Making moldings with hollows and rounds (and a few other planes)

or, Why You Need More Tools Than You Have Already

Design Issues

The primary concern when designing a molding is the use to which you will put it. If you have a house full of modern furniture with mostly straight lines, ornate moldings from 100 years ago may look out of place. Similarly, if all of your furniture was built in the 19th century, today's mass-produced moldings look woefully incongruous. If you are building moldings for a piece of furniture you are building, you already have a style in mind. If you are trying to reproduce a missing piece of molding when restoring an antique, you already know what it ought to look like, but you may not know how to create a piece of molding. It's mostly just a matter of thinking about whether you are matching something else or starting from scratch. In the former case, the look is pretty much predetermined. In the latter, you have more degrees of freedom, but you are clearly going to make something that fits in with your sense of what molding "ought to look like."

There may be practical considerations as well. When I had my kitchen redone, I wanted to replace the existing moldings (which had been ripped out for floor replacement) with something more appropriate to the age of my house. But there were also some irregularities in the wall from sheetrock repairs that I wanted to cover. Thus, I made the molding fairly tall, at least in comparison to what was removed. I also replaced the kitchen cabinets with ones using more complex shapes, so the moldings needed to be more complex as well.

Look through molding catalogs if can find them and if you have the freedom to design what you want. But there are lots of things to think about.

- It is easier to work at a larger scale than a smaller one.
- Someone is going to have to dust these things.
- A molding at eye-level has to be well-made, but a floor molding is five-to-six feet away from your eye. It only has to be perfect at ends and corners.
- Sometimes it makes sense to make molding in multiple parts, joined together.
- A combination of curved and straight surfaces is more pleasing to most people than only curved or only straight surfaces. A few sharply defined edges add a lot.

Tools

There's a reason we have complex molding planes. Once you use one, you can see why it is so much easier to do this job in one pass. Plus, you might get the chance to make the plane you need to produce the molding you want. But for most people, this is just not practical. Complex molders can be expensive (but so can a half-set of hollows and rounds) and are harder to come by. Much of what you want to do can be accomplished with basic hollows and rounds for the curves, plus one or more planes to help define the edges. In theory, only a plow plane could do all the straight work. But I find it useful to use a few different tools in conjunction with hollows and rounds for various other operations. These include:

- A small block plane – I use my M-F 56 (like a Stanley 60 ½)
- A #45 since I don't have a wooden plow
- A moving fillester – I use my Stanley #78 duplex rabbet plane

- Smoothers (wood or metal) for flat surface areas.
- A miter saw and miter trimmer for doing corners

In addition, there are some shapes that just don't work well except through the use of a dedicated tool. One obvious example is a bead. (A bead is a half-round with a groove on one or both sides called a quirk.) For a bead at an edge, a side-bead really is the right tool. For one close to an edge, either a #445 with beading cutter or a center bead will work best. The fence of the #45 solves many problems. A center bead needs a batten. When you get too far from an edge, then the center bead is your only choice. But if it is near some other detail, you may not be able to use it.

Do you need to have a complete set (or half set, which is really good enough) of hollows and rounds? As always, the answer depends on what you intend to make. The larger sizes are seldom used, but it helps to have all the sizes (by eighths, anyway) from ¼ up to at least an inch. The next question is: must they match? The simple answer is that a "harlequin set" (pairs from different makers) is more than adequate for making moldings. in fact, since you are not making two surfaces that don't physically mate, there isn't really any reason why both planes of a pair must be by the same maker. Of course, such a pair is more valuable in the marketplace should you ever want to sell them. But unless you are making mating surfaces (e.g., a concave door that fits against a convex frame), it does not really matter.

Wood Selection

Almost any wood can be used to make moldings, but some have drawbacks. Most hardwoods should work fine, although poplar tends to get a little "stringy" when worked with molding planes. I usually avoid it for this reason; there are better choices. Most softwoods will work as well, although I avoid Douglas fir as being too "splintery." If you are adding a decorative molding to a piece of furniture, you will probably already have made a wood selection since it either has to match the rest of the piece or contrast with it. If you are making base moldings, then clear pine is a good choice, since it is relatively inexpensive, readily available, and works easily.

Regardless of the species chosen, you want to be very careful about grain. Avoid anything but straight grained pieces. Examine both the face and the edge. For most applications, it's OK if one face and one edge have grain issues, since they can be against floor and wall (for base moldings or ceiling moldings) or are generally not visible surfaces. Time spent at the lumberyard is well spent; it will save frustration later.

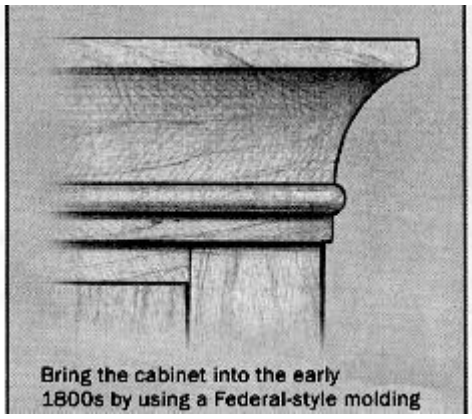
Hints and Techniques

Templates

When you are "sticking" long runs of molding, your eye will not be able to pick out the detail well enough to spot most flaws in the center of a straight run. Ah, but corners – there's a problem. You've got to get it right at the ends of the board or it looks bad. The solution here is to make a template out of a short length of stock. You need both ends, of course, but it's hard to get a short length wrong. This also serves as your prototype. You can bring it in, see how it looks in various locations, make sure it meets you wife's approval, and so on. On a piece of furniture, you can use it to gauge where the molding needs to be positioned.

