

Plastic Liners Keep Buckets Clean

Dave Julian specializes in lining loader buckets with poly so they dump clean, whether handling frozen manure or hot asphalt.

"I've done dirt moving for 20 years and always had stuff sticking in the bucket," says Julian. "I tried all kinds of things until I came up with a way to use UHMW poly. Nothing sticks to it."

Some formulations of UHMW poly are 15 times more abrasion resistant than steel. It's also highly resistant to corrosive chemicals, has low moisture absorption, and is very slippery.

Julian buys poly in sheets and cuts it to fit. The trick is how to shape it and bond it to a bucket. Rollout buckets with their many adjacent surfaces were a special challenge, but even a simple curved bucket with 2 ends has 2 seams to seal.

"You need a tight connection that seals out moisture and contaminates from getting behind the liner," explains Julian. "Plastic welding is normally a gluey thing. If you heat the UHMW enough to melt it, it usually burns. I came up with a way to get welds that are unheard of in the industry."

Through extensive research, as well as trial and error, he identified equipment that would let him heat the UHMW enough to shape it to fit a bucket. As it cooled, the poly fibers hardened into the new shape.

A second challenge came from creating a single solid surface where the bucket lining requires multiple pieces. Julian's method includes using a custom-made brass tip that liquefies the edges of the UHMW liner pieces and plastic emerging from his welding gun. The 3 plastics blend in their liquid state. As they cool, they produce a hard, curved joint.

Another challenge was how to affix the UHMW to hardened steel buckets. Again research and experimentation provided an answer. Julian came up with what he views as a trade secret, a way to attach special metal fasteners through the plastic to the steel bucket.

Edges of the plastic require special treatment as well. Julian starts by dadoing the edge of the plastic, then attaching a strip of double offset steel over the edge of the plastic and spot welding it to the bucket edge.

"I use high tensile steel 7/16 in. thick and 2 1/4 in. wide, laser cut for plug welds," explains Julian. "I can use 6 lbs. of welding wire securing the bottom edge and side edges of a liner on a big bucket. On the top edge of a liner, I may use a strip of angle iron. The majority of the time that edge doesn't even get dirty."

Julian prices each job individually, depending on the type of UHMW and the thickness that he uses. Labor is a big part of the cost. A simple payloader bucket may require 18 to 20 hrs., while a smaller skid steer bucket can take just as much time because of the difficulty of welding in the confined space.

Julian points out that time savings, combined with reduced maintenance and extended bucket and hydraulic cylinder life, can more than pay for a liner.

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Dave Julian came up with a way to line loader buckets with UHMW poly. "Nothing sticks to it," he says. He cuts poly to fit, then shapes and bonds it to the bucket with metal fasteners.

Squeak Leads To Oil Discovery

By Dee George, Contributing Editor

My husband and I accidentally discovered ULTIMATE penetrating and lubricating oil when our pickup developed a loud squeak as we traveled through the Bakken oil field region in western North Dakota. The oil caught our attention at the Williston NAPA store because it was both a penetrating and lubricating oil. And it was a Pride of North Dakota product, manufactured in Dickinson, N. Dak.

Our first use was to open the filler plug of the rear end to check the oil level. The plug was rusted tight on our 6-year-old pickup. After spraying ULTIMATE on it, we ended up waiting a day in order to get the right size tool. It loosened on the first try. My husband added oil, and then sprayed ULTIMATE on the U-joints, knuckles and other parts, and the squeak disappeared. Later we took the truck to a mechanic, who changed out one of the U-joints.

I was curious about the oil's origins so I called the number on the can. Turns out the manufacturer, GW Enterprises, is a family business. Fayette Heidecker explained that her husband, Gary, developed the product back in 1992, working with local mechanics. They worked with I-K-I Manufacturing in Wisconsin to put it on the market.

"It's a petroleum-based product that's unique because it's both a penetrating and lubricating spray," says Heidecker.

ULTIMATE oil eliminates squeaks, frees rusted bolts, nuts, and parts and can also be used to lubricate and protect.

Though the target market is industrial and equipment, other buyers – including many women – use it for a variety of things including electric razors, sewing machines, squeaky garage doors, frozen locks and



FARM SHOW's Dee George "discovered" this unique penetrating and lubricating spray while driving across North Dakota.

sporting goods.

The Heideckers have large customers including Petro Hunt LLC and the N. Dak. State Highway Department. The product is available at retail outlets throughout the region. Check the website below for locations. The Heideckers are looking for dealers and distributors in other parts of the country.

Right now, if you're out of state, the best way to buy the product is to purchase a case of 12 cans on Amazon.com by searching in "Automotive" for "ULTIMATE lubricating spray". The Heidecker's are working with Amazon to get single cans listed but right now the shipping for a single can is more than the price of the product. You can also talk to your local auto parts store and encourage them to become a dealer.

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www.gw-ultimate.com

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