



Cabinet

Pine DVD

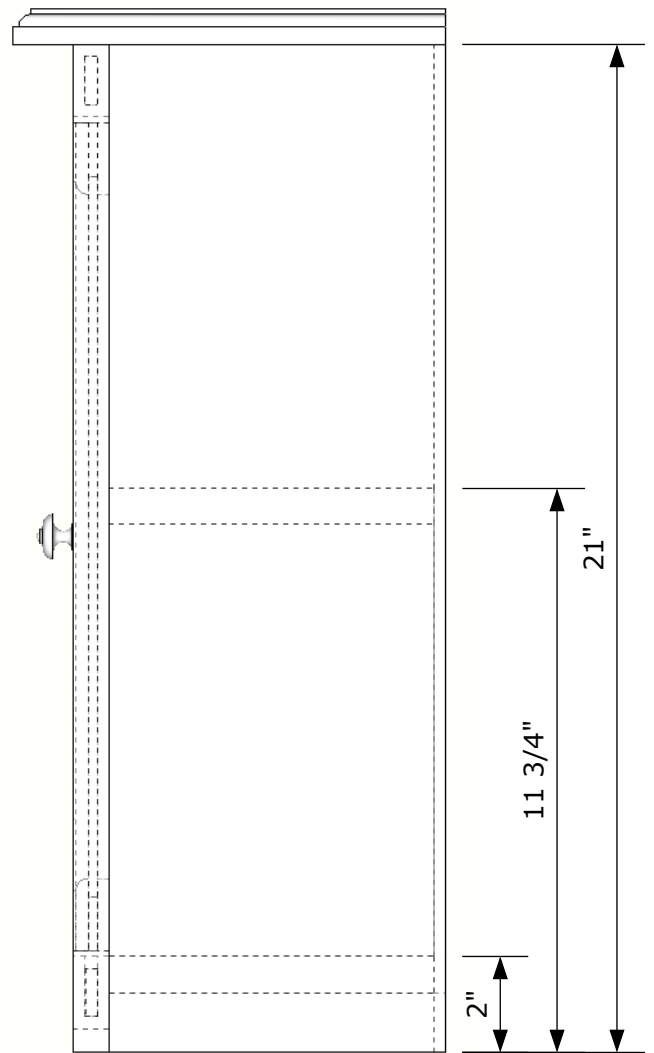
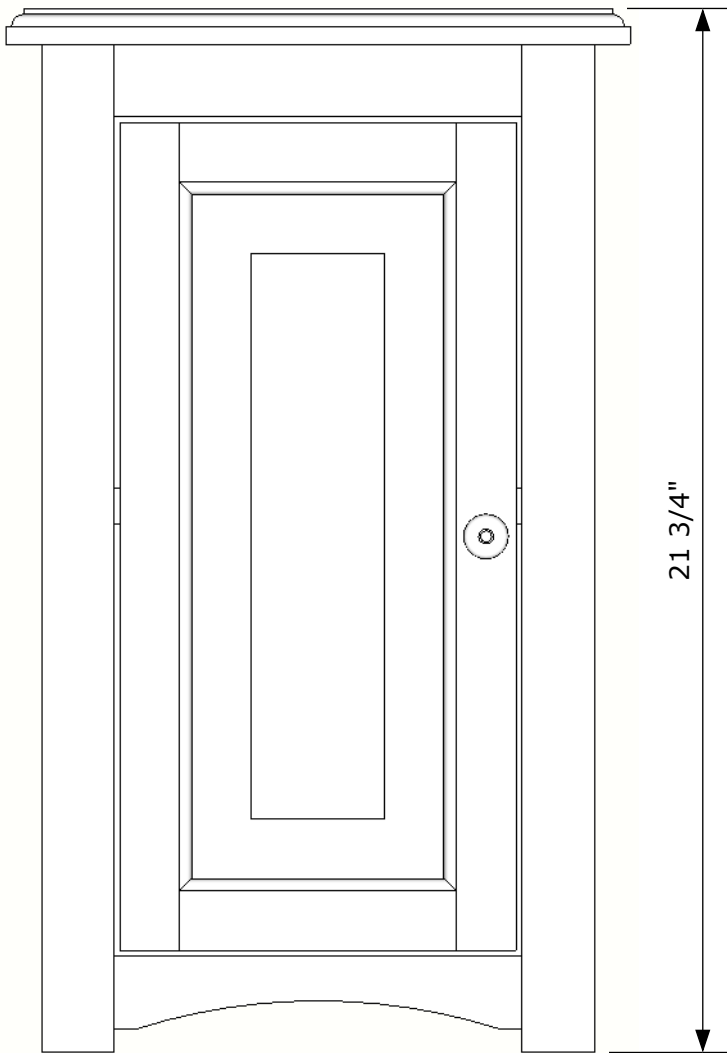
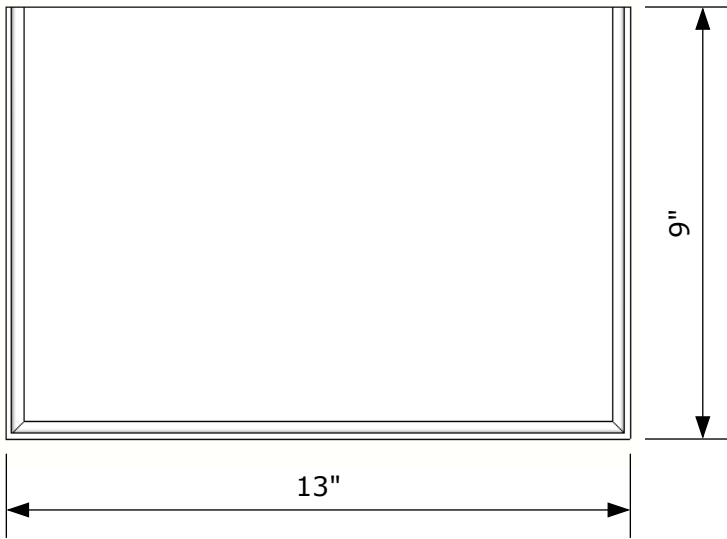


