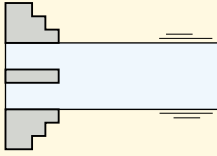


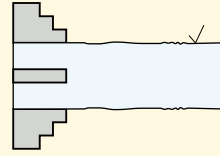
# Turning - Troubleshooting

## Vibrations



- Improve the stability of the tool and workpiece.
- Reduce the cutting speed.
- Increase the feed rate.
- Reduce the depth of cut.
- Select a freer cutting chipbreaker.
- Select a smaller nose radius.

## Poor surface finish



- Reduce the feed rate.
- Increase the cutting speed.
- Use a coolant.
- Improve the stability of the tool and workpiece.
- Select a freer cutting chipbreaker.
- Increase the nose radius.

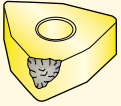
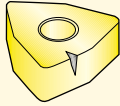
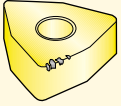
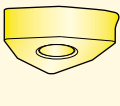
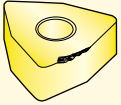
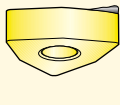
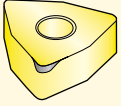
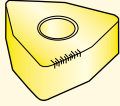
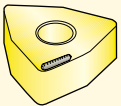
# Turning - Troubleshooting

## Tool life problems

### Breakage or short tool life

**Step 1.** Reduce the cutting data (first feed rate, then cutting depth).

**Step 2.** Look at the wear pattern on the insert and use the table below as a guideline for improvement.

<p><b>Insert fracture</b></p> 	<ul style="list-style-type: none"> <li>• Reduce the depth of cut.</li> <li>• Select a tougher grade.</li> <li>• Select a stronger chipbreaker.</li> <li>• Select a thicker insert.</li> <li>• Reduce the feed rate.</li> </ul>	<p><b>Notch wear</b></p> 	<ul style="list-style-type: none"> <li>• Reduce the cutting speed.</li> <li>• Reduce the feed rate.</li> <li>• Increase the lead angle.</li> </ul>
<p><b>Edge chipping</b></p> 	<ul style="list-style-type: none"> <li>• Reduce the feed rate.</li> <li>• Select a stronger chipbreaker.</li> <li>• Select a tougher grade.</li> <li>• Minimize the vibrations.</li> <li>• Increase the cutting speed.</li> </ul>	<p><b>Plastic deformation</b></p> 	<ul style="list-style-type: none"> <li>• Use a coolant.</li> <li>• Select a more wear-resistant grade.</li> <li>• Reduce the cutting speed.</li> <li>• Reduce the feed rate.</li> </ul>
<p><b>Chip hammering</b></p> 	<ul style="list-style-type: none"> <li>• Change the feed rate.</li> <li>• Change the depth of cut.</li> <li>• Use a toolholder with a different lead angle.</li> <li>• Re-direct the chips by selecting a different groove</li> </ul>	<p><b>Built-up edge</b></p> 	<ul style="list-style-type: none"> <li>• Increase the cutting speed.</li> <li>• Select a freer cutting chipbreaker.</li> <li>• Increase the feed rate.</li> </ul>
<p><b>Land wear</b></p> 	<ul style="list-style-type: none"> <li>• Select a more wear-resistant grade.</li> <li>• Reduce the cutting speed.</li> </ul>	<p><b>Thermal cracking</b></p> 	<ul style="list-style-type: none"> <li>• Use an abundant flow of coolant or shut off the coolant.</li> <li>• Reduce the cutting speed.</li> <li>• Reduce the feed rate.</li> </ul>
<p><b>Crater wear</b></p> 	<ul style="list-style-type: none"> <li>• Select a more wear-resistant grade.</li> <li>• Use a coolant.</li> <li>• Reduce the cutting speed.</li> <li>• Reduce the feed rate.</li> </ul>		