Training

Tips and Tricks to Optimize Your Precision Circular Sawing Operation

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The ability to optimize your sawing operation can be the difference between just getting by and turning a profit. The challenge is that it is easier said than done. There are a number of variables that play a role in your Precision Metal Cutting Circular Sawing Operation. The ability to balance those different variables is critical to staying productive so you can stay competitive in today's challenging environment. The following charts help you understand some of the issues that you may face and provide tips and tricks that can solve the problem and keep you operating at your peak efficiency levels.

CHALLENGES WITH THE SAWING OPERATION

PROBLEM	POTENTIAL SOLUTIONS
Excessive vibration or noise	Increase the feed rate
	Reduce the cutting speed
	Increase the lubrication
Crooked cutting	The tooth pitch is too fine. Choose a coarser tooth pitch (Ex. 80T to 60T)
	Reduce the feed rate
	Evaluate the machine components (Ex. Check the guides)
Wavy cutting	Increase the feed rate
Chips are too hot (Glowing)	Reduce the feed rate
	Reduce the cutting speed
	Increase the lubrication

POOR FINISH ON CUT PARTS

PROBLEM	POTENTIAL SOLUTIONS
Poor finish / Excessive striping	Reduce the feed rate
	Increase the cutting speed
	Change to a blade with a finer tooth count (Ex. 60T to 80T)
	Replace the blade
	Check the chip brush. Make sure it is fully engaged
	Increase the lubrication
Heavy burr	Reduce the feed rate
	Increase the cutting speed
	Inspect the machine components (Ex. Chip breaker)
	Replace the blade

INSUFFICIENT BLADE LIFE

PROBLEM	POTENTIAL SOLUTIONS
Excessive edge chipping	Increase the cutting speed
	Reduce the feed rate
	Reduce the coolant flow
	Change to a blade with a finer tooth count (Ex. 6OT to 8OT)
Chip welding or Built Up Edge (BUE)	Increase the cutting speed
	Increase the lubrication quantity
	Use a coolant with greater lubrication (Higher EP additives)
	Change the coolant delivery method (Mist)
	Check the chip brush. Make sure it is engaged deep in the blade's gullets
	Consider a coated blade to reduce adhesion
Tooth strippage / Excessive tooth loss	Reduce the feed rate
	Reduce the cutting speed
	Check for chip welding or built up edge (see above)
	Use a coolant with greater lubrication (Higher EP additives)
	Change to a blade with a finer tooth count (Ex. 6OT to 8OT)
Blade's gullets are packing with chips	Check the chip brush. Make sure it is fully engaged
	Use a coolant with greater lubrication (Higher EP additives)
	Reduce the feed rate
	Choose a blade with coarser tooth pitch or deeper gullets (Ex. 8OT to 6OT)

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