A close-up, blurred photograph of a motor's internal stator windings, showing multiple layers of copper coils in shades of yellow and brown, with a metallic silver ring visible on the right side.

5 Reasons for Utilizing Laser Alignment for Your Motor Repairs

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Correct alignment of components within a motor ensures proper operation and can boost its performance. One method of ensuring proper alignment is by using laser alignment technology to measure for component misalignment and realign them per client specifications.

Laser alignment utilizes laser instruments, such as transmitters and receivers, to track the relative position of each component with the highest tolerances and compare it to an established standard. Any difference between the two sets of data indicates misalignment, which can be easily corrected with the help of the laser alignment system.

To maintain the condition of your motor and improve its performance, here are five reasons for utilizing laser alignment during your motor maintenance and repair applications.

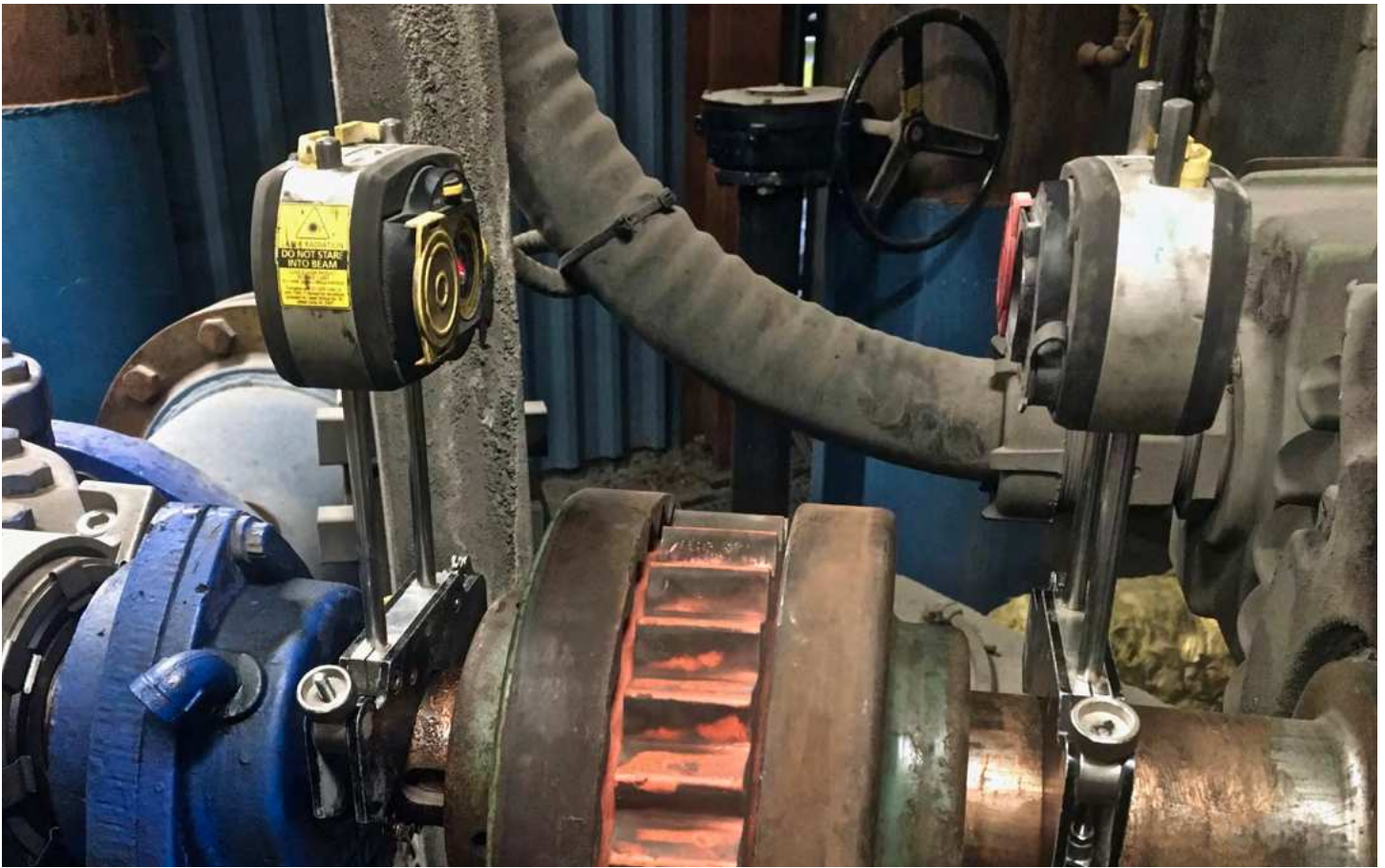
1. Preventing Premature Wear and Tear

Critical components, such as seals and bearings, tend to face significant abuse in any machine and are major contributors to maintenance costs and downtimes. Within misaligned machines, these components experience greater friction and increased noise and vibration levels, which can lead to extensive wear and tear and premature fatigue and failure. Most operators replace these worn parts and press their equipment forward to meet production demands, but replacing these parts will not prevent future problems.



The only way to avoid frequent replacement of seals and bearings is to correct the equipment misalignment.

Laser alignment tools provide the most accurate and effective means of accomplishing this objective, allowing for the correction of the tiniest of errors.



2. Avoiding Costly Downtime and Production Losses

Three factors facilitate the smooth and efficient operation of a motor: regular maintenance, lubrication, and proper alignment of components. Neglecting any of these elements leads to excessive noise and vibration production and contributes to the premature deterioration of motor components such as seals, bearings, gears, and belts. In particular, misalignment can cause extensive damage to these critical motor parts, leading to unexpected equipment breakdowns. Breakdowns result in extended periods of downtime, disrupted production schedules, and a decrease in the overall productivity of your systems and facility.

