



WOOD JOINTS: WHICH ONES SHOULD YOU USE?

There are various woodworking joints in use. Some are stronger than others are. Let's discuss the more popular joints, so you know which to use for your projects.



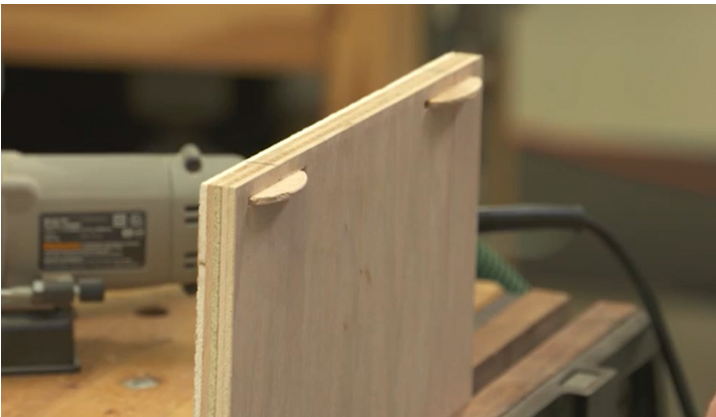
1. BUTT JOINT

The Butt Joint is an easy woodworking joint. It joins two pieces of wood by merely butting them together. The butt joint is the simplest joint to make. It is also the weakest wood joint unless you use some form of reinforcement. It depends upon glue alone to hold it together. Because the orientations of the pieces, you have an end grain to long grain gluing surface. The resulting wood joint is inherently weak. Glue does not provide much lateral strength. You can break this woodworking joint with your bare hands.



2. BISCUIT JOINT

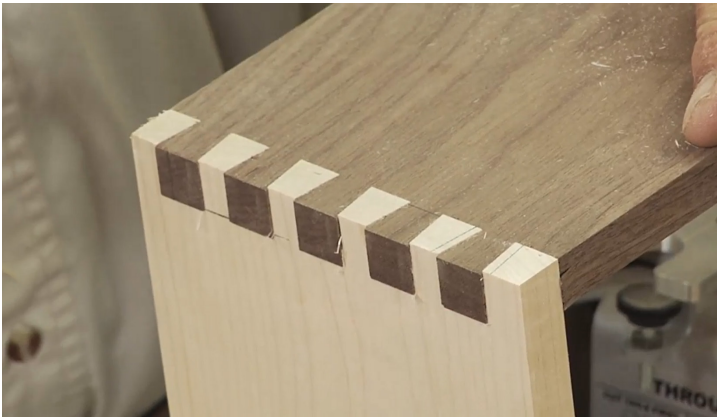
A biscuit joint is nothing more than a reinforced Butt joint. The biscuit is an oval-shaped piece. Typically, a biscuit is made of dried and compressed wood, such as beech. You install it in matching mortises in both pieces of the wood joint. Most people use a biscuit joiner to make the mortises. Accuracy is not as important for the mortises. You design the biscuit joint to allow flexibility in glue-up.



However, you must locate the mortise the correct distance from the face of the woodworking joint in both pieces. The width of the mortise is not critical. Since the biscuit is thin, you can move the alignment around.

This is the very reason that I do NOT like this joint. It is not in perfect alignment. In addition, you spend your money on the Biscuit Joiner and a lot of time cutting the mortises in each piece of stock.

Why bother?



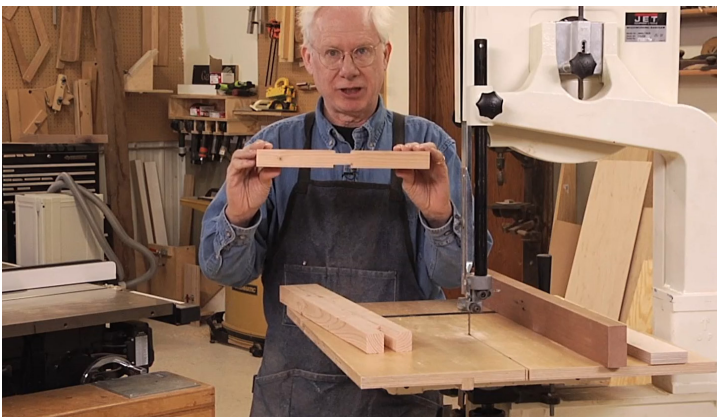
3. DOVETAIL WOOD JOINT

The dovetail joint, or simply dovetail, is a strong woodworking joint. It is great for tensile strength (resistance from pulling apart). You use the dovetail joint to connect the sides of a drawer to the front. A series of pins cut to extend from the end of one board interlock with a series of tails cut into the end of another board. The pins and tails have a trapezoidal shape. Once glued, the joint is permanent, and requires no mechanical fasteners. Some people use a dovetailed dado, because of the tensile strength.

