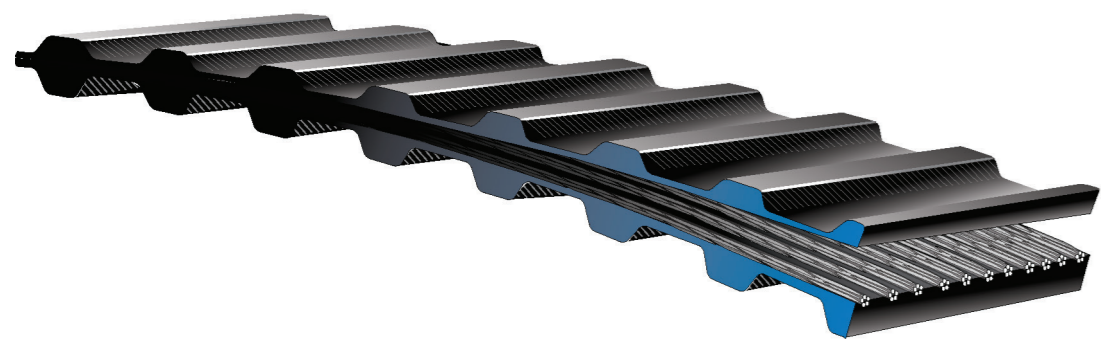




# SYNCHRONOUS DRIVE FAILURE ANALYSIS

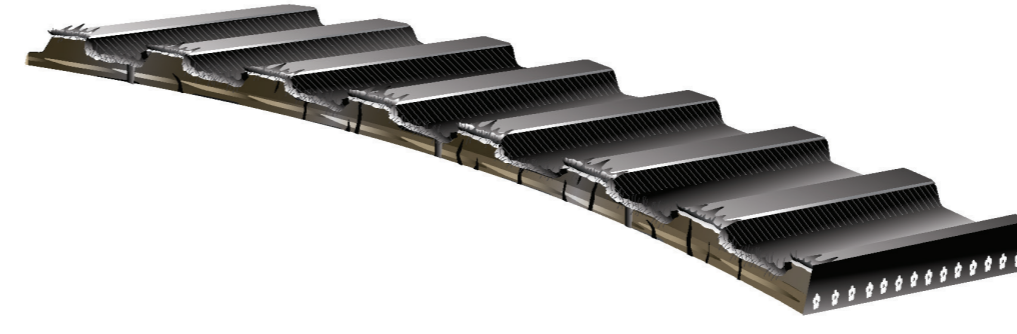
ACCURATELY IDENTIFY AND TROUBLESHOOT SYNCHRONOUS DRIVE PROBLEMS AND FAILURES.



