

How's That Drive Working For You?

Written by Special to Maintenance Technology
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Field experience is the real test of a drive system. When high maintenance and/or frequent replacement of drive components becomes the norm, it's time to reassess the drive design.

Electromechanical engineers who design power transmission or motion-control systems for industrial equipment face an ongoing challenge: For their equipment designs to remain competitive in the marketplace, they must adopt new technologies. But while there are many options for transforming one form of mechanical power into another, why change a drive design that's working? There are a number of reasons for doing so—*and when you get right down to it, they're all related to the bottom line.*

Impact of inappropriate or outdated designs

A poorly performing drive is costly to the user and could spell disaster for the original equipment manufacturer. The equipment may operate inefficiently, consuming too much energy and raising energy costs. Such a drive may slow the production cycle or cause damage to other components in the system. Poorly designed drives also will increase the user's maintenance expense budget.

So, how can you tell when a drive is just “wrong” for the equipment? Signs of poor performance include:

- Frequent replacement
- Premature failure
- Higher-than-usual maintenance
- Unusual noise
- High temperature

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- Vibration

The drive may have been improperly sized for the application. Or the application may have changed over time, placing requirements such as higher speed or throughput on the equipment that were not intended in the original design. Whatever the cause, the cure is to reassess the drive and application.

When converting to a different type of drive, design engineers should consider not only the end-user's equipment acquisition cost, but also the total cost of ownership and customer satisfaction. A drive system that minimizes maintenance and replacement of components will save money in the long run. It also will increase uptime and productivity.

The truest of tests

Field experience is the true test of a drive system. When high maintenance or frequent replacement of drive components becomes the norm, it's time to reassess drive design. For example, synchronous belt drives present a viable alternative to roller chains or gears in many industrial applications. Replacing these older drive technologies with a synchronous belt system offers one way OEMS and end-users alike can gain a competitive edge.

More details

To learn how appropriate equipment design and drive conversions can impact your operations, visit www.gates.com . For a white paper entitled "Designing Drives for a Competitive Edge: How Field Retrofits Can Point the Way to Drive Designs that Better Satisfy Customers," (which includes two real-world case studies on field retrofits), go to: www.gatesprograms.com/ptsavings

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