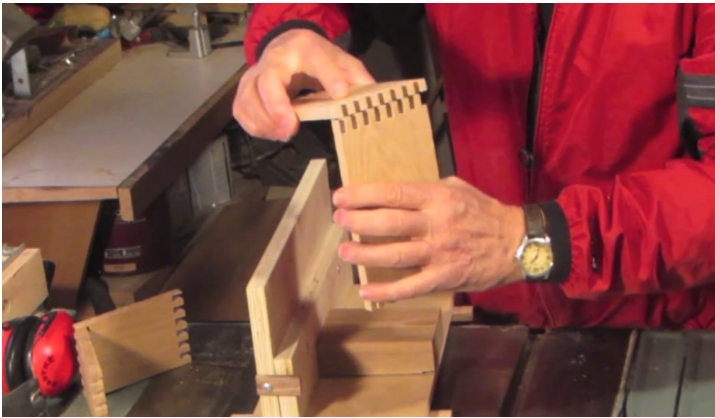


4. BRIDLE JOINT

A bridle joint is a woodworking joint, similar to a mortise and tenon. You cut a tenon on the end of one piece and a mortise into the other piece to accept it. You cut the tenon and the mortise to the full width of the tenon piece. This is the distinguishing feature of this joint. Therefore, there are only three gluing surfaces.



The corner bridle joint joins two pieces at their ends, forming a corner. You use this joint to house a rail in uprights, such as legs. It provides good strength in compression and is moderately resistant to racking. A mechanical fastener or pin is required. You use corner bridles to join frame pieces when the frame is shaped. You can remove material from the joined pieces after assembly without sacrificing joint integrity. A variation of the bridle joint is the T-bridle, which joins the end of one piece to the middle of another.



5. FINGER JOINT

A finger joint or box joint is one of the popular woodworking joints. You use it to join two pieces of wood at right angles to each other. It is much like a dovetail joint except that the pins are square and not angled.

The joint relies on glue to hold together. It does not have the mechanical strength of a dovetail. The woodworking joint is relatively easy to make if you know how to use a table saw or a wood router with a simple jig.

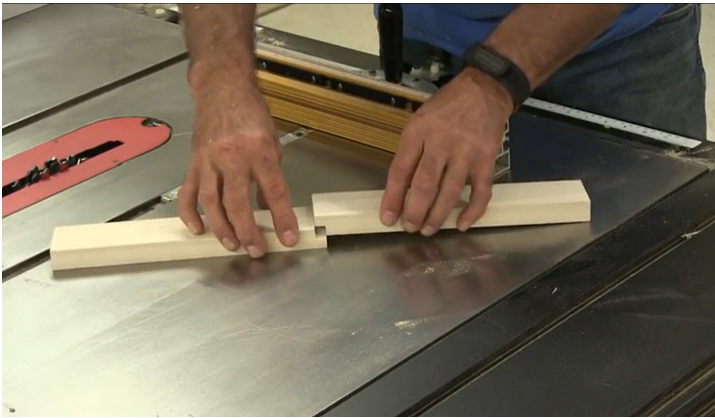


6. DADO (JOINERY)

A dado is a slot cut into the surface of a piece of wood. When viewed in cross-section, a dado has three sides. You cut a dado perpendicular to the grain. It is different from a groove, which you cut parallel to the grain.

A through dado passes all the way through the surface and its ends are open. A stopped dado has one or both of the ends stop before the dado meets the edge of the surface. You use dados to attach shelves to a bookcase carcass. You rabbet the shelves to fit the dado, which makes the rabbet and dado joint. A good use for woodworking joints.





7. LAP WOOD JOINT

A half lap joint is one of the frequently used woodworking joints. In a half lap joint, you remove material from each piece so that the resulting joint is the thickness of the thickest piece. Most frequently in half lap joints, the pieces are of the same thickness. You remove half the thickness of each. This joint is good for making workshop storage items.



