

# Lamello Top 21 Review; Biscuit Joinery at its Best

Most woodworkers are very familiar with biscuit joinery. But what most woodworkers don't know is that there are really only two types of biscuit cutters; the Lamello and all the rest. I know biscuits, I've been using them to assemble panels for over twenty years. And after putting Lamello's new Top 21 machine to the test, I realized I could never go back to using another manufacturer's machine. If you have an appreciation for stepping up your game in fine joinery, then read on.

## History

Lamello is the company that introduced biscuit joinery to the industry. Their machine is the standard by which every other cutter is measured. It's the brainchild of Hermann Steiner, the founder of the company. In December of 1955 he had a vision, "...I saw how we could use a groove cutter to cut short opposing grooves into the panels and connect them using small biscuit elements." He goes on to say, "In contrast to continuous grooves, this procedure would not weaken the board." And with his vision the "Lamello" machine was born, which has helped transform the way we join panel products in modern woodworking.



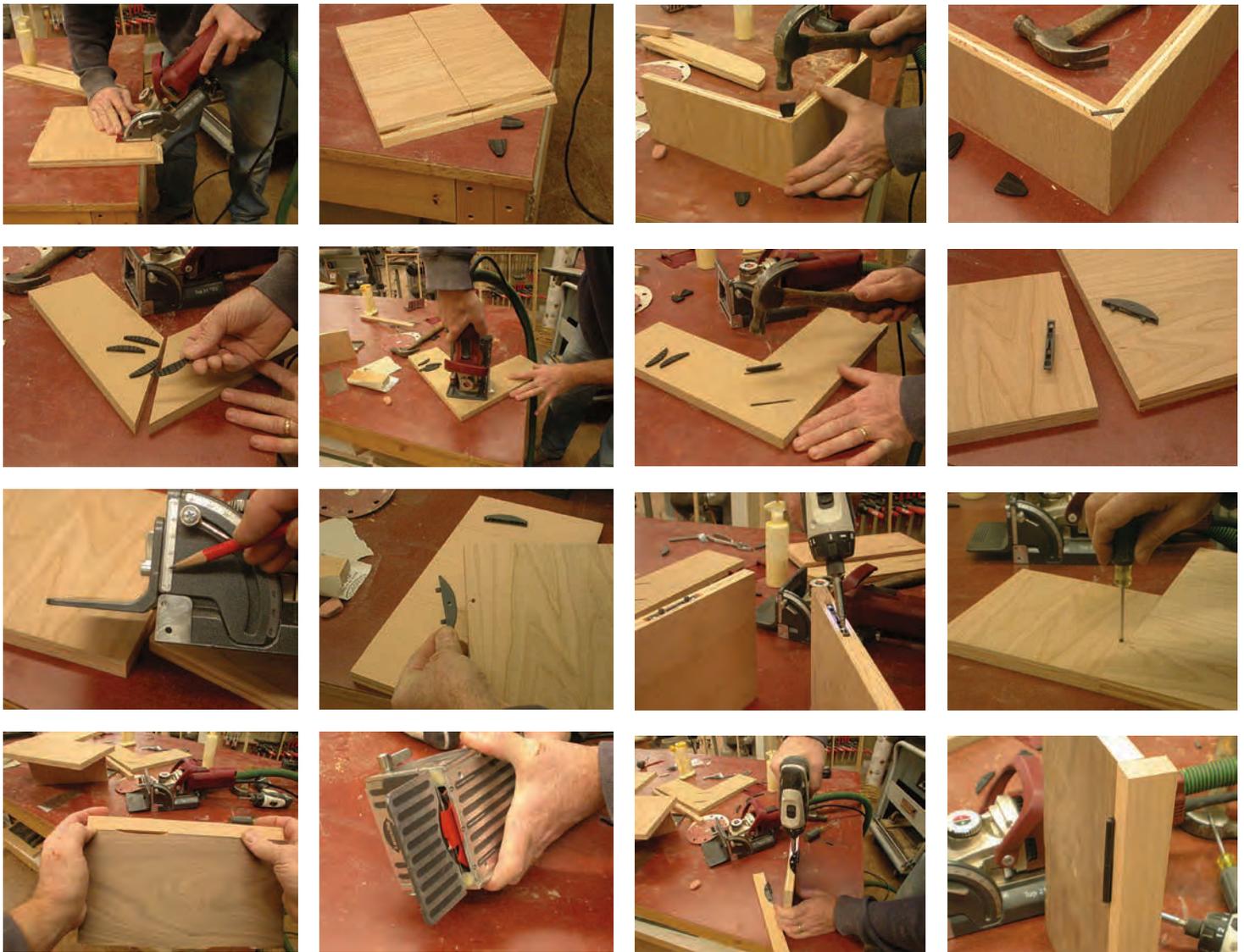
## The Test

As I'm sure you are aware, there are other options for joining panel and solid wood assemblies such as Dominos, dowels, tongue and groove milling, etc. That's why it's important to recognize that each method has a strength and weakness. So why use biscuits? The biscuit joint is fast, strong and particularly suited for panel product assembly. Even though other biscuit machines can perform many of the same functions conducted in this test, only the Lamello was built to do it accurately and repetitively. The Top 21 has been engineered for small shop production with large shop accuracy.

