

Factory Parts: Is Replace vs. Repair Always the Best Move?

Americans love anything that's new. There's an inherent appeal to the latest thing, from the hottest movie to the most recent health trend. We check Facebook an average of 13.8 times a day, and stand in line to get a smartphone first. Whether we celebrate the New Year, listen to New Age music, or just turn over a new leaf, we're easily convinced that new is better.

New is also perceived to be expedient—and when factory equipment malfunctions, it can seem faster and less bothersome to simply replace a worn part, instead of repairing it. But this is where problems start. Each year, factories waste millions of dollars by concluding that new parts are a prerequisite for trouble-free operation.

There are clear advantages to carefully thinking through repair/replace alternatives. Data has shown that repaired and/or re-engineered components can save 40-60% versus the cost of buying new. Selecting new without looking at the larger operational context can also obscure issues like improper maintenance practices, environmental impact, and incorrect equipment operation.

It's a fact that repaired and/or upgraded components can actually extend the life of your equipment. Up to 20% of plant operating expense is maintenance related; for example, many electronic cabinets are exposed to dust, humidity and water, which is why they have gasket seals. Over time, however, the seals wear out and contaminants seep in, causing circuit boards to fail. Replacing the board is expensive—but a proper repair protocol would include replacing the chip that caused the failure of the board, followed by replacement of the cabinet seal so adverse conditions don't cause similar problems in the future.

Data has shown that repaired and/or re-engineered components can save 40-60% versus the cost of buying new.

Evolving standards, supported by new and/or less expensive technologies that measure equipment health in real time, support a move from reactive to

predictive maintenance practices. “Replace with new” is a reactive strategy; repairing, by contrast, can reveal issues that support predictive maintenance, not only making compliance easier but also causing factories to run more efficiently.

The secret to an effective repair-versus-replace decision is in the data. Traditional risk-based approaches reduce downtime by keeping lots of parts on hand and replacing them quickly. A more sophisticated component-level approach, built around root cause analysis, asks the question, “Why did the part fail?” Perhaps the part wasn’t designed properly, or it is vulnerable to heat; a motor with inadequate wire windings, for instance, will fail quickly if it’s installed next to a kiln, furnace, or other heat-producing source.

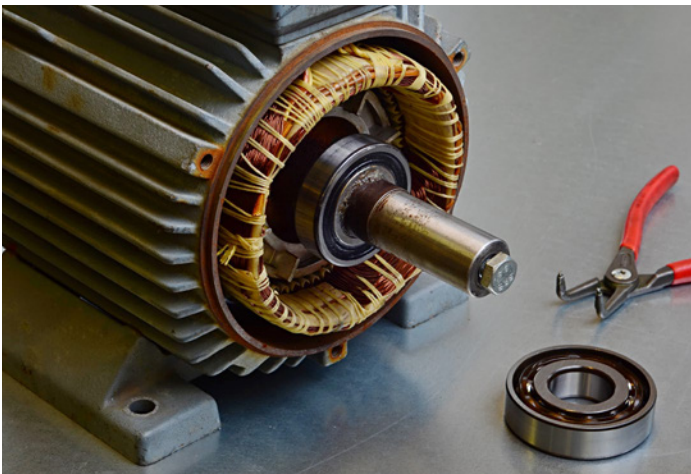
Recording all kinds of metrics, from mean time between failure to warranty tracking, inventory turns, last price paid and more, is critical. The discipline supports good manufacturing practices by documenting performance and identifying problems before they occur. And from a maintenance standpoint, if the same part fails multiple times in the same place or across similar units, data is available to determine the cause.

Information, of course, can only take a parts repair program so far. When a core or component fails, it can’t go into the trash. Maintenance techs must be instructed to collect failed parts and return them for possible improvement, instead of routinely tossing them into the dumpster. There is a story behind every failed component. Don’t let that story get away in the scrap bin.

To best serve the repair/replace equation, it pays to work with a service partner who understands not only repairs, but also best practices in data collection and root cause analysis. Most manufacturers simply don’t have such expertise in-house—and while any repair depot can swap a failed component, only some are equipped to determine why the part failed.

The best partners offer both transactional and RPM (Repairable Parts Management) options. Transactional services offer offsite repair along with failure reports, reverse engineering, commercial calibration, warranties and more. RPM is a more robust onsite solution that captures more information and helps ensure the fastest turnaround time. Administered by a fulltime team, it also includes complete asset management services, preventive maintenance programs, and process improvement efforts.

There will always be an appeal—and yes, sometimes an advantage—to fast, easy replacement of worn-out parts with new. The real point, however, is to determine not what is expedient, but what is most beneficial to the business. By taking a more enlightened approach to parts management, it’s possible to make not only one piece of equipment run better—but your entire factory as well.



The secret to an effective repair vs. replace decision is in the data.