The consequences of neglect can have a significant impact on your bottom line, but they are avoidable.

Accurate, reliable, and ongoing assessment using a laser alignment tool can help you avoid this by ensuring proper component alignment, minimizing the risk of unplanned downtime and preventing the related production losses.

3. Decreasing Maintenance and Replacement Costs

Another way that misalignment impacts your bottom line is through maintenance and replacement costs. Premature deterioration of critical motor components necessitates the purchase of replacement parts. In addition to the purchasing costs, the time and labor required to disassemble the motor, remove the worn components, and install the new ones also rapidly adds up.

Companies who invest in laser alignment for their motors can prevent the premature wear and tear of these components and keep their equipment operating at optimum performance levels for longer periods without the need for costly maintenance or replacement operations.



Laser alignment technology offers one of the most cost-effective means of establishing a preventative maintenance program,

allowing you to protect your company's tight profit margins, reduce operating costs, and maintain your competitive edge in the marketplace.

4. Keeping Up with Technology

As newer construction materials and more efficient, higher performance motor technologies develop, maintenance and repair equipment need to advance to meet the rising precision, accuracy, and tolerance standards.

Laser alignment systems offer the required measurement accuracy capabilities to meet these demands. Further advancements in laser alignment technology also allow operators to expand the scope and scale of the alignment measurements taken. For example, a broader range of measurement options could include base flatness, twist, and straightness.



5. Improving Accuracy, Speed, and Repeatability

Accuracy is a critical element in the design, assembly, and operation of motors. Misalignment can lead to an inaccurate equipment setup, which can compromise the quality of its performance.

Laser alignment provides a faster and more competitive edge over older technologies such as dial gauges and straightedge methods,



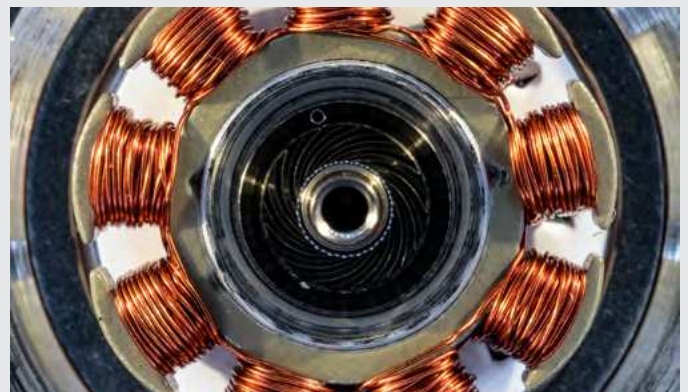
as they can work on high-resolution, non-contact technology and can measure down to 0.0001 mm. This form of alignment also eliminates the risk of reading errors that are typical of low-resolution readouts and sticking dial hands and provides consistent results regardless of the operator. Additionally, the laser systems can generate reports directly from the measurement instrumentation, allowing for faster delivery and analysis of the results.