Pine DVD Cabinet

Scale: NTS

Overview

February 14, 2012



Pine DVD Cabinet

Scale: 3":12"

Overview

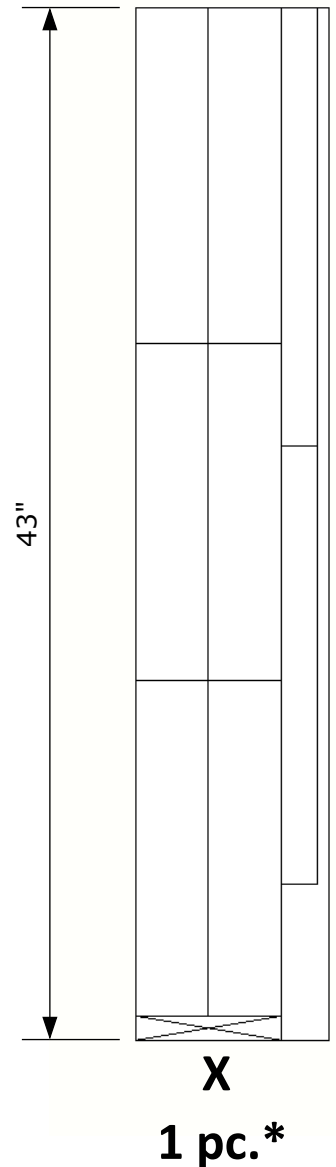
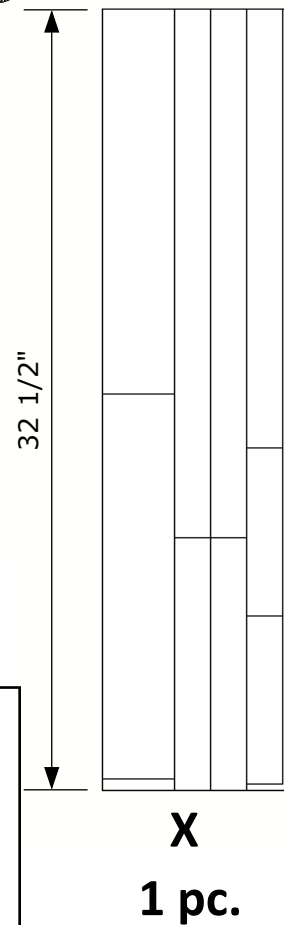
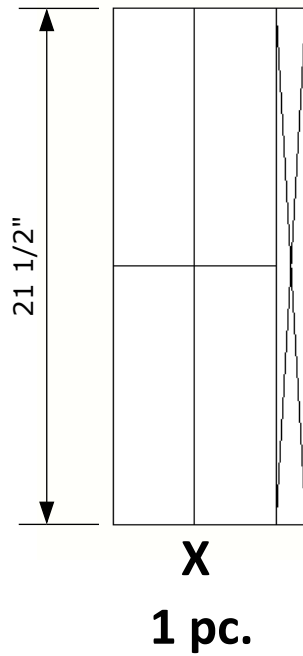
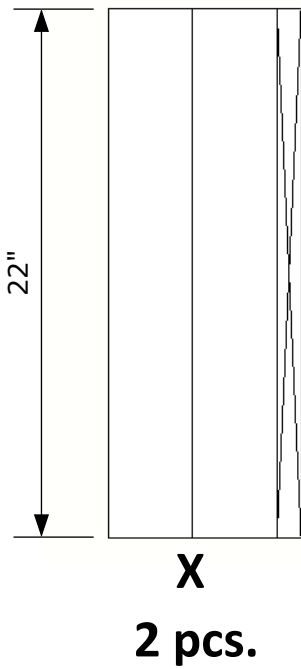
February 14, 2012

