Matched-Pattern Joining

by David Quattlebaum

Our shop often does frames with unusual shapes or stacked designs. The execution of these projects can be difficult at times, and given the clients' investment, the frames must be some of our best crafted. One of the extras that we've found to enhance the design is matched-pattern joining throughout the frame. In most instances this can be achieved at all but one join, although this may vary according to the style of pattern match that you choose to implement.

Photo 1: Multiply the total cuts by the inches between the repeat in the moulding pattern.

Running & Repeat Patterns

There are two basic styles of matched-pattern joining. Which to use may be determined either through design factors or through the pattern feasibility within the length of moulding. The first type is running pattern matching. This style is used when the turns of the frame are slight and you want to hide the joins as much as possible. We use this join primarily on cathedral-shaped frames. The technique for completing this type of join is tricky to master, but a little practice will make it seem old hat. The key is in the preliminary planning of the frame design.

Begin by doing a full-scale, measured drawing of the frame you will be building. This may seem tedious, but I assure you the time will be saved later by reducing the need for re-chopping and re-calculating angles. After the drawing is done, measure your angles and the lengths of each chop. This is all the basic information you'll need to build the frame project. However, if you want to match the pattern as though there are no seams in the frame, more planning is needed. Look at the direction of the pattern. Does it flow to the left or the right? If it flows to the right, the most natural design will be to begin chopping in the bottom left corner, allowing the frame design to "rotate" in a clockwise motion.

Figure A: The repeat pattern in this design occurs every 4", so if you were building an octoganal frame you'd have to account for an extra 64".

The second style of matching is called repeat pattern. This type is typically less difficult to execute and is significantly easier to master because it requires much less pre-planning. Aesthetically, this design is best used in long, multi-chop arches, where the repeat of the same pattern can add an element of repetition to the design. In other cases where there is a sharp turn in the

Making the corner joins count.

Matched-Pattern Joining

Photo 2: You'll need to account for the additional footage needed as waste in multiple chops.

Photo 3: Take note of where the blade rests, you'll need to duplicate it when you begin your next chop.

shape of the frame, or where a corner occurs, this style of join can be distracting and call attention away from the subject being framed.

Calculating Labor Charges

One of the most difficult aspects of doing matched-pattern joining often starts at the design counter. Each frame shop has different ways of calculating the labor involved in a job and the mark-up for length moulding, but the one aspect that all shops have in common is the amount of product required for the project. In order to accurately know the footage of moulding required for these types of joins, you will need to refresh a few math skills and know what your finished project will look like.

First, decide how many sides the frame will have. After determining this you will know how many total joins you need for the project. Now multiply by two. This is the number of total cuts that must be made. Multiply this number by the inches between the repeat in the pattern of the moulding (see Photo 2). Now you have the total additional inches required for the matched-pattern joining. This number can be converted to feet to find the additional footage needed to complete the project.

In Figure A, the repeat occurs every 4". Therefore, if you were to build an octagonal frame with this moulding you'd have to account for an extra 64" or 5⅓ feet of product. If you're not familiar with this calculation, the customer may be grossly undercharged for the amount of product needed to complete the project. Remember, this is the additional footage needed solely for the moulding repeat. This doesn't account for the additional footage needed as waste in the multiple chops (see Photo 3).

Once the amount of footage is properly calculated, the designer may decide to verify the type of pattern match with the client. Keep in mind that the running pattern style typically involves more labor and should be priced accordingly.

Once the design is chosen, execution is simple.

Photo 4: Sometimes a flowing design can be "tricked" into making a perfect swirl around the corner chop of the frame.

Putting It Together

Now the design has been decided and the job has been properly priced. The execution is simple with a little practice. In order to prepare for the chopping, decide where the pattern will begin and end. This is usually the point that will determine the flow of the rest of the project, and also the point at which the final join will not match. Visual flow usually suggests that the starting point should be the lower left of the frame design. As you make your second cut (to the measurement specified by your design) be sure to make special note of where the blade rests on the design (see Photo 1). You'll want to duplicate this position as you begin the next chop. And when you consider how to match the flow of the pattern, you must also factor in the degree at which the chop is cut. For example, if your cut is at 5.625°, then the pattern compromise from the front of the moulding to the back of the moulding will be very little. In fact, if the moulding has a low relief pattern, there will be almost no variation in the match. However, if the cut is the standard 45°, then you will be forced to compromise the cut either to the front or the back of the profile. A general rule of thumb suggests matching the larger, higher relief of more massive areas of the design and compromising the lower areas. One exception to this rule might be if there were a flowing design that could be "tricked" into making a perfect swirl around the corner chop of the frame (see Photo 4). To continue the chop, make certain the blade width has been accounted for, and recognize that if the pattern in your first chop is missing a sliver of a peak in the pattern at the cut, then this sliver must be replaced on the next rail of the moulding. Once you've started, continue, being sure to remain consistent throughout the frame until the project has been completed (see Photo 5).

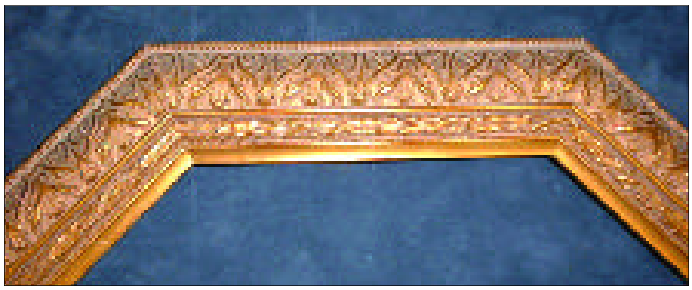

Photo 5: Once you've started the project, continue until it's completed, remaining consistent throughout.

As this technique becomes more and more natural to you as a craftsperson, it will make your shop shine as a maker of superior quality frame joining. ■