## **BLADE PROBLEM SOLVING**

Problem	Problem Cause	Solution
Premature Blade Breakage Straight Break indicates fatigue	<ul> <li>Incorrect blade - teeth too coarse</li> <li>Blade tension too high</li> <li>Side guides too tight</li> <li>Damaged or misadjusted blade guides</li> <li>Excessive feed</li> <li>Incorrect cutting fluid</li> <li>Wheel diameter too small for blade</li> <li>Blade rubbing on wheel flanges</li> <li>Teeth in contact with work before starting saw</li> <li>Incorrect blade speed</li> </ul>	<ul> <li>Use finer tooth pitch</li> <li>Reduce blade tension (see machine manual)</li> <li>Check side guide clearance (see machine manual)</li> <li>Check all guides for alignment/damage</li> <li>Reduce feed pressure</li> <li>Check coolant</li> <li>Use thinner blade</li> <li>Adjust wheel alignment</li> <li>Allow 1/2" clearance before starting cut</li> <li>Increase or decrease blade speed</li> </ul>
Premature Dulling of Teeth	<ul> <li>Teeth pointing in wrong direction / blade mounted backwards</li> <li>Improper or no blade break-in</li> <li>Hard spots in material</li> <li>Material work hardened</li> <li>Improper coolant</li> <li>Improper coolant concentration</li> <li>Speed too high</li> <li>Feed too light</li> <li>Teeth too small</li> </ul>	<ul> <li>Install blade correctly. If teeth are facing the wrong direction, flip blade inside out</li> <li>Break in blade properly (Page 17)</li> <li>Check for hardness or hard spots like scale or flame cut areas</li> <li>Increase feed pressure</li> <li>Check coolant type</li> <li>Check coolant mixture</li> <li>Check recommended blade speed (Page 24-25)</li> <li>Increase feed pressure</li> <li>Increase tooth size</li> </ul>
Material Material Inaccurate Cut	<ul> <li>Tooth set damage</li> <li>Excessive feed pressure</li> <li>Improper tooth size</li> <li>Cutting fluid not applied evenly</li> <li>Guides worn or loose</li> <li>Insufficient blade tension</li> </ul>	<ul> <li>Check for worn set on one side of blade</li> <li>Reduce feed pressure</li> <li>Check tooth size chart (Page 23)</li> <li>Check coolant nozzles</li> <li>Tighten or replace guides, check for proper alignment</li> <li>Adjust to recommended tension</li> </ul>
Band Leading in Cut	<ul> <li>Over-feed</li> <li>Insufficient blade tension</li> <li>Tooth set damage</li> <li>Guide arms loose or set too far apart</li> <li>Chips not being cleaned from gullets</li> <li>Teeth too small</li> </ul>	<ul> <li>Reduce feed force</li> <li>Adjust recommended tension</li> <li>Check material for hard inclusions</li> <li>Position arms as close to work as possible. Tighten arms.</li> <li>Check chip brush</li> <li>Increase tooth size</li> </ul>
Chip Welding	<ul> <li>Insufficient coolant flow</li> <li>Wrong coolant concentration</li> <li>Excessive speed and/or pressure</li> <li>Tooth size too small</li> <li>Chip brush not working</li> </ul>	<ul> <li>Check coolant level and flow</li> <li>Check coolant ratio</li> <li>Reduce speed and/or pressure</li> <li>Use coarser tooth pitch</li> <li>Repair or replace chip brush</li> </ul>
Teeth Fracture Back of tooth indicates work spinning in clamps	<ul> <li>Incorrect speed and/or feed</li> <li>Incorrect blade pitch</li> <li>Saw guides not adjusted properly</li> <li>Chip brush not working</li> <li>Work spinning or moving in vise</li> </ul>	<ul> <li>Check cutting chart (Page 24-25)</li> <li>Check tooth size chart (Page 23)</li> <li>Adjust or replace saw guides</li> <li>Repair or replace chip brush</li> <li>Check bundle configuration/adjust vise pressure</li> </ul>
Irregular Break Indicates material movement	<ul><li>Indexing out of sequence</li><li>Material loose in vice</li></ul>	<ul> <li>Check proper machine movement</li> <li>Check vise or clamp</li> </ul>

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Problem	Problem Cause	Solution
Teeth Stripping	<ul> <li>Feed pressure too high</li> <li>Tooth stuck in cut</li> <li>Improper or insufficient coolant</li> <li>Incorrect tooth size</li> <li>Hard spots in material</li> <li>Work spinning in vise - loose nest or bundle</li> <li>Blade speed too slow</li> <li>Blade teeth running backwards</li> <li>Chip brush not working</li> </ul>	<ul> <li>Reduce feed pressure</li> <li>Do not enter old cut with a new blade</li> <li>Check coolant flow and concentration</li> <li>Check tooth size chart (Page 23)</li> <li>Check material for hard inclusions</li> <li>Check clamping pressure - be sure work is held firmly</li> <li>Increase blade speed - see cutting chart (Page 24-25)</li> <li>Reverse blade (turn inside out)</li> <li>Repair or replace chip brush</li> </ul>
Wear on Back of Blades	<ul> <li>Excessive feed pressure</li> <li>Insufficient blade tension</li> <li>Back-up guide roll frozen, damaged, or worn</li> <li>Blade rubbing on wheel flange</li> </ul>	<ul> <li>Decrease feed pressure</li> <li>Increase blade tension and readjust guides</li> <li>Repair or replace back-up roll or guide</li> <li>Adjust wheel cant</li> </ul>
Rough Cut Washboard surface Vibration and or chatter	<ul> <li>Dull or damaged blade</li> <li>Incorrect speed or feed</li> <li>Insufficient blade support</li> <li>Incorrect tooth pitch</li> <li>Insufficient coolant</li> </ul>	<ul> <li>Replace with new blade</li> <li>Increase speed or decrease feed</li> <li>Move guide arms as close as possible to the work</li> <li>Use finer pitch blade</li> <li>Check coolant flow</li> </ul>
Wear Lines, Loss of Set	<ul> <li>Saw guide inserts or wheel flange are riding on teeth</li> <li>Insufficient blade tension</li> <li>Hard spots in material</li> <li>Back-up guide worn</li> </ul>	<ul> <li>Check machine manual for correct blade width</li> <li>Tension blade properly</li> <li>Check material for inclusions</li> <li>Replace guide</li> </ul>
Twisted Blade Profile sawing	<ul> <li>Blade binding in cut</li> <li>Side guides too tight</li> <li>Radius too small for blade width</li> <li>Work not firmly held</li> <li>Erratic coolant flow</li> <li>Excessive blade tension</li> </ul>	<ul> <li>Decrease feed pressure</li> <li>Adjust side guide gap</li> <li>Use narrower blade</li> <li>Check clamping pressure</li> <li>Check coolant nozzles</li> <li>Decrease blade tension</li> </ul>
Blade Wear Teeth blued	<ul> <li>Incorrect blade</li> <li>Incorrect feed or speed</li> <li>Improper or insufficient coolant</li> </ul>	<ul> <li>Use coarser tooth pitch</li> <li>Increase feed or decrease speed</li> <li>Check coolant flow</li> </ul>