Although it might be assumed that laser alignment is costly and time-consuming, the learning curve to achieve expertise with the measurement equipment is minimal, making laser alignment an easily learnable and repeatable process that can be used with minimal downtime and maximum cost-efficiency.

Symptoms of Misalignment

Detecting misalignment in machinery can be challenging. However, there are a few common symptoms that indicate improper alignment, including:

- Premature failure of components, such as bearings, couplings, seals, and shafts
- Abnormally high temperatures in casings
- Loose-fitting or damaged couplings or foundation bolts
- Excessive leakage of oil around seals and bearings



If any of these indicators are present in your system, you may want to consider hiring laser alignment professionals, such as Renown Electric, to help prevent your system's failure and optimize and prolong its performance.

Contact Renown Electric Today for Laser Alignment Solutions

To ensure the highest level of performance from your motor, frequent alignment of components, such as shafts, sheaves, pulleys, gearboxes, and belts, should take place to prevent equipment issues such as wear and malfunction. The most cost-effective solution to maintaining precision alignment requires the use of laser technology to ensure meeting the tightest possible tolerances.



Since 1984, Renown Electric has been an industry mainstay. We have maintained a high level of success due to our dedication to customer satisfaction and world-class repair and maintenance services. We believe that preventative maintenance operations, such as laser alignment, are crucial to ensuring the longevity of your equipment. Our exceptional laser alignment services can both dramatically improve the performance and operation of your motor and prolong its service life, which helps your organization meet production schedules, limits downtime, and minimizes your maintenance costs.

Proof of our dedication to providing quality service is evident in our industry affiliations and our compliance with numerous industry standards, including:

- Electro-Mechanical Authority (EASA) member
- Electrical Safety Authority (ESA) member
- Canadian Standards Association (CSA) qualified for the repair and service of motors and generators in hazardous locations
- ISO 9001:2015
- ISN-compliant
- BROWZ-compliant
- EXIROS-compliant
- QUAREM-compliant

[Contact us](#) today to learn more about the laser alignment solutions we can provide to your organization.

About Renown Electric

Founded in 1984 and centrally located in Concord, Ontario, Renown Electric operates from a 25,000 square foot state-of-the-art main repair facility, a 30,000 square foot large motor repair facility with 50 ton cranes throughout, and a 12,000 square foot warehouse dedicated to motor management and inventory of new products. Our team includes over 40 employees who excel in all aspects of electric and mechanical motor repair, remanufacture, overhaul, field service, and engineering support.

We are proud to serve a diverse customer base from a wide range of industries from across the globe. No matter the size of the company, from a small start-up to a massive multinational concern, Renown offers unmatched customer service to support you every step of the way.

Renown is an authorized dealer and service representative for most major manufacturers, so our customers are assured the highest-quality products and repairs. Our engineering expertise and production capability allows us to remanufacture all major AC & DC motors up to 5000 hp.

Our company has CSA qualification for the repair and service of motors and generators in hazardous locations, as well as [ISO 9001:2015](#) certification; we utilize the latest computerized testing techniques to ensure our repairs meet or exceed OEM specifications.

Renown has a large fleet of service and delivery vehicles—including a selection with cranes for simple and prompt job-site pick-up and returns.

Renown's commitment to service extends beyond the reaches of our shop by offering predictive maintenance programs designed to meet the customers' requirements. Programs include on-site laser alignment, balancing, vibration analysis, infrared thermography, oil analysis, and non-destructive testing.

To learn more about Renown Electric and the services we provide, [contact us](#) today.

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