

No. 060

What does the word "Welding" mean?

Cutting tap

【Consultation】



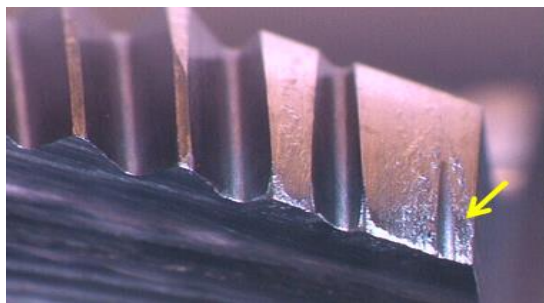
I continue to see the word "Welding" in the Trouble Shooting Check Point Section of the YAMAWA General Catalog. What does the word "Welding" mean as a problem when tapping? Can you please help me understand?

【Answer】

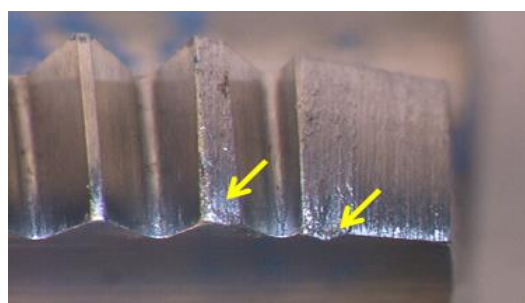
In the Check Point portion of the Trouble Shooting Section in the YAMAWA General Catalog, the term "Welding" is used to describe what happens when the workpiece material is heated to a point of melting while threading. The melted material adheres, "Welds" to the tap or Die and Solidifies. As welding develops, various tapping problems will occur, so be careful.



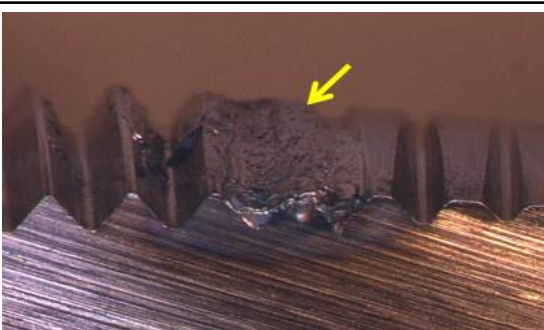
【Pictures of actual welding】



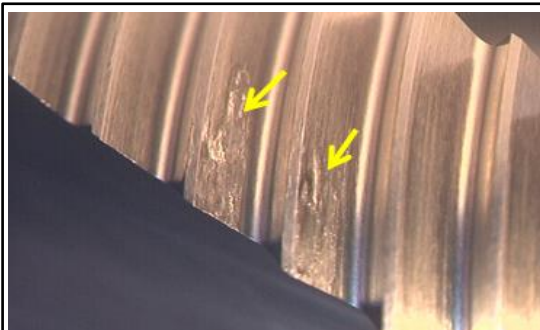
1. Mild "Welding" occurred on the flank of the tap's cutting chamfer portion.



2. Severe "Welding" occurred on the flank of the tap's cutting chamfer portion.



3. Extreme "Welding" occurred on the entire tap.



4. Welding occurred on the surface of the threaded portion of the tap.

Observations by eye may be difficult to see. When checking for welding, use a magnifying glass or loupe and the welding will be clearly visible. When a tapping problem occurs, and you use a magnifying glass to see the state of the tap, the cause of the problem is often found.



Problems caused by welding are widespread in threading. Welding is often the cause of various other problems such as "Chipping of the cutting edge", "broken and missing flutes", "Tap breakage", "Internal GP's (GO Gauge not fitting)", "Internal NP (NO GO Gauge not fitting)" and "Internal machined surface finish defects". The cause of welding may be "Lack of tapping fluid" or "an excessive cutting speed".