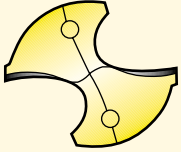
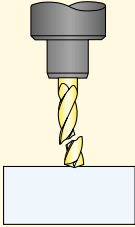
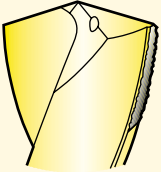
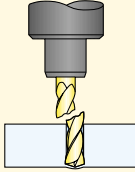
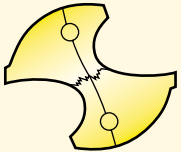
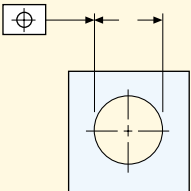

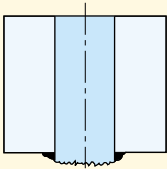



Drilling – Solid drills/Troubleshooting

<p>Rapid flank wear</p> 	<ul style="list-style-type: none"> • Check the machine spindle, fixture and clamping of the component. • Increase coolant concentration. • Reduce the cutting speed. 	<p>Breakage on contact</p> 	<ul style="list-style-type: none"> • Check and make sure it is within .002 inch TIR. • Check the machine spindle, fixture and clamping of the component. • Reduce feed during entrance.
<p>Wear/Periphery land</p> 	<ul style="list-style-type: none"> • Check and make sure it is within .002 inch TIR. • Check the machine spindle, fixture and clamping of the component. • Increase coolant concentration. • Reduce the cutting speed. 	<p>Breakage at hole bottom</p> 	<ul style="list-style-type: none"> • Check and make sure it is within .002 inch TIR. • Check the machine spindle, fixture and clamping of the component. • Reduce feed during entrance. • Increase coolant pressure and adjust the feed to optimize the chip formation. • Regrind the drill.
<p>Chipping/Center</p> 	<ul style="list-style-type: none"> • Check and make sure it is within .002 inch TIR. • Check the machine spindle, fixture and clamping of the component. • Reduce feed during entrance. • Increase coolant pressure and adjust the feed to optimize the chip formation. 	<p>Poor tolerance/positioning</p> 	<ul style="list-style-type: none"> • Check and make sure it is within .002 inch TIR. • Check the machine spindle, fixture and clamping of the component. • Reduce feed during entrance. • Reduce the feed. • Increase coolant pressure and adjust the feed to optimize the chip formation. • Regrind the drill.
<p>Chipping/Outer corner, cutting edge</p> 	<ul style="list-style-type: none"> • Check the machine spindle, fixture and clamping of the component. • Reduce feed during entrance. • Increase coolant concentration. • Regrind the drill. • Reduce the cutting speed. 	<p>Burrs on exit</p> 	<ul style="list-style-type: none"> • Reduce the width of edge preparation (W).
<p>Built-up edge</p> 	<ul style="list-style-type: none"> • Increase coolant concentration. • Increase the cutting speed or, if the drill is worn, regrind it. 		