

# LOAD MONITORING FASTENER<sup>plus</sup>



Powered by  
**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



Inaccurate tensions achieved with traditional best practices

**Mill Flange**  
Assembly, Repair, & Monitoring



Avoid warpage and leaks

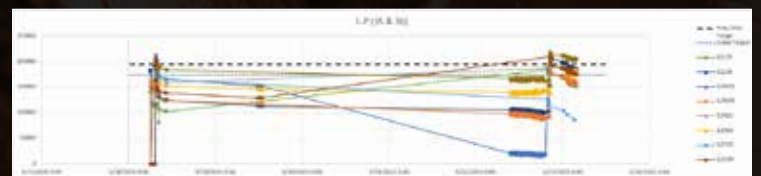


Accurate tensions achieved with LMF+® technology

**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.

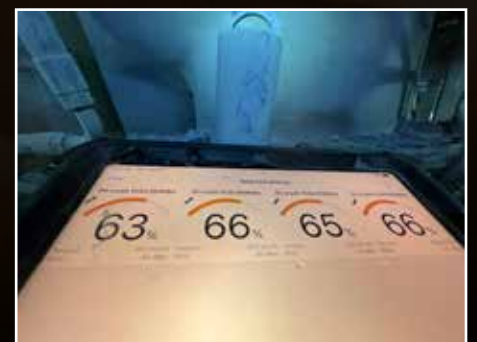


**Gyratory Crusher**

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.



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## 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



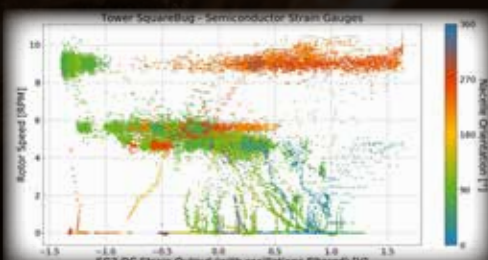
Mine Maintenance is 30%-50% of expenditures

- 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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