

[Question]



I'm thinking of regrinding taps to reuse them. Are there any recommendations that define which types of taps can be reshaped and which ones can not?

[Answer]

The performance of all taps is highly dependent on the balance of elements like, the cutting angle, the cutting chamfer and the margin width. Normally, Yamawa does not recommend regrinding taps because it will result in a loss of performance of the resharpened taps compared to the originally factory ground taps. If you do decide to resharpen taps please refer to the following points when regrinding them.



Yamawa does not recommend regrinding the following taps.

1. Special taps designed for high tapping speed.

Products manufactured with highly defined specifications to achieve extremely high tapping performance. Regrinding is not recommended because it is difficult to reproduce each of the key elements.



HFHS, for Ultra Fast Tapping, HF Series



F-SP, Spiral Fluted Taps for High Speed Tapping



MHSL, for Carbon Steels of medium hardness, Through Hole Use

2. Taps with a surface treatment.

Surface treatments like TiN, TiCN, Ni, and OX that are applied on certain portions of the tap like the chamfer relief and flutes will be removed by regrinding. This will result in poor tapping performance and recreating the surface treatment is very difficult.



PO-V, Tin coated Spiral Pointed Taps



LA-HT, Hand Taps for Die Cast Materials
Ni coated surface



SU-PO, Spiral Pointed Taps for Stainless Steels
OX treated surface

3. The flute portion of Spiral Fluted and Spiral Pointed Taps.

Flute portion of Spiral Fluted



Flute portion of Spiral Pointed



4. Tap sizes under M24.

Tap performance will decrease 50% to 70% after regrinding. From a cost benefit point of view, it is not recommended to regrind taps sizes under M24.

5. Taps used in special applications.

Tapping performance will be unstable after regrind. It is therefore not recommended to regrind taps if the taps are used in an unmanned operation or where the taps are changed constantly.

Tap types available for regrind and cautions

1. Where the above suggestions are concerned, the type of taps suitable for regrinding should be limited to larger diameter taps or standard taps with a high value.
2. Reground taps are normally unbalanced. Yamawa recommends that these reground taps not be installed in full synchronous machinery. Reground taps are suitable where there is a misaligned machine or where tool life expectations are low. Be very careful with the enlargement of an internal screw thread that might occur when applying reground taps in unstable machinery.