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# Tsubaki SMART TOOTH™

MAKE SURE YOUR OPERATION IS RIDING ON THE WORLD'S MOST RELIABLE POWER TRANSMISSION PRODUCTS.

The Tsubaki name is synonymous with excellence in quality, dependability and customer service. An intense focus on research and development, along with continuously modernized production facilities, has resulted in Tsubaki meeting the ever changing needs of the marketplace. With our large variety of products, including a full lineup of roller chains, sprockets, power transmission components and cable and hose carriers, we are well suited to serve any of your industry application needs. With Tsubaki you will get dependable, top quality products with the service and support to help reduce maintenance costs and keep your application running smoother, longer. That's the Tsubaki Advantage.



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NOTE: IN ACCORDANCE WITH THE POLICY OF TSUBAKI OF CANADA TO CONSISTENTLY IMPROVE ITS PRODUCTS, THE SPECIFICATIONS IN THIS CATALOG ARE SUBJECT TO CHANGE WITHOUT NOTICE.

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# TSUBAKI SMART TOOTH

## WHEN FAILURE IS NOT AN OPTION

Tsubaki SMART TOOTH offers users the ability to identify and schedule drive system maintenance before critical component failure occurs. Strategic placement of our patented Wear Indicator pins on one or more sprocket teeth provides visual indication that a sprocket is still within the allowable wear tolerance, or that it needs to be replaced. When factoring in the cost of critical drive system components, implementation of Tsubaki Wear Indicator technology makes sense for applications that are driven by capital equipment, or where non-scheduled downtime is simply not acceptable.

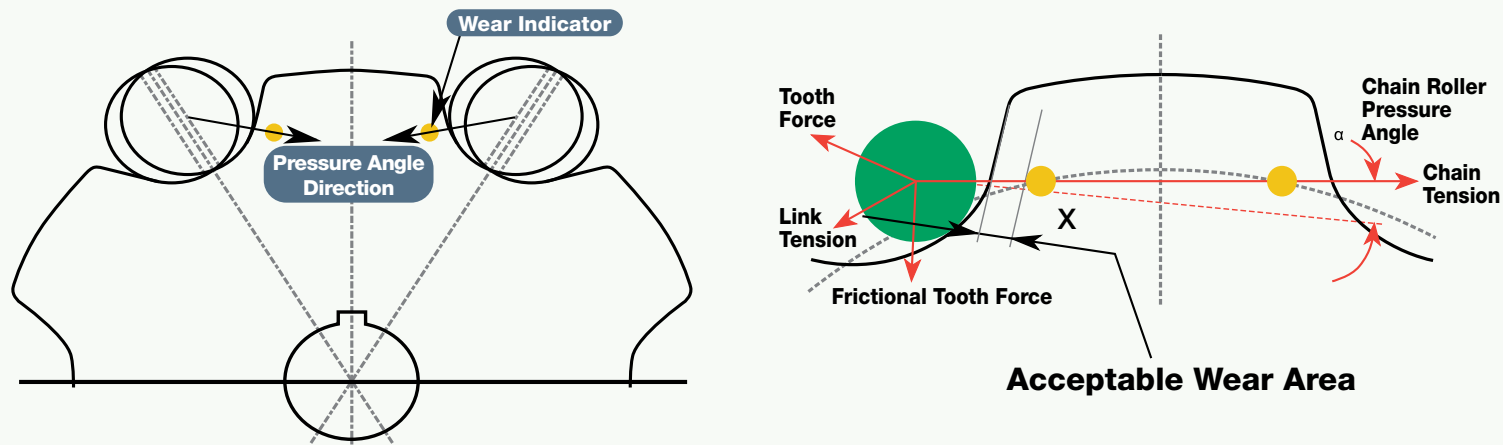


Figure 1 – Theory of Operation

Figure 1 displays how Wear Indicator pins are strategically placed on the thrust faces of the sprocket tooth, where the resultant pressure angle of the chain roller would create wear.

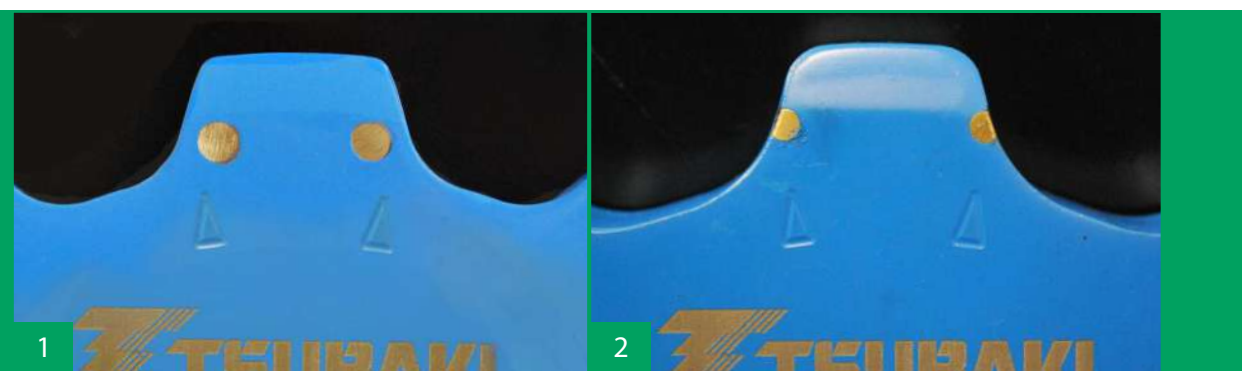


Figure 2 – Comparison – New (1) vs. Worn Sprocket (2)

Figure 2 provides a comparison and example of a sprocket that was removed from service due to chain failure. Notice the difference in chain engagement between the new and worn sprocket.

