for the paint and coating industry to accept his system, but practices what he preaches and preaches what he practices to anyone who listens. While he markets his system and supplies under the name Ultraviolet Responsive (UVR) Lifeservice Painting System, he says anyone can adapt elements of it to their own paint jobs and extend the effective lifetime of a coating significantly.

The process begins with a proper cleaning. For a complete repainting, he sandblasts twice to remove old paints and corrosive materials. Once the old finish is off, he applies a special aviation cleanser that reacts with salts and other corrosive agents still on the surface. It is those salts, he says, which if left in place will react with moisture seeping through cracks and pinholes in aged paint, forming acids that corrode the metal and blister the paint.

Deardorff has formulated the cleanser to the consistency of wax polish, and added a bonding agent that fluoresces blue on contact with a surface. After the cleanser has set, he goes over the project with a blacklight to find black spots which indicate more cleanser is needed to saturate to the surface. Once the surface has a uniform coat of cleanser on it he proceeds to a high pressure washing, a process that can take repeated passes to remove all signs of the fluorescent cleanser and the contaminates it has bound to. He reports that some materials can require up to 36,000 lbs. of water pressure to be washed free.

Another blacklight inspection reveals unremoved cleanser/contaminants requiring more water. Once the surface is free of fluorescent material, Deardorff applies a special clear primer containing an inorganic anti-corrosion material he obtains from a Swiss company. Again a fluorescent material is added.

"For corrosion to occur, there has to be oxygen present," he explains. "This material eliminates oxygen air pockets beneath the coating."

Deardorff says his paint jobs last years longer, even on tough chemical-encrusted equipment like fertilizer spreaders and anhydrous ammonia applicators.

This time the blacklight inspection identifies any spots not covered with primer. Deardorff adjusts the amount of fluorescent material according to the thickness of the final paint job. Once the entire surface is covered with primer and no black spots can be found, high quality zinc based paint is applied until no fluorescing primer can be detected. Again blacklight inspections ensure complete coverage.

"Most paints have organic binders and UV light breaks down organic materials," says Deardorff. "Zinc isn't an organic binder."

Once the paint job is complete, he suggests using the cleanser with blacklight inspections to identify scratches, pin holes or cracks as they develop. During periods when equipment is subject to highly corrosive materials or when equipment will go unused, the painter recommends using a military grade paraffin sealer.

"It will trap salts and other contaminants and keep them from attacking the surface," he says. "If a machine is used for only six months out of the year, stopping the corrosion alone can double the paint life."

The entire process can be time consuming, but the benefits pay for the effort, says Deardorff.

"The problem is that virtually no one cleans well enough," says Deardorff. "This is a fool proof system designed to be used by average people. The blacklight simply enhances the ability of the eyeball and gives people a way to monitor the quality of work being done."

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40-Ft. Header Made From Three Swathers

Richard and David Pope, Eston, Sask., used three Versatile pull-type, center delivery swathers to make a 40-ft. header that they mounted on their 1980 International 1480 self-propelled combine.

"We use it to straight cut small grains including canary and flax. It lets us cover a lot of acres fast," says George. "We spent only about $2,500 to build it. Commercial headers of comparable size sell for $40,000 to $50,000."

They started with two early 1970's Versatile 20-ft. swathers which they already had. They bought a third identical model for parts. They removed the center delivery rollers on two of the swathers, filled in the middle by welding in sheet metal, and mounted new canvases on each one. The sickles are driven by a pair of used pitman drives off self-propelled Versatile swathers, with one pitman drive mounted at each end of the header.

They used the third swather to build a small 4-ft. wide reel that mounts between the two 18-ft. reels. A 4-ft. wide canvas below the small reel feeds the crop into the feederhouse. A shaft that runs through both 18-ft. headers is used to chain-drive the small canvas while the reel above it is driven off the combine hydraulics.

"We've had very few problems," says George. "We had been using a New Holland TR70 self-propelled combine with a 20-ft. header. The giant 40-ft. header lets us cover about 20 acres per hour.

"We reinforced the framework on the two 18-ft. header sections and made a frame from scratch for the 4-ft. section that mounts ahead of the feederhouse. We bought a 12-ft. long extension auger and bolted it on in order to make room for trucks when unloading into them."

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Richard and David Pope used three Versatile pull-type swathers to make a 40-ft. header, which they mounted on their IH 1480 self-propelled combine.