

BEST PRACTICES SERIES

“Sorry, that part is no longer available.”



As seen in
Maintenance Technology
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- Warner Electric
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- Kilian Manufacturing
- Guardian Couplings
- Ameridrives Power Transmission

“Sorry, that part is no longer available.”

It’s a phrase that can send chills down the spine of even the most hardened maintenance worker. The production line is down... a key part needs to be replaced to get the line back up. Wonder of wonders, you find the label on the problem product is still intact and the part number is actually legible. You call your local distributor or the product manufacturer and you hear: “That part number is no longer available.”

The situation may seem dire. However, keep in mind most manufacturers want to keep you as a customer. When considering a new product design, the OEM very likely had a discussion regarding what to do about their current products installed in equipment currently operating out in the field.

Product manufacturers walk a fine line. They need to be able to update and improve their products to be able to take advantage of new materials, new processes or design improvements. At the same time, they need to be empathetic to the needs of their customers who have current product installed. Backwards compatibility is a key consideration, but not the only one.



Warner Electric Gen2 UniModule (left) and Gen1 unit (right)

Key Replacement Component Considerations

- 1) Product Footprint: Will the new unit fit in space allotted for the old unit?
- 2) Efficiency: Is there an improvement in product energy efficiency?
- 3) Functional compatibility: Is the new product compatible with adjacent components?
- 4) Upgrades: Are there new functions or features that will improve performance or maintenance?
- 5) Cost of Ownership: Will the new solution provide equivalent, or reduced, cost of operation over its entire service life?

Footprint

There will be many situations where the manufacturer has been able to upgrade their design while still maintaining the approximate size and identical mounting interface as the prior generation. For example, the Warner Electric UniModule® product line mounts to NEMA C-face motors and reducers. In 2007, Warner upgraded to the Gen 2 version of this product family and replaced nearly 250 end-item part numbers. Since the new product still had to be compatible with NEMA standards, it retained the same bolt circles, bore sizes and pilot diameters. It also retained the same overall lengths and lead wire configurations. Customers could replace Gen 1 product with Gen 2 units easily while retaining drivetrain performance.

When Boston Gear released the SS700 stainless steel worm gearbox, great pains were taken to ensure that the footprint, shaft locations and overall envelope size matched the previous generation of stainless gearbox. While the SS700 is very different overall, customers can remove the prior generation and replace it with the new SS700 without changing the machine.



Boston Gear new style stainless steel speed reducer (left) and original design (right)

Efficiency

Achieving higher operational energy efficiencies is a goal of every facility manager. It is always wise to inquire about the energy ratings of any replacement component candidates. For example, Bauer Gear Motor recently introduced a range of PMSM (permanent magnet synchronous motors). The PMSM motors meet the IE4 (Super Premium Efficiency) classification. This is evidenced by their potential to achieve energy savings of up to 40% compared to an IE2 inverter-driven squirrel cage motor. In some instances, customers are replacing worn motors with new PMSM motors and simply mounting them to the existing gearing of the originally installed geared motor.



Bauer Gear Motor IE4 PMSM (Permanent Magnet Synchronous Motor)

Footprint vs. Efficiency

Sometimes trade-offs need to be made when selecting a replacement component. For example, advances in design, materials and machining capabilities have enabled improvements in gearbox efficiency over the past dozen years... but at a price. Most of these enhancements have been possible while maintaining shaft centerline dimensions. Unfortunately, in many cases, the gearbox housing has changed in ways that might require new bolt hole locations for base mounting. The unit can mount at the same height but new mounting holes would need to be drilled and tapped. However, this inconvenience brings with it a 3-5% improvement in unit efficiency allowing the process involved to run better as a result of the change. Given the long term savings, this minor inconvenience would seem reasonable.

Functional Compatibility

There will be a variety of situations where a new generation of product will perform similarly to the old, but may have some differences in mounting. After a brief hiatus, Warner Linear re-entered the linear actuator market with their B-Track product offering in 2007. While able to meet the key criteria of providing a specific force and stroke length, there might be minor differences in unit speed and the overall unit height and length may be slightly different (perhaps 0.250 inch or less). In many cases these minor differences will not have any impact, yet it cannot be said the units are the "same as" the previous model.

In electronics, a new design variable speed drive might control the motor speed and torque as well as, or even better than, the previous model, but the wiring, mounting and programming may be different to reflect changes in microprocessor capabilities.

Upgrades/Cost of Ownership

There are often cases when a manufacturer has made a product change but they cannot claim the unit is fully-compatible with previous models since the internals of the product have significantly changed. The capping clutch headsets developed by Warner Electric at the end of the last decade illustrate



Warner Electric capping headset

(continued)

this point. The headsets were designed to match the footprint of many of the existing capping clutches used by the beverage industry so that retrofitting to existing systems would be easy. But, to say the new headsets are the same as the older designs would be untrue. While the footprint is the same, the new headsets will typically last twice as long or more. Further, the new headset provides a higher level of performance in a process where consistency is crucial. Lastly, the cost to rebuild the unit, after the longer life is realized, has proven to be half or less than the previous capping clutch design. Thus, the cost of ownership drops significantly.

When faced with “No Longer Available,” it is best to remain flexible. You may need to educate the supplier on your process somewhat so that they can advise you of how the changes in their product will impact your process. Keeping an open mind and focusing on results is going to get you closer to what you need. The time constraints of having a high value process shut down may not allow for a lengthy history lesson, but understanding why a product was changed may help to better evaluate how you can make the new solution work. Remember, the manufacturer wants to keep you as a customer but may not be fully aware of how their product change may impact your process. If you take a few moments to educate them on how you use that product they may have already dealt with similar circumstances and be able to provide guidance that will ease the transition.

Sometimes “No Longer Available” is a dead end. Products that were once production products are long past their prime and continuing to manufacture them is no longer viable. Those with the machines that use that product are faced with several possible options.

- 1) Try to fabricate or reverse engineer the worn components.
- 2) Look at the application and try to find a functional replacement that may require some re-engineering of the process.
- 3) Ask the product manufacturer for help. The manufacturer may no longer have a product for you, but they may be able to provide some ideas based on how their other customers have solved this problem.

Unfortunately, there may be a time when the demise of a key component may be the demise of the machine entirely. If a process is critical to your operation and is also aging, it may be time to consider alternative courses of action if that process can no longer function as it does today. Change is inevitable. Understanding why and how manufacturers have changed their products can help smooth the process of integrating new designs into your operation.



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