



**THREADING  
TOOLS**

**TROUBLESHOOTING  
GUIDE**

Cause	Problem									Solution
	Breakage	Chipping	Low Tool Life	Rough Threads	Oversized Thread	Undersized Thread	Chip Packing	Galling	Bell Mouthing	
Pitch diameter or pitch limit too small			●			●				Switch to a larger pitch limit
Pitch diameter or pitch limit too big					●					Switch to a smaller pitch limit or check for runout and overfeeding
Incorrect Class of Fit			●		●	●				Check part print and thread gauge for proper Class of Fit
Tap geometry is not optimal for the application	●	●	●	●			●	●		Select a tap designed for the machine and part material
Improper coating or surface finish			●	●				●		Selected a high performance or anti-galling PVD coating
Flute length too short							●			Applications greater than 3xD require a special tap
Chamfer too short			●	●				●		Select a tap with an optimal chamfer length
Using a spiral point tap in a blind hole	●	●	●				●			Never use spiral point taps in a blind hole application
Runout in the tap shank, chamfer, or pitch diameter			●	●	●				●	Switch taps to YG-1
Tap is excessively worn	●	●		●		●		●		Use optimal lubrication, operating parameters, and hole size
Tap holder, collet, or adapter is excessively worn	●	●	●	●	●				●	Replace old and worn holders, collets, and adapters
Hole size too small	●	●	●	●			●			Increase hole size to a maximum of 65% thread
Hole is work hardened	●	●	●	●						Keep drills sharp for tapped holes - avoid peck drilling
Spindle speed is too fast	●	●	●	●				●		Decrease spindle speed to achieve optimal tap performance
Spindle speed is too slow			●	●				●		Increase spindle speed to achieve optimal tap performance
Spindle load too high	●	●								Change worn taps, increase hole size, use proper tap geometry
Coolant is improperly filtered	●		●	●	●					Check coolant for metal fines, change or clean filter media
Coolant flow and direction not adequate			●	●				●		Use maximum coolant pressure and aim at the hole and tap
Coolant concentration is too low	●		●	●				●		Optimal coolant concentration is 8% to 10% for tapping
Recutting or backing over chips	●	●								Maximize hole size, use optimal chamfer length and tap geometry
Hitting the bottom of the hole	●				●					Adjust tapping depth, drill the hole deeper, shorter chamfer length
Minor diameter burrs						●				Monitor tap wear, use proper tap geometry, maximize hole size
Poor thread finish						●		●		Adjust spindle speed, monitor tap wear, use proper tap geometry