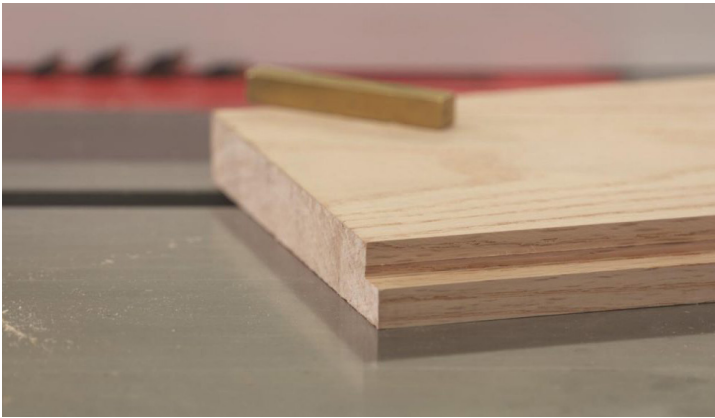
8. MORTISE AND TENON WOODWORKING JOINTS

One of the strongest woodworking joints is the mortise and tenon joint. This joint is simple and strong. Woodworkers have used it for many years. Normally you use it to join two pieces of wood at 90-degrees. You insert one end of a piece into a hole in the other piece. You call the end of the first piece a tenon. You call the hole in the second piece a mortise.



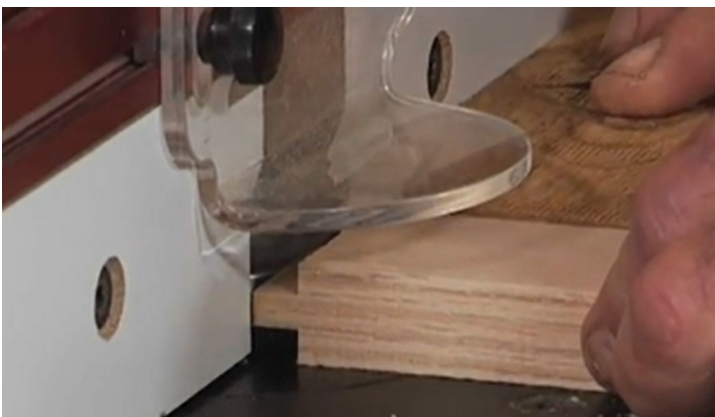
Normally, you use glue to make this joint. You may pin or wedge it to lock in place. A quality mortise and tenon joint gives perfect registration of the two pieces. This is important when building heirloom pieces. A mortise is a cavity cut into a piece of wood to receive a tenon. A tenon is a projection on the end of a piece of wood to insert into a mortise.

Usually the tenon is taller than it is wide. Generally, the size of the mortise and tenon relates to the thickness of the pieces. It is good practice to make the tenon about a 1/3 the thickness of the piece.



9. RABBET WOODWORKING JOINTS

A rabbet is a recess cut into the edge of a piece of wood. When viewed in cross-section, a rabbet is two-sided and open to the end of the surface. An example of the use of a rabbet is in the back edge of a cabinet. The rabbet allows the back to fit flush with the sides. Another example is the insertion of a glass pane by using a rabbet around the edge of the frame.



10. TONGUE AND GROOVE WOODWORKING JOINTS

One of the more popular woodworking joints is the edge-to-edge joint, called tongue and groove. One piece has a slot (groove) cut all along one edge. The other piece has a tongue cut on the mating edge.



As a result, two or more pieces fit together closely. You can use it to make wide tabletops out of solid wood. Some other uses are in wood flooring, parquetry, paneling, etc. You can cut the tongue and groove in a number of ways. I discuss a superior way to make this joint on the How to Use a Router Table page.



11. POCKET-HOLE JOINERY

One of the more popular woodworking joints is the Pocket-Hole Joint. It is nothing more than a Butt joint with Pocket Hole Screws. The pocket holes require two drilling operations. The first is to counterbore the pocket hole itself, which takes the screw head contained by the piece. The second step is to drill a pilot hole whose centerline is the same as the pocket hole. The pilot hole allows the screw to pass through one piece and into the adjoining

piece. You use two different sized drill bits for this operation. Alternatively, you may find special stepped bits to perform this operation in a single pass.

Most people use a pocket-hole jig, such as the Kreg Jig. This jig allows you to drill pocket holes at the correct angle and to the correct depth. You should use glue to strengthen the joint. Of course, the Kreg Jig costs from \$40 up to \$140. To me, that is a lot of money when you can make the mortise & tenon joints for a fraction of that price. Moreover, the mortise and tenon joint is much stronger.

NOTES

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