Bill of Materials

	Description	Parts per Unit	Length	Width	Th.
1	Top	1	13	9	3/4
2	Side	2	21	7	3/4
3	Back - <i>Plywood</i>	1	19 3/4	9 3/4	1/4
4	Shelf	2	9 3/4	6 3/4	3/4
5	Face Frame				
5.1	Stiles (vertical)	2	21	1 1/2	3/4
5.2	Rails (horizontal)	2	9 1/2	1 1/2	3/4
6	Raised Panel Door				
6.1	Stiles (vertical)	2	Measure opening less 1/8"	1 1/2	3/4
			?		
6.2	Rails (horizontal)	2	Measure opening less 2 3/8"	1 1/2	3/4
			?		
6.3	Door Panel	1	Measure your opening less 2 3/8" in length and width	?	3/4

Pine DVD Cabinet	

Required Rough Cut Pieces



*work with partner for this board.

"Break Out" Steps

Throughout this project, and indeed with any other woodworking project, the first stage in producing a useable board is the *Break Out* stage. Listed below are the steps to be followed for **every board you produce**.

- 1) Cut a piece of 4/4 pine to **rough length** as indicated per drawing.
- 2) Joint **one face** of the board with the **cupped face down**.
- 3) Joint **one edge** of the board with the **jointed face held tightly against the fence**.
- 4) **Plane** the board to **MAX THICK** unless otherwise specified. **MAX THICK** will result in a board with parallel faces around **7/8" thick**.
- 5) Move to the **tablesaw** and **rip your boards as required**.
- 6) Once further cut to **length (if required)**, **laminates your boards** as required with **end grains alternating**.

Pine DVD Cabinet

1 1/2":12"

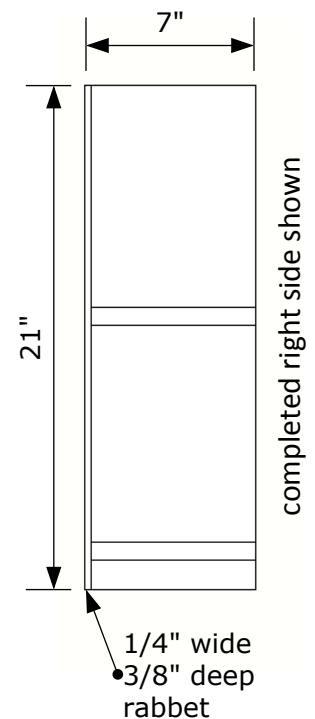
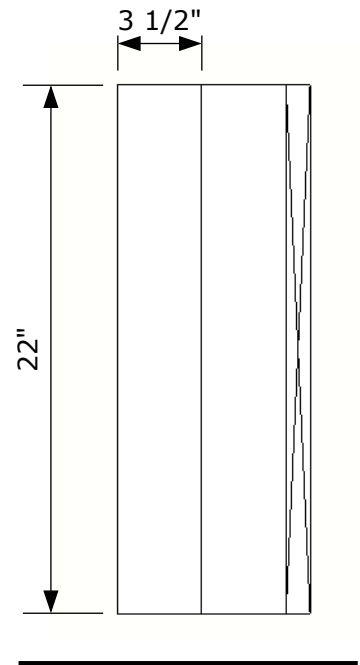
Material Layout & Break Out

February 14, 2012

	Description	Parts/Unit	Length	Width	Th.
2	Side	2	21	7	3/4

This project requires two identical sides with dados to accept the bottom and middle shelf. Be sure to use a stop block on the dado sled to accurately repeat your dado cuts on both sides.