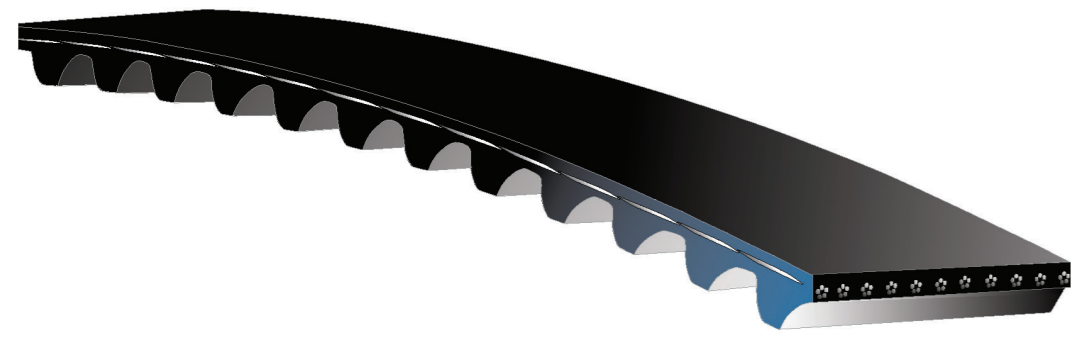
**1. DELAMINATION**



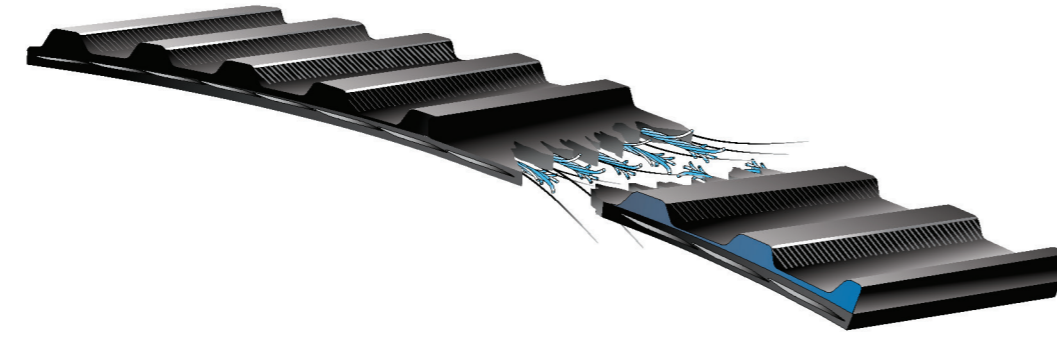
**2. TRACKING**



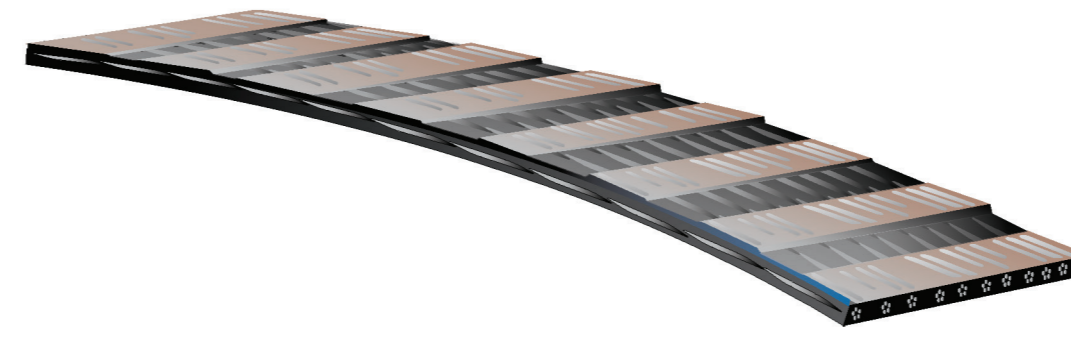
**3. EXCESSIVE BELT EDGE WEAR**



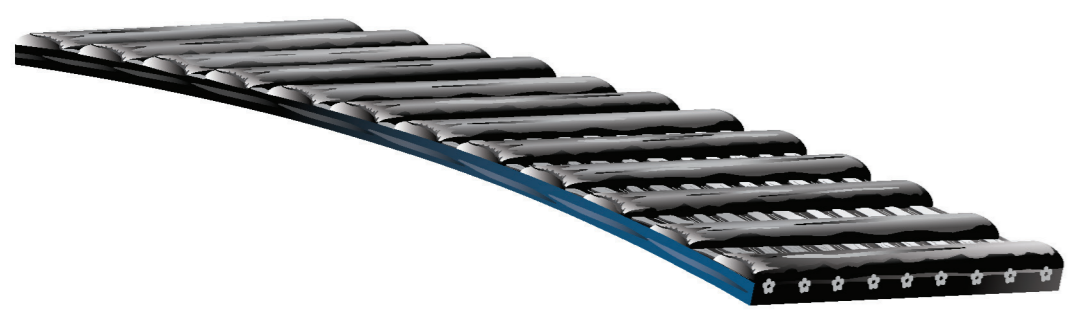
**4. EXCESSIVE TOOTH WEAR**



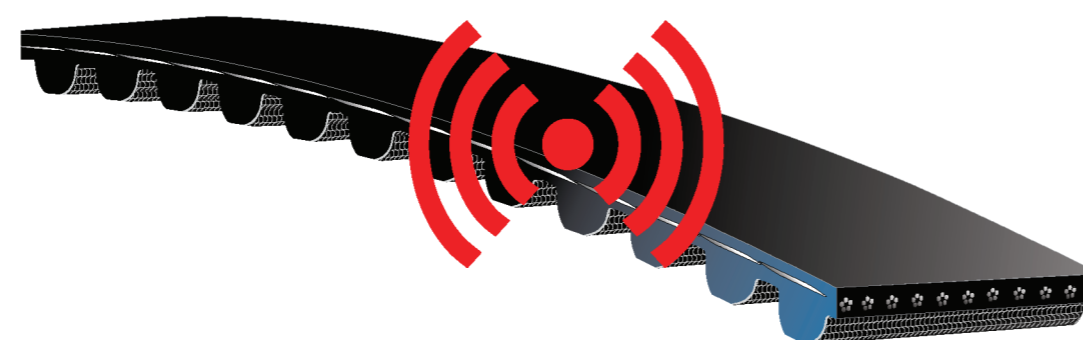
**5. TENSILE BREAK**



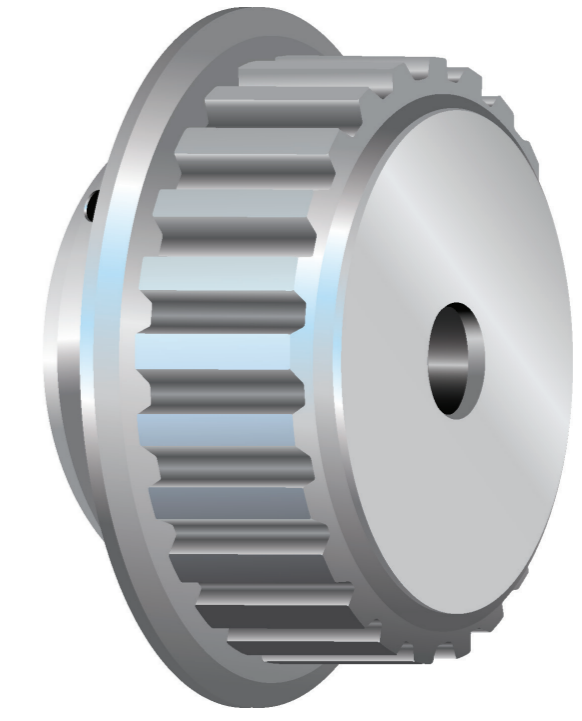
**6. TOOTH SHEAR**



**7. LAND AREA WORN**

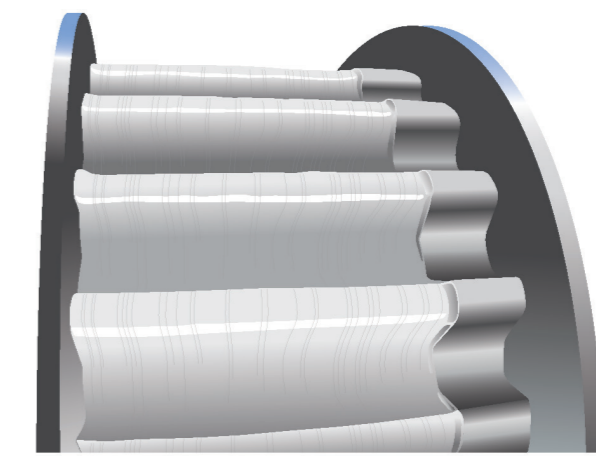


**8. UNUSUALLY LOUD DRIVE**



## FLANGE FAILURE

Flanges can be forced off by belts due to drive misalignment or improper flange attachment. Realign the drive and replace the sprocket.



## WORN SPROCKETS

Sprocket grooves wear due to length of service, misalignment, debris, drive overloading, or improper belt tensioning. If a ridge can be detected between the worn and unworn areas of the groove, the sprocket should be replaced.

