Blank Preparation

Whether you own a large shop or a small shop, producing architectural-grade moldings requires thoughtful preparation. Indeed, manufacturing moldings, which are precise, uniform, and esthetically pleasing, can be a difficult process. This process is considerably eased when one begins with molding blanks that are correctly sized, derived from high quality lumber, and free of debris. However, without precision made molding knives, even the "best" blanks will yield inferior products.

The following is a handy checklist of outlining common problems with molding blanks that can lead to inferior quality of the moldings that you are trying to produce.

Checklist of common problems:

- Non-uniform molding blank
  The importance of inspecting your molding blanks to make sure that they are uniform, and not wedge shaped, cannot be overemphasized. If the blanks are wedge shaped, either from end-to-end or side-to-side, the quality of the finished moldings will suffer. It is also important that your molding blank be pre-planed, at minimum on the bottom side that will index to the machine, in order to ensure uniformity.

- Oversized molding blanks
  The use of oversized molding blanks may lead to tear out, which will ruin your moldings. Oversized molding blanks also waste wood, and increase production costs. In order to select the correct size of molding blank, consider the following guideline. Using the Woodmaster Planer/Molder as an example, the molding stock should be pre-sized to within 1/16" of the final thickness and width of the molding. Wherever there is a "leg" that cuts the side leave 1/16" (ie: if the knife has a leg on each side then leave 1/16" per side to cut, which is 1/8" overall on the width). . For those patterns that require both top and bottom knives, remember to allow 1/16" oversize for each knife.

- Undersized molding blanks
  The problem with using undersized stock to produce moldings is that the original stock will not machine properly and a muddled molding profile will result. One of the most common problems with using undersized stock occurs when using a molding knife with legs. In such a situation the stock is either not thick enough or wide enough for the knife to properly remove the necessary stock needed to produce a crisp molding profile.

- Twisted, bent, or cupped molding blanks
  The use of twisted, bent, or cupped molding blanks is a perfect example of "you get out, what you put in." For instance, if you put a twisted piece of molding stock into your molder, you will usually get a twisted piece out. You may be able to correct

warped stock initially, by jointing them on your jointer or cutting the twisted portion into shorter sections. If the existing stock is beyond repair, put it in the firewood pile. You may have to bite the bullet and use a better grade of lumber for your molding projects.

- Collapsed Cells
  This is a result of improper drying techniques that cause the wood cells to collapse and instill undue stress in the wood. When machining wood with this condition you may encounter twisting, springing, or cracking of the wood. It is advisable to avoid using such wood for moldings as it can cause kickback and may present danger.

- Reaction Wood
  Will often crack or split when nailed or screwed. Reaction Wood will also twist or curl when machined, and in the case of hardwood it will also be less likely to accept stain evenly. An example of Reaction Wood is when you rip a board and it "springs" out. Fortunately, Reaction Wood, or at least the really bad pieces, are normally rare. The unfortunate part is that Reaction Wood is harder to detect after the log has been sawn. Reaction Wood is normally caused from a strain that results from a leaning tree. In Softwood the lower side of the lean is called "compression wood", and in Hardwood the upper side of the lean is where Reaction Wood occurs. In Hardwood this is referred to as "tension wood".

- Improper Moisture Content
  For most applications which involve interior moldings, the moisture content of the lumber that you are using should be between 6% and 8%. When manufacturing exterior siding the moisture content of the moldings stock should be 15% or less. In the case of exterior siding, it is wise to check with your local building inspector's office to verify that this conforms to the area building code.

- Complex Wood grain
  If possible, you should cut with the grain of the wood. Cutting with the grain may prove difficult since the grain in wood can often change direction within the same piece. Reducing the feed rate results in more cuts per inch, and may improve the quality of moldings made from stock with complex grains.

- 'Dirty' Stock
  Before running stock through your machine, make sure that all four sides of the wood are free from dirt, staples, and gravel. The ends of the lumber must also be carefully examined for debris. The ends of the lumber are often neglected, but they too can easily be imbedded with debris, especially if they have been standing on

  end. Remember that even a small amount of dirt can act as an abrasive and prematurely dull your knives.

Other Considerations:

Make Back Cuts First

Many moldings such as casing, baseboard, or the bevels on a crown molding, require a back relief cut. This back relief should always be made first to ensure that your base surface is as flat as possible before turning the molding blank over to run the profile. When making a large back cut, such as a large rabbet, make the rabbet cut first. IN this way it will be easier to shim and support this square cut, as opposed to supporting a profile.

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