1. Break out 2 pieces of pine @ **22"** long.
2. Once at **MAX THICK rip** each board into 3 1/2" wide pieces. Write your **name** on the end grain.
3. Laminate 2 pairs of boards together @ **7" wide**. Remember to alternate the end grain directions and to not glue the two sides together - you require 2 separate sides!
4. Once dried for 24 hours, scrape any excess glue off of your panels. Now **plane** both pieces down to **3/4" thick**.
5. Square one end on the mitre saw and then cut your pieces to their **finished length of 21"**.
6. To cut the rabbet along the back edge of the side, lockout the dado saw and install a 1/4" dado blade. If unsure how to do this ask your instructor. Set the fence of the saw flush the right edge of the dado blade. Set you the blade height to 3/8". Now run both sides through the saw with the inside face down, and the back edge along the fence.

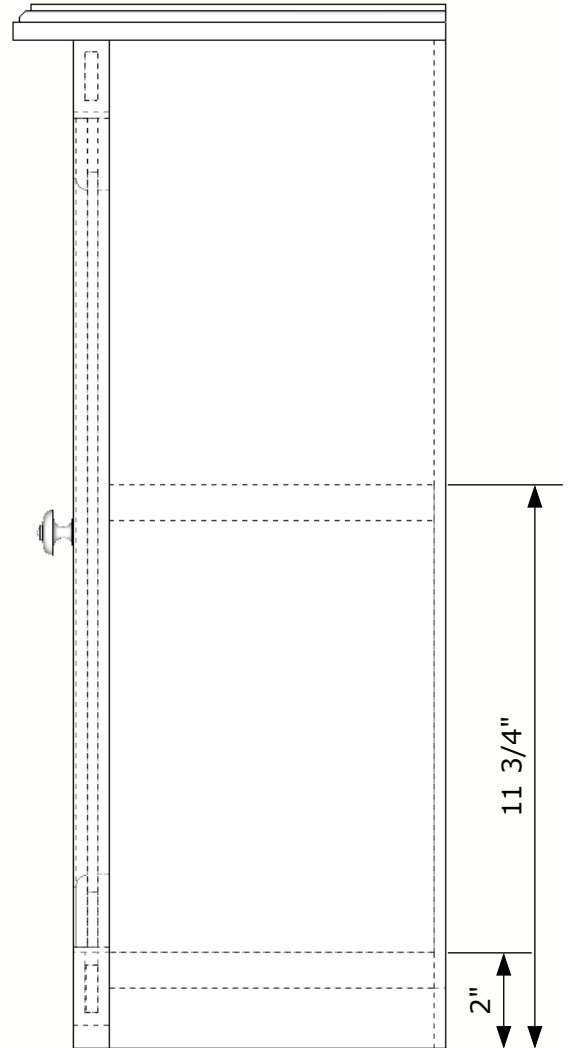


Cutting the dados

This project requires two identical sides with dados to accept the bottom and middle shelf. Be sure to use a stop block on the dado sled to accurately repeat your dado cuts on both sides.

Steps:

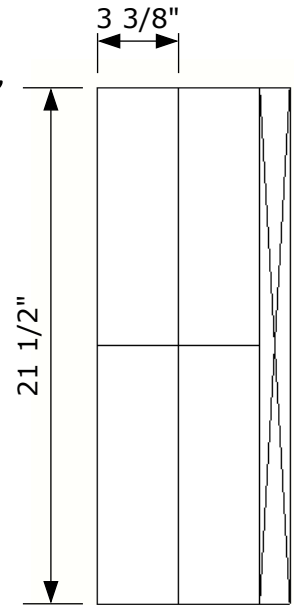
1. Be sure your sides are cut accurately to their final dimension of **21"**.
2. Lock out the machine and install a **3/4" wide dado** set into the table saw. If unsure, please ask your instructor.
3. Set the height of the blade to cut a **3/8" deep** dado.
3. Clamp a stop block against the fence to cut a dado at **2"** up from the bottom edge of the side to the top of the dado. Cut both of your sides with this setup keeping the inside face down on the sled.
4. Move the stop block to cut a dado at **11 3/4"** from the bottom edge of the side to the top of the dado. Again, cut both sides using this setup. **Ensure your name is on both pieces.**



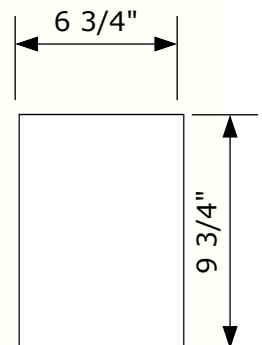
	Description	Parts/Unit	Length	Width	Th.
4	Shelf	2	9 3/4	6 3/4	3/4

This project requires two identical shelves. In fact, one will be the bottom while the other will remain a shelf. Be careful when planing to finished thickness - 3/4" exactly please!

