

Technical Notes

WOOD MACHINING & TOOLING RESEARCH

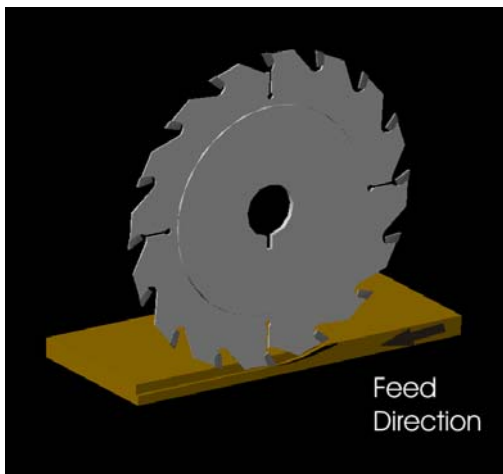
CLIMB CUTTING VERSUS CONVENTION CUTTING

CONVENTIONAL CUTTING

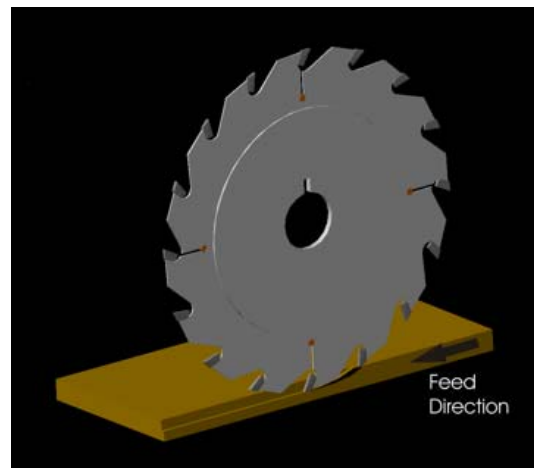
- Operates against the direction of stock feeding
- **Build chips as the tooth advances, beginning thin, ending thickest**
- Does not dull knife/tooth as quickly as climb cutting
- Utilizes HP smoothly as the chip size increases gradually
- Requires less HP
- Creates less vibration than climb cutting because the individual tooth (knife) impacts are not abrupt
- Provides POORER finish quality than climb cutting
- Can be accomplished by either mechanical or manual stock feeding.

CLIMB CUTTING

- Operates with the direction of stock feeding
- **Building chips that are largest at the beginning and continue to diminish in thickness**
- Works with abrupt impact of the knife/tooth against the workpiece which can create significant vibration
- Provides superior finish quality because the knife/tooth rubs only the surface at the end of the cutting arc
- Dulls the tools more quickly because of the rubbing effect
- Allows faster feed rates due to the better finish quality
- Must be accomplished with only mechanism stock feeding mechanisms



Conventional Cutting



Climb Cutting

Source: “Chisels on a Wheel” by J. Effner page 14 and The Leitz Lexicon

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