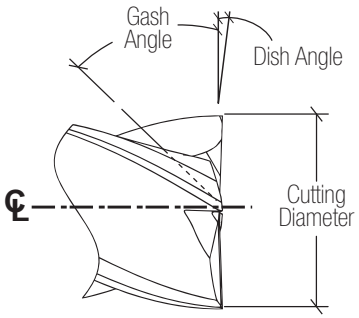
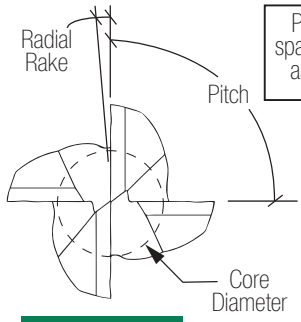
End Mill Construction

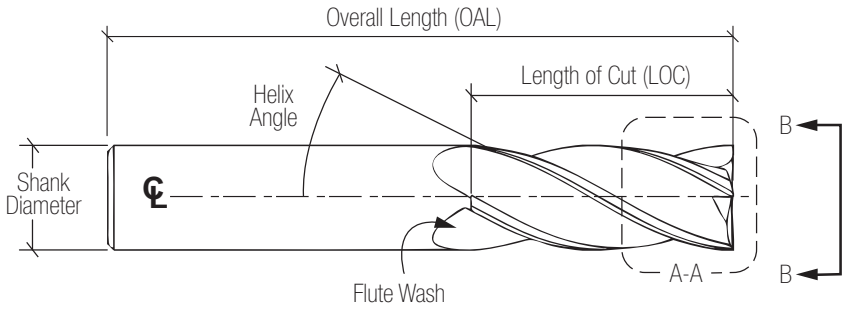


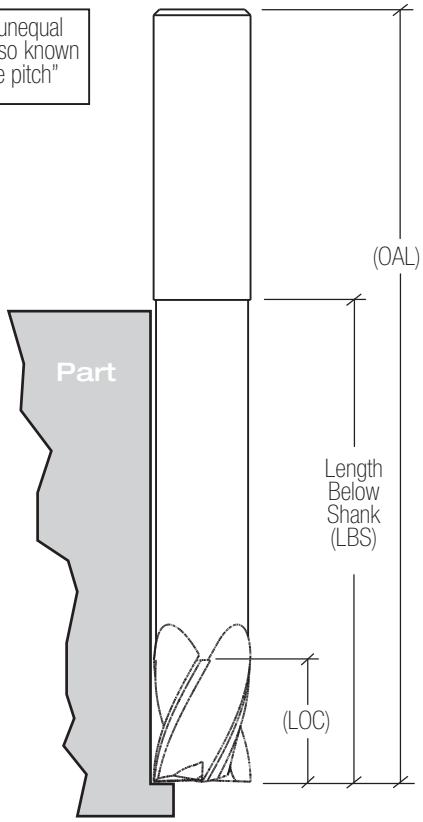
View A-A



View B-B

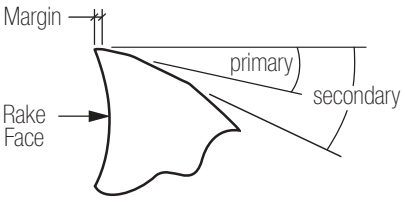
Pitch with unequal spacing is also known as "variable pitch"



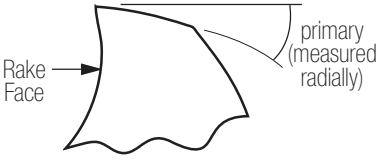


Core Diameter	The diameter measured tangent from bottom of all flutes. This diameter dictates the strength of your end mill.
Cutting Diameter:	Measured from margin-to-margin on cutting end of tool. An even number of flutes can be measured 180º apart.
Dish Angle:	Angle perpendicular to centerline of tool and allows proper end cut characteristics - reduces full diameter contact.
Flute Wash:	Amount of non-cutting flute area past the length of cut.
Gash Angle:	The diameter measured tangent from bottom of all flutes. This diameter dictates the strength of your end mill.
Helix Angle:	This is the angle formed by a line tangent to the angle of the flute grind and parallel to the centerline of the tool.
Length Below Shank (LBS):	A length measured from front of tool back to the shank, allowing extra room for deep pocketing conditions.
Length of Cut (LOC):	This is the actual cutting depth of the tool in the axial direction.
Overall Length (OAL):	A measurement taken from end-to-end of the tool.
Cylindrical Margin:	Portion of the "uncleared" area on the peripheral area of the tool, allowing for a small area of contact with the work piece.
Pitch:	This is an equal angular measurement from flute-to-flute. If the tool is a variable pitch style then this spacing is unequal.
Radial Rake:	The angle of the rake face measured from center of the tool.
Radial Relief:	Area where cutting face is relieved behind the cutting edge in order to avoid rubbing, while maintaining maximum cutting tool strength.
Cylindrical:	A very effective relief for non-ferrous alloys. Includes a primary and secondary relief angle.
Eccentric:	A powerful edge design for ferrous and tough material cutting. This design includes a primary relief measured radially along its edge.
Standard:	A traditional grind allowing for moderate edge strength and high degree of primary and secondary radial relief.
Shank Diameter:	The end of the tool that is held in the holder and requires a high degree of accuracy and roundness.

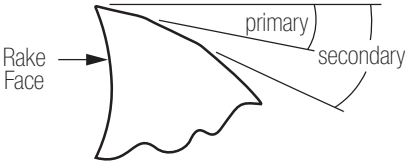
Radial Relief Types



Cylindrical



Eccentric



Standard