1. Break out 1 piece of pine @ **21 1/2"** long.
2. Once at **MAX THICK rip** your board into 3 3/8" wide pieces. Write your **name** on the endgrain.
3. Laminate these two pieces together @ **6 3/4" wide**. Remember to alternate the end grain directions.
4. Once dried for 24 hours, scrape any excess glue off of your panel. Now **plane** it down to **3/4" thick**.



5. Square one end on the mitre saw and then cut two pieces to their **finished length of 9 3/4"**. These pieces are now complete. Write your name on the end grain and set aside.

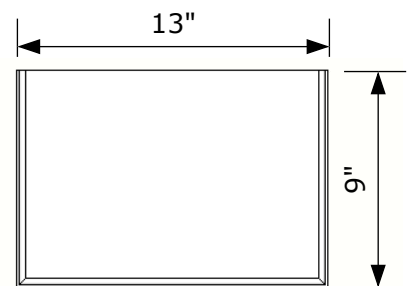
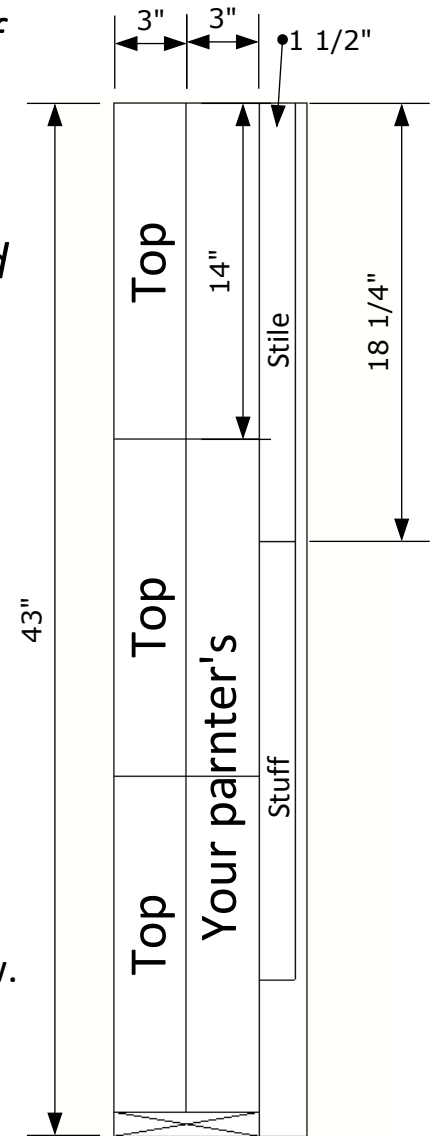


Pine DVD Cabinet		1 1/2":12"
Shelf & Bottom		February 14, 2013

	Description	Parts/Unit	Length	Width	Th.
1	Top	1	13	9	3/4

The cabinet top is built by joining several strips of pine together. The required break out must be done with a partner and will result in each partner getting three pieces to form their top and one door stile.

1. With a partner, break out a piece of pine @ **43"** long.
2. Once at **MAX THICK rip** each board into two strips @ **3" wide**. Rip a final strip @ **1 1/2"**.
3. Using a mitre saw cut each 3" wide strip into **14" long** pieces. *Each partner will get 3 of these pieces to create their top!*
4. Cut the remaining 1 1/2" strip into **two pieces @ 18 1/4" long**. Each partner gets one of these door stiles. Ensure your name is written on each piece and set the stiles aside for now.
5. **Laminate your top @ 9" wide** alternating the end grain.
6. After 24 hours scrape away excess glue and **plane to 3/4" thick**.
7. **Square one end** and then cut it to the **final length of 13"**.
8. Setup the **router table** with your favourite bit. If you are unsure about how to do this please ask your instructor. Create a decorative edge on **three sides**, cutting your *end grain first*.

