Installing Baldor's Dodge® ULTRA KLEEN Ball Bearings

Moves Machine from Least Reliable to Most Reliable at the ConAgra Foods® Lamb Weston Potato Products Plant
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ConAgra Foods is dedicated to making the food people love and doing so in an environmentally responsible way. As part of its sustainability strategy, the company has set aggressive goals to reduce greenhouse gas emissions, water usage, waste and packaging. In an effort to help achieve those goals, the company is working with its supply chain to encourage continuous plant improvements, partnering with suppliers that deliver innovative products that increase plant efficiency.

Jake Washburn, procurement manager for ConAgra Foods’ Lamb Weston, a leading producer of quality frozen potato, sweet potato and other vegetable products, says it’s not about finding the cheapest products, but rather the products that will reduce total cost of ownership. He says the company is looking for partners that will help it with its goal to increase continuous improvement savings.

“It’s amazing how this machine has moved from least reliable to most reliable just by changing bearings.”

Colin Walters, plant maintenance manager, Lamb Weston potato products plant

“The best suppliers offer solutions versus sales, and we want a partner who will share their industry and product knowledge and bring us up-time opportunities,” says Washburn. “We want reliable products that will prevent unplanned downtime and increase our operational equipment effectiveness. At the end of the day, if we keep our plant up and running, it helps drive our efficiencies and helps reduce waste.”

In early 2010, increasing plant up-time became a major project at the Lamb Weston potato products plant in Connell, Washington. This plant makes french fries and other potato products primarily for the commercial marketplace. Plant Maintenance Manager Colin Walters worked with a corporate team to identify the top downtime-producing pieces of equipment in the plant. They pored over data that had been collected over a two-year period, identifying equipment failures and whether the downtime was associated with operational issues or if it was a mechanical or electrical failure.

Walters says the numbers pointed to a piece of equipment called a roll sizer as one of the least reliable pieces of equipment in the plant.

“In fiscal year 2010, the plant ran 48 weeks of production,” explains Walters. “During 39 of those 48 weeks, we experienced at least one downtime event on this roll sizer, which added up to 2,700 minutes of capacity loss. We took a closer look and found that the majority of the failures were related to the bearings on the machine.”

“There are 22 bearings on the roll sizer, one on each end of the 11 tapered rollers that drop cleaned and peeled potatoes by size into the appropriate flume, carrying them to the knives to be cut into fries. Walters says sealing failures led to bearing failures, which sometimes damaged other drive components.

“Because the bearings were always at different states of wear on this machine, they caused uneven wear on sprockets, and failures with drives and chains,” says Walters. “We believed that if we installed a better bearing, we could significantly reduce downtime on this machine.”

To help find that better bearing, Walters called Jeff Stroben at Applied Industrial Technology’s Pasco Service Center. Stroben, who has called on the Connell plant for the past 21 years, visited, discussed the issues and took a closer look. He says poor sealing was the primary factor in bearing failure. Once he understood the problem, he says, he had a good idea of what would work.

“I recommended the new Baldor-Dodge ULTRA KLEEN stainless steel ball bearing,” says Stroben. “This bearing offered a patented triple-lip sealing system plus a new cage design that holds in the grease and prevents it from washing out.”

Bearing failures on this roll sizer machine were causing significant downtime at the Lamb Weston potato products plant. After installing Baldor’s Dodge ULTRA KLEEN stainless steel ball bearings, this machine went from being the least reliable to the most reliable.
Walters is proud that the solution found for this machine is helping the plant move closer to achieving the company’s sustainability goals, a success that has been shared with continuous improvement teams throughout the company. He is also happy to report that the roll sizer has been removed from the tracking list, allowing the maintenance team to focus on other projects.

“In the past, keeping this roll sizer up and running was a real challenge,” says Walters. “Unplanned downtime is costly in so many ways, and it’s also very disruptive to the planned preventive maintenance work that we do in the plant. With this problem solved, we can move to other improvement projects. Solving the problem has been a big win for us.”

“Since installing these Dodge bearings in the first week of August 2010, we have had no downtime event caused by bearings on this machine,” says Walters. “Again, the numbers tell the story about this success, because we have run the plant 56 consecutive weeks without experiencing any bearing or drive type failures. It’s amazing how this machine has moved from least reliable to most reliable just by changing bearings.”

“Here is a plant that has less downtime and really high numbers on the OEE scale,” says Boots. “That’s great news, but what about all the other plants? If we can help all our facilities be this successful, then the win is so much bigger — that’s the goal of standardizing on Dodge bearings.”

Eleven tapered rollers on this roll sizer machine drop clean potatoes by size into the appropriate flume, carrying them to the next step in the process. Before making the conversion to the Baldor-Dodge® ULTRA KLEEN product, bearings on both ends of the rollers were failing due to scaling issues.