

MACHINE CONDITION

A tool is only as good as the machine it's run on and the operator that runs it. Both the grinder and the moulder must be kept in top condition to produce an acceptable product. The moulder must be properly setup and aligned. This includes checking fences, tables, feed rollers for both alignment and wear. The vast majority of "tooling problems" are actually the result of a machine problem. A smaller percentage is the result of improperly specified tooling for the application.

Only 5% of "tooling problems" are truly related to tooling. Proper operator knowledge and training is a very important factor more commonly overlooked than you might think. An operator that understands the nature of the tooling and machinery being used is better equipped to produce quality products.

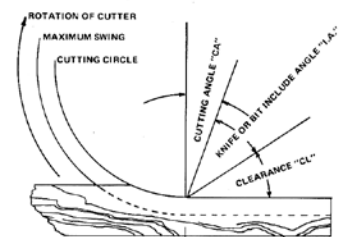
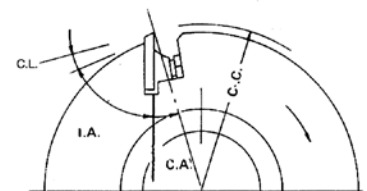
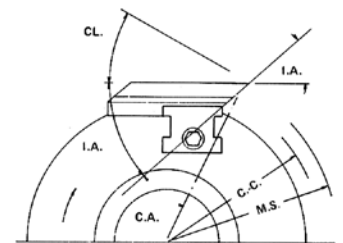
Cutting Chart for Hook Angles

The following chart represents generally recommended hook angles, knife marks per inch and feed rate and finish for different species of wood. They are intended to be used as a guideline.

| Type of Wood | Kiln Dried 7% Moisture or less | Wet or Green More than 9% |
|--------------|--------------------------------|---------------------------|
| Ash | 10 degrees | 15 degrees |
| Basswood | 10 degrees | 22 degrees |
| Beech | 10 degrees | 15 degrees |
| Birch | 10 degrees | 15 degrees |
| Cedar | 10 degrees | 15 degrees |
| Cherry | 10 degrees | 15 degrees |
| Chestnut | 10 degrees | 15 degrees |
| Cottonwood | 10 degrees | 15 degrees |
| Cypress | 10 degrees | 15 degrees |
| Fir | 15 degrees | 15 degrees |
| Gum | 22 degrees | 22 degrees |
| Hemlock | 15 degrees | 22 degrees |
| Hickory | 10 degrees | 15 degrees |
| Mahogany | 10 degrees | 15 degrees |
| Maple | 10 degrees | 15 degrees |
| Oak | 10 degrees | 15 degrees |
| Pine | 22 degrees | 22 degrees |
| Poplar | 22 degrees | 22 degrees |
| Redwood | 10 degrees | 15 degrees |
| Spruce | 22 degrees | 22 degrees |
| Sycamore | 10 degrees | 10 degrees |
| Walnut | 10 degrees | 10 degrees |
| Elm Soft | 10 degrees | 10 degrees |



Cutting Angles



These sketches illustrate the cutting angle and knife and bit bevel relation on a typical milled-to-pattern head and a round head.