### Availability

- ANSI 80 through 240 pitch sprockets
- British Standard & Double Pitch sprockets (1" pitch & over)
- Engineering Class sprockets
- Carbon steel sprockets
- Hardened and non-hardened teeth
- Type A (no hub extension)
- Type B (one-sided hub extension)
- Type C (two-sided hub extension)
- Taper-Lock®, XT®, QD® and Split-Taper® style sprockets

Note: For sprockets that fall outside of these parameters, please contact Tsubaki directly.

Over time in service, the sprocket tooth profile area is reduced due to induced load created by the chain roller. The reduction in sprocket tooth profile area creates accelerated wear on the drive chain roller, causing poor fit, alignment, and chain wrap as it relates to the tooth profile. Ultimately, chain wear accelerates at an exponential rate, resulting in loss of tension, jumped chain, drive slipping, and catastrophic failure. Tsubaki Smart Tooth is your solution!

### Value

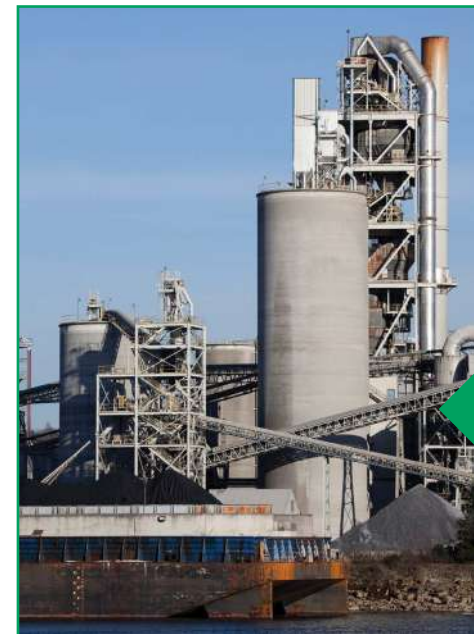
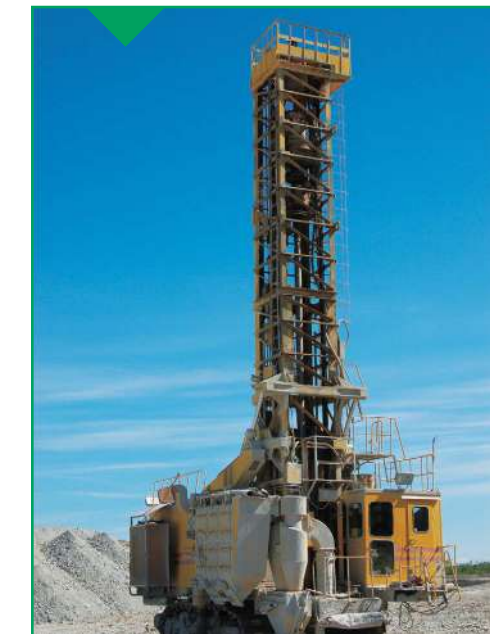
- Extended chain life through predictable maintenance
- Eliminates the guesswork associated with worn sprockets
- Reduces overall cost of equipment ownership
- Provides warning of catastrophic drive failure
- Provides the opportunity to schedule maintenance based on sprocket wear rate



Patented Smart Tooth sprockets come in a special coating so you know Tsubaki is working hard for you. Just look for the BLUE!

### Ideal Industries and Applications

- |   |   |   |   |
|---|---|---|---|
| <b>Mining:</b> <ul style="list-style-type: none"> <li>• Rotary Breakers</li> <li>• Feeder Breakers</li> <li>• Reclaimers</li> </ul> | <ul style="list-style-type: none"> <li>• Drill Rigs</li> <li>• Shuttle Car</li> </ul> | <b>Cement:</b> <ul style="list-style-type: none"> <li>• Bucket Elevators</li> <li>• Conveyor Systems</li> <li>• Rotary Drive Systems</li> </ul> | <ul style="list-style-type: none"> <li>• Reclaimer Systems</li> </ul> |
|---|---|---|---|



**Oil and Gas Exploration:**

- Coiled Tube Injector
- Draw Works

**Other Applications**

- Pin Ovens
- Amusement Parks
- Foundries
- Asphalt Plants (Looper Systems)
- Sugar (Cane Conveyors & Sugar Crushers)

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QD® is a registered trademark of, and is used under license agreement from Emerson Electric Co