Although various wood thickness can be used, biscuit joinery is designed primarily for 3/4" material. Therefore, Lamello designed their "fixed position" fence to easily accommodate centering the slot on a 3/4" panel. What is unique to the Top 21 machine is an adjustment dial that allows you to move the blade plus or minus 2mm in each direction. The dial has positive stops every .1mm for placing that slot exactly where you want it.

Standard biscuit cutter fences require you to index off the back, or inside of a miter joint, which creates sloppy alignment if the wood

*continued on page 20*



### *Lamello Top 21 Review ... continued from page 19*

varies in thickness. Lamello's smart fence system provides the ability to index off the face side of the miter, which results in perfect alignment each time. This is accomplished by an accessory fence with a 45 degree indexing notch. The outside edge of the mitered wood piece tucks securely into place for accurate slotting.

Rather than using a slot cutter or dado blade for full length grooves, you can press a biscuit cutter into service to do the same thing. The Top 21 has very smooth guide-ways in the body construction making this technique extremely easy. To illustrate a slot groove joint application, a stopped continuous groove is cut into the end of an apron panel. Next, a couple biscuit slots are machined into the adjoining side panel. To join the two elements, apply a little glue and the precisely grooved apron is slid into place as it indexes off the two biscuits.

For specialty applications and for machining thicker wood, a separate fence is attached via CNC machined dovetail slots. Adjustments are deliberate and smooth. The loose fence is installed on the fixed fence for thick boards or offset joinery, or on the bottom of the machine for stable vertical machining. With the help of a straightedge guide, face slots are quickly grooved for a multiple shelf cabinet unit. The Lamello also makes quick work of attaching solid wood frames. Slots are machined into the face of the cabinet edge and the back of the face

frame. This is where I discovered how accurate the Lamello Top 21 is over other biscuit cutters; perfect alignment was achieved on the first attempt every time.

The Lamello company also offers other joinery solutions such as the E20, which are plastic self-clamping fasteners. These are great options for quick assemblies or difficult-to-clamp situations. To assemble an edge miter, the mating pieces are machined together creating a half slot in each end. Glue is added to the joint and the E20-H is simply driven into place. No clamps are needed as the molded ribs on the biscuit pulls the joint snugly together.

Similarly, the E20-L is used for face miters. Again, the two pieces are machined simultaneously only this time on the face of the board. The opposing ribs on the fastener force the joint together as it gets pounded in.

For knockdown joinery, Lamello has developed the Clamex fastener. Unlike a standard 4mm biscuit slot, the Clamex requires an 8mm slot. The company sells an optional 8mm cutter, but I simply used the included 4mm blade. By simply dialing down the fence the additional 4mm distance, a precisely machined 8mm slot was created. Once the slots are cut, a small access hole is drilled on the face of one of the panels to access the clamping screw. Because the Clamex pulls each piece together, the plastic halves need to be screwed into the slots.

To tighten and loosen, a driver is inserted into the set-screw via the access hole.

There are even Lamello shaped hinges that can be quickly mortised for inset cabinet doors.

Because the hinges require a shallow cut, the Top 21 auxiliary fence is stepped down to accommodate the blade recess. Once the two slots are cut the hinge is quickly installed with both door and frame perfectly aligned. I liked the concept of the Lamello hinge, but would have to reserve final judgement until after I used them on an actual job. The hinge is sturdy enough, but the loose pin and light-duty metal may create too much slop for jobs requiring heavy usage. ❖

## Top 21 Features

Like a finely tuned automobile, the Top 21 has been engineered for durability and accuracy. New features include:

- Powerful 800W motor with electronic control, soft start and speed control.
- A new base plate that sits flush on both sides for more efficient positioning on the workpiece.
- Height adjustable cutter dial that allows you to make micro adjustments to the position of the blade.

### Tried and true features:

- CNC machined parts for precision referencing and smooth operation.
- Separate base plate for multiple functions including easy indexing off miter joints and large surface area for vertical joining applications.
- 6 standard cutter depth adjustment dial.

### Optional accessories:

- 8mm cutter for Clamex connector (standard biscuit cutter is 4mm).
- Sliding shoe for cutting expansion gaps
- Edge trimming unit for flush trimming wood edges.
- A variety of optional fasteners including the standard sized wood biscuits, Clamex connector, K20 clamping element, Duplex furniture hinge, Simplex connector, and E20 self-clamping elements.