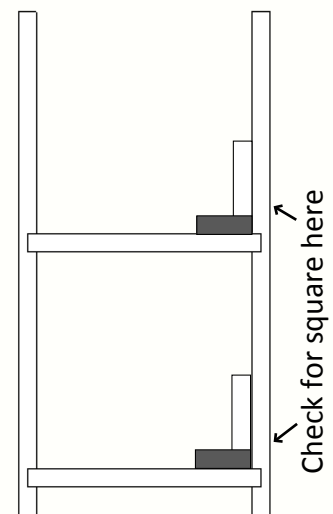
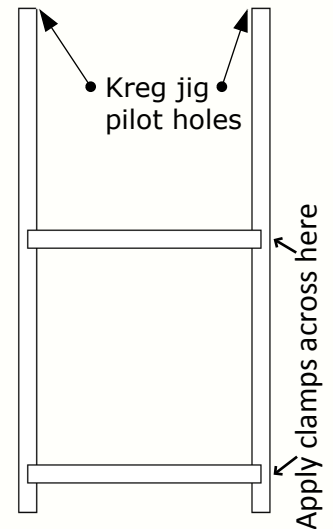


Pine DVD Cabinet	1 1/2":12"
Making the top	February 14, 2013

Assembling the Carcass

Before you assemble your carcass sand your sides and shelves up to 220 grit. Be careful not to apply too much glue or else it will end up in hard to reach places!

1. Using the Kreg jig drill two pilot holes on the top, inside edge of each side. Keep them about 1 1/2" back from the front and back edges.
2. Lay one of your sides down, inside face up. Apply glue to the dados.
3. Insert your shelves into the dados. Make sure the front edges of the shelves are flush to the front edges of your side.
4. Apply glue to the other sides' dados and fit that side onto the other end of the shelves. Again be sure to align this side flush to the front edge of the shelves.
5. Apply clamps across the shelves and clamp them firmly. This is your last chance to align the front edges of everything.
6. Before you allow the glue to set check the carcass for square. Hold a square on the shelves and check it against the side piece. If required you can push and pull as required to get it square.



Pine DVD Cabinet

1 1/2":12"

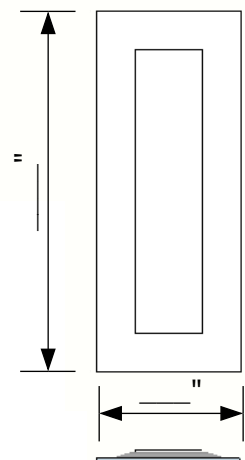
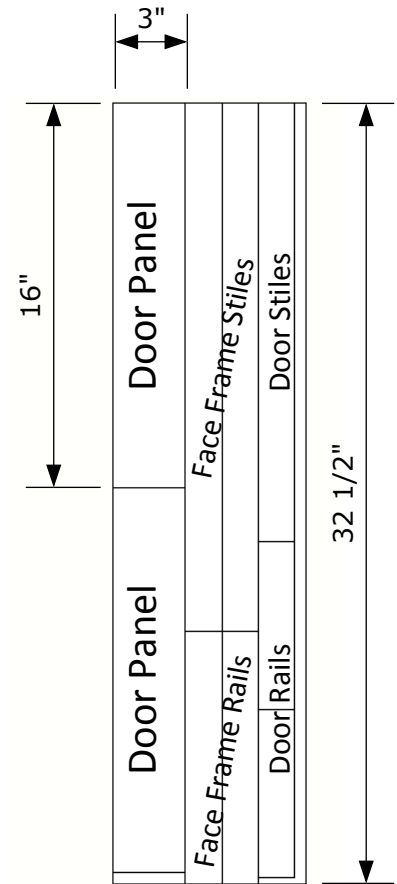
Assembling the carcass

February 14, 2013

	Description	Parts/Unit	Length	Width	Th.
6.3	Door Panel	1	~15"	~6"	1/2

*This piece will require careful attention to detail during break out. Be sure to write your name on every piece and label each piece as to what it is to become. The final dimension of these pieces will depend on **your specific cabinet size**. Assemble your project before cutting any of these pieces to final size.*

1. Break out a piece of pine @ **32 1/4"** long.
2. Once at **MAX THICK rip** a strip @ **3" wide**. Clearly write your name on the remaining piece and set it aside for now.
3. Using a mitre saw cut this 3" wide strip into **16" long** pieces.
4. **