

# Mastercut Troubleshooting Guides

## Solid Carbide Reamers

Challenge	Cause	Corrective Action
Hole Accuracy	Misaligned Starter Hole	Inspect fixturing/work piece set up - Use floating tool holder or bushing
	Incorrect Speed Rate	Typically increase speed, check speed recommendations
	Incorrect Feed Rate	Typically decrease feed, check feed recommendations
	Incorrect Tool Diameter	Inspect tool diameter. Replace or reduce diameter
	Tool Wear	Sharpen or replace tool - Use coated tool
Poor Finish	Unequal Cutting Edges	Regrind tool with equal chamfer height or radius size
	Incorrect Feed Rate	Check feed recommendations, adjust accordingly
	Incorrect Speed Rate	Check speed recommendations, adjust accordingly
	Chatter	Increase speed rate or decrease feed rate
	Insufficient Material Removal	Reduce initial drill size - Leave 2-3% of finished size for reaming
	Spindle/Tool Holder Runout	Use bushing. Replace tool holder (Bushing to be .0003" larger than reamer)
	Damaged Tool	Regrind or replace tool
	Insufficient Cutting Clearance	Reduce clearance behind chamfer or radius
Angled Holes	Inconsistent Feed Rate	Maintain constant feed. Use power feed on manual machines
	Drill Deflection/Walk	Correct drilling operation (Check drill trouble shooting for corrective actions)
	Insufficient Material Removal	Reduce initial drill size. Leave 2-3% of finished size for reaming
	Misaligned Set Up	Inspect fixturing/work piece set up - Use floating tool holder or bushing
Premature Tool Wear	Insufficient Chamfer Angle	Regrind reamer with higher included angle (100° - 180°)
	Incorrect Material Removal	Drill initial hole size to leave 2-3% of finished size for reaming
	Incorrect Feed Rate	Typically decrease feed, check feed recommendations
	Misaligned Starter Hole	Inspect fixturing/work piece set up. Use floating tool holder or bushing
	Hard or Abrasive Material	Use coated tool
	Poor Coolant Condition	Replace coolant or correct mix ratio
Chatter	Chip evacuation	Increase coolant flow
	Incorrect Speed Rate	Typically increase speed, check speed recommendations
	Incorrect Feed Rate	Typically decrease feed, check feed recommendations
	Loose Tool	Tighten or replace tool holding method
	Low Work Piece Rigidity	Tighten or improve work piece holding method
	Low Tool Holding Strength	Tighten tool holder. Minimize float
	Poor Tool Set Up - Concentricity	Minimize runout to less than .0002"
Tool Breakage	Low Tool Rigidity	Use shorter reamer - Place tool shank deeper in tool holder
	Misaligned Set Up	Inspect fixturing/work piece set up. Use floating tool holder or bushing
	Drill Deflection/Walk	Correct drilling operation (Check drill trouble shooting for corrective actions)
	Tool Wear	Sharpen or replace tool - Use coated tool
	Damaged Tool	Regrind or replace tool
	Incorrect Material Removal	Check initial drill size - Leave 2-3% of finished size for reaming
	Incorrect Speed Rate	Typically decrease speed, check speed recommendations
	Incorrect Feed Rate	Typically increase feed, check feed recommendations
Tool Bottoming in Hole	Reduce depth of cut - adjust stop depth	