

LOAD MONITORING FASTENER^{plus}



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Transmission Dynamics®



"The Future of Critical Bolting"

Saving Customers Millions of Dollars in Reduced Maintenance & Downtime Costs

SAG & Ball Mills, Crushers, Rock Breakers, & More

- Establish optimal torque levels, patterns, & procedures
- Reduce failures and problems such as fatigue, wear, vibration, & breakage
- Monitor bolt relaxation to establish optimal time and conditions for retorque
- Quantitative data for troubleshooting and intervention testing



Mill Flange
Assembly, Repair, & Monitoring



Avoid warpage and leaks



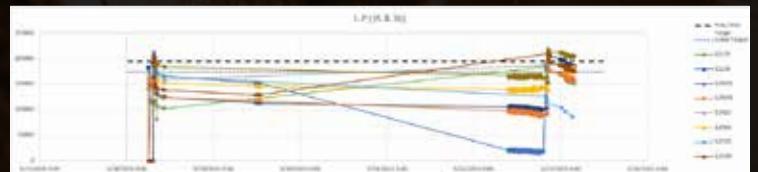
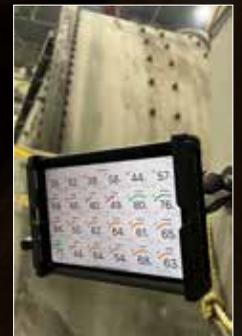
Accurate tensions achieved with LMF+® technology

Inaccurate tensions achieved with traditional best practices

Liner Bolts

Install, Retorque, & In-service Monitoring

Unprecedented & powerful data is used to establish optimal reline procedures, establish optimal time and parameters to retorque and address breakage & relaxation issues.



Gyratory Crusher

Compatible with all torquing and tensioning equipment, achieve and maintain accurate tensions which will eliminate broken bolts and many other benefits such as reduce vibrations by over 50% and eliminate driving force behind other problems such as cracked frames.



www.copperstate.com/services/lmf/
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"The Future of Critical Bolting"

Technical Support, Onsite & Remote, Condition Monitoring, and Custom Engineered Solutions

Global Data Network® (GDN)

- All condition monitoring & predictive maintenance
- Data driven decision making
- Set alerts for notification when fasteners are operating out of the predetermined acceptable ranges



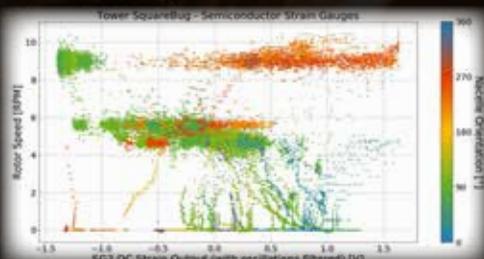
Mine Maintenance is 30%-50% of expenditures

- Develop maintenance strategies that minimize downtime and keep assets running at full capacity
- Configure full preventative plans and avoid superfluous maintenance

Copper State and Transmission Dynamics® have 75 years of experience utilizing engineering and technology to address customer challenges



Transmission Dynamics®



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