SYMPTOM	PROBABLE CAUSE	CORRECTIVE ACTION
<b>1. DELAMINATION</b>	<ol style="list-style-type: none"> <li>Excessive shockload</li> <li>Less than 6 teeth in mesh</li> <li>Extreme sprocket run-out</li> <li>Worn sprockets</li> <li>Backside idler</li> <li>Incorrect sprocket groove profile</li> <li>Misaligned drive</li> <li>Belt undertensioned</li> </ol>	<ol style="list-style-type: none"> <li>Redesign to manufacturer's recommendations</li> <li>Redesign drive to manufacturer's recommendations</li> <li>Replace sprocket</li> <li>Replace sprocket</li> <li>Use inside idler</li> <li>Use proper belt/sprocket combination</li> <li>Realign drive</li> <li>Retension to manufacturer's recommendations</li> </ol>
<b>2. TRACKING</b>	<ol style="list-style-type: none"> <li>Misaligned drive</li> <li>Center distance exceeds 8X small sprocket diameter</li> </ol>	<ol style="list-style-type: none"> <li>Realign drive</li> <li>Redesign drive or realign existing drive</li> </ol>
<b>3. EXCESSIVE BELT EDGE WEAR</b>	<ol style="list-style-type: none"> <li>Misaligned belt drive</li> <li>Damage due to belt mishandling</li> <li>Flange damage</li> <li>Belt too wide for sprocket</li> <li>Rough flange surface finish</li> <li>Improper belt tracking</li> <li>Belt rubbing against guard or drive structure</li> </ol>	<ol style="list-style-type: none"> <li>Realign drive.</li> <li>Follow proper handling instructions.</li> <li>Repair flange or replace sprocket.</li> <li>Use proper belt width for sprocket.</li> <li>Replace or repair flange.</li> <li>Realign drive.</li> <li>Remove obstruction or realign drive.</li> </ol>
<b>4. EXCESSIVE TOOTH WEAR</b>	<ol style="list-style-type: none"> <li>Belt tension too low or too high</li> <li>Belt running partly off unflanged sprocket</li> <li>Misaligned drive</li> <li>Incorrect belt/sprocket match</li> <li>Worn, rough, or damaged sprocket</li> <li>Belt rubbing against drive bracketry or other obstruction</li> <li>Excessive load</li> </ol>	<ol style="list-style-type: none"> <li>Retension to manufacturer's recommendations</li> <li>Realign drive</li> <li>Realign drive</li> <li>Use proper belt/sprocket combination</li> <li>Replace sprocket</li> <li>Remove obstruction or alter belt path</li> <li>Redesign drive to manufacturer's recommendations</li> </ol>

SYMPTOM	PROBABLE CAUSE	CORRECTIVE ACTION
<b>5. TENSILE BREAK</b>	<ol style="list-style-type: none"> <li>Crimp failure-improper belt handling and storage prior to installation</li> <li>Excessive shockload</li> <li>Sub-minimal diameter</li> <li>Debris or foreign object in drive</li> <li>Extreme sprocket run-out</li> <li>Too low or too high belt tension</li> </ol>	<ol style="list-style-type: none"> <li>Follow proper handling and storage procedures</li> <li>Redesign drive to manufacturer's recommendations</li> <li>Redesign drive to use larger sprockets</li> <li>Protect drive</li> <li>Replace sprockets</li> <li>Retension to manufacturer's recommendations</li> </ol>
<b>6. TOOTH SHEAR</b>	<ol style="list-style-type: none"> <li>Excessive shockload</li> <li>Less than 6 teeth in mesh</li> <li>Extreme sprocket run-out</li> <li>Worn sprockets</li> <li>Backside idler</li> <li>Incorrect sprocket groove profile</li> <li>Misaligned drive</li> <li>Belt undertensioned</li> </ol>	<ol style="list-style-type: none"> <li>Redesign drive to manufacturer's recommendations</li> <li>Redesign drive to manufacturer's recommendations</li> <li>Replace sprocket</li> <li>Replace sprocket</li> <li>Use inside idler</li> <li>Use proper belt/sprocket combination</li> <li>Realign drive</li> <li>Retension to manufacturer's recommendations</li> </ol>
<b>7. LAND AREA WORN</b>	<ol style="list-style-type: none"> <li>Excessive tension</li> <li>Excessive sprocket wear</li> <li>Debris in sprockets</li> </ol>	<ol style="list-style-type: none"> <li>Retension to manufacturer's recommendations</li> <li>Replace sprocket</li> <li>Eliminate and guard against debris</li> </ol>
<b>8. UNUSUALLY LOUD DRIVE</b>	<ol style="list-style-type: none"> <li>Incorrect belt/sprocket match</li> <li>Incorrect tension</li> <li>Misaligned drive</li> <li>Worn sprockets</li> <li>Debris in sprockets</li> </ol>	<ol style="list-style-type: none"> <li>Use proper belt/sprocket match</li> <li>Retension to manufacturer's recommendations</li> <li>Realign drive</li> <li>Replace sprockets</li> <li>Eliminate and guard against debris</li> </ol>

## PREVENTIVE MAINTENANCE TOOLS FOR EVERY APPLICATION



### DOUBLE BARREL TENSION TESTER (30kg)

Product No. 7401-0075



### SINGLE BARREL TENSION TESTER (15kg)

Product No. 7401-0076

### 508C SONIC TENSION METER

Product No. 7420-0508



### BELT & PULLEY GAUGES

Product No. 7401-0015



### EZ ALIGN™ GREEN LASER ALIGNMENT TOOL

Product No. 7420-3000