Make as long a run as you can stand, then cut it into smaller pieces. At least it will match. Clean both sides of the cut to match your template first, then go for the miter trimmer. For floor moldings, keep a low angle block plane handy for final fitting. Even a new floor is very uneven, and your walls are not square. You need to modify your moldings to adjust for this. With furniture, that's one less thing to worry about, since you presumably made it square when you built it.

Example 1: A Federal style molding



This was inspired by Mike Dunbar's article in the Oct. 2001 Fine Woodworking. I have never done one of these, but it looked simple enough, so the question became – how would you do this with only a round or two, a plane for making the bead, and some planes for making straight surfaces? The answer lies in "successive approximation." There are a few good lessons here for molding:

1. You want a good sharp edge on the top to really define this section well.
2. You can make the curve of a constant radius – or not.
3. You need to get a flat enough surface for the bead to be formed.

The first step is to figure out what the proper dimensions are for the piece you are building. Don't forget that you will probably rabbet the back to let it sit on the case with a small amount of overlap.

Next, create a squared up blank. Draw the profile on the end on the blank in the proper orientation.

At this stage, you would probably make the rabbet so as not to have to create it after the front surface has been formed.

I decided to lay down the top edge first using a #45 with a straight cutter and the fence separated from the edge of the cutter by the width of the fillet. This only needs to be about 1/16 inch deep. I then changed to a narrower cutter, moved the fence away, and cut a groove beyond the first cut and somewhat deeper.

At this point, the need for straight grain comes into play, since you now need to work from the other side of the molding. If the grain is truly straight, there are to "with the grain" or "against the grain" issues. Using the #78 (or the #45), cut a succession of rabbets to follow the curve. you drew on the end. You don't need to get that close. The last surface should be cut down tot he level of the top of the bead and be at least as wide as the distance from the bottom of the molding to the top quirk.

Now cut the bead. Since it is not at the edge, you will have to use the #45 to do this. A center bead could be used, but the place will probably interfere with the "prototype" curve.

Now, pick a "corner" in about the middle of the curve. Choose an appropriate round to match the curve at that point and carefully run it down that corner. It will start to remove the corner and the surrounding wood. Rotate the plane slightly along the "roll axis" as you go. Be careful – you don't have a fence and you have to use your fingers in this role. I sometimes wear weight-lifting gloves while doing this to protect my fingers.

Check the profile against the drawn profile on the end often. You may need to switch planes often until you get the profile right. (This is why you need different sizes.) You can often start with a smaller radius more easily, then broaden the curve with increasingly large planes as you go.

Remember that it's easier to take wood off than put it back.

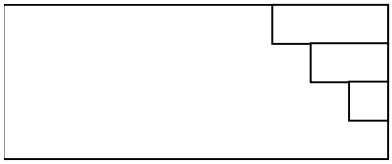
Example 2: Ogee, another molding

OK, this is not exactly an ogee (or one of the cyma curves) because it isn't continuous. Instead, there is a clean break between the pieces that forms a little straight surface. I use the term fillet for these, which applies sometimes (although maybe not in this case). As an example of something a bit different, I wanted to do a two-piece molding, which is how I did the moldings on my wife's display cabinet. This is an example of how to make one of these.

The firs thing you tend to notice is how much easier it is to work on a larger scale as compared to making this shape in a single ¾ inch piece of wood. For one thing, you only need to worry about one part of the design at a time. For another, you can use the boundary between the two pieces as part of the shape.

We'll do the easy part first – the convex shape. Figure out where you want it to start and end. This could be modified to be other than a straight quarter-round – I like to make them a bit less than that to give another edge. This is simply done by choosing a hollow that has a width a bit less (maybe an eighth) smaller than that of the stock. Basically, you just start at a corner and plane away until you have removed everything that's "not molding." You can use different planes to make the curve more oval than round. In any case, rotate the plane along its longitudinal axis (fore-and-aft) as you go to keep the curve well rounded. Be careful not to go beyond your design limits, though.

The concave part is made with a round, and the hard part here is to get it started. As with the first example, you need to somehow form a V-groove to run the plane down. The simple way to do this is with a plow or rabbet. A single rabbet may work OK for this, but it may be hard to start. A two-stage rabbet won't work because the corner will be convex instead of concave. A three stage rabbet will give you a somewhat concave shape to run the plane down, and is probably the best compromise. Alternatives include some sort of V-shaped plane that can be run down the middle of a chamfer on the edge.



Note that this also helps create a well-defined edge at the top (the picture is upside down because that's how you work on it).