**Joinery and Methods**

**Page 1**

1. Butt joints
	1. End butt joints
		1. Weakest of all joints
		2. Must be strengthened with a wood block or dowels
		3. Can be strengthened with nails or screws
	2. Edge Butt Joint
		1. Used for gluing up narrow boards to make large usable lumber
		2. May be strengthened with splines, dowels, or biscuits
	3. Dowel Joints
		1. Used in butt joints
		2. Plastic or wooden pegs are used
	4. Dowel tools and Materials
		1. Dowel rods are usually made from birch and are 1/8” to 1” in diameter
		2. Spiral grooves are cut for glue
		3. Slick dowels have no grooves but can still be used
		4. Dowel jigs help find the exact center of a board for alignment purposes
		5. Dowel bits are shorter than standard drill bits for more precise drilling however standard bits may be used

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**Page 2**

1. Rabbet Joint
	1. Rabbet Joint

1. Simple joint used in modern construction

2. Found on the end or edges of boards

3. The front of the joint hides the side and edges

4. Used for placing back material onto a cabinet

* 1. Laying out a Rabbet Joint

1. Make sure all ends are square

2. The width of the rabbet joint is equal to the

 thickness of the joining stock

3. The depth of the joint is equal to ½ the thickness

* 1. Cutting the Rabbet
		1. Can be done with a back saw
		2. Can be done with multiple cuts on the table saw or radial arm saw
		3. Can be cut using a dado blade on the table saw or radial arm saw
		4. Router and router bit with a ball bearing follower also used
	2. Assemble of the Rabbet Joint
		1. Assemble with glue
		2. Nails can be used
		3. Screws may be used however they need to be long and thin since they are going into grain

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**Page 3**

1. Dado Joint
	1. Dado joint
		1. Groove cut across the grain
		2. Very strong
		3. Used for book shelves and cabinet
		4. Cut with the grain it is called a plow
	2. Laying out the Dado Joint
		1. Width of the joint is the thickness of the joining board
		2. Depth is ½ the thickness of the joining board
	3. Cutting the Dado
		1. Can be cut with a back saw or chisel
		2. Routers can be used with a guide
		3. Dado blades used on the t-saw or radial arm saw
	4. Assembly of Dado Joints
		1. Glue alone is very strong
		2. Always clamped under pressure until dry
	5. Other types of Dado Joint
		1. Rabbet and Dado

a. used for cabinet backs

b. also called a plow

c. used for drawer construction

* + 1. Blind Dado

a. also called a stop dado

b. front of the joint is hidden

c. used where appearance is important

**Joinery and Methods**

**Page 4**

1. Lap joint
	1. Lap joint
		1. Equal amounts of wood are cut from both boards
		2. Used for a variety of applications
		3. Many types
	2. Cross-lap
		1. Usually made in the exact center of two boards
		2. Made at 90 degrees
		3. Must be same thickness and width
		4. Depth of cut is ½ the thickness of each board
	3. Cutting the lap joint
		1. Can be done with a back saw and chisel
		2. Usually done with a radial arm saw or table
		3. Dado blades can also be used
		4. Accurate layout is important

D. Assembling the joint

1. Glue only and a c-clamp
2. Nails and screws can be used but placed on the bottom side only

E. Other types of lap joints

1. Edge cross lap-on edges of boards
2. End lap-on two ends
3. Half lap-end on end
4. Middle lap-end to middle

**Joinery and Methods**

**Page 5**

1. Miter joints
	1. Miter joint
		1. Angled joint the hides the end grain of both boards
		2. Very weak joint
		3. Commonly strengthened with splines, dowels, or biscuits
	2. Miter boxes and miter saws
		1. Metal frame where a back saw can be adjusted to any angle
		2. May have a wooden or metal tray for a bed
		3. Power miter saws can be adjusted to any angle and cut quickly
	3. Cutting a frame
		1. All angles must equal 360 degrees
		2. Included angle of one joint divided in two to obtain the miter angle
		3. Hold the board firmly
		4. Keep the saw level
		5. Cut on the push stroke
	4. Assembling the miter joint
		1. Make sure all corners are tight prior to assembly
		2. All joints must be glued at the same time
		3. Compression or band clamps are most often used
		4. Corners can be nailed and filled with putty
		5. Dowel pins and biscuits can be used

f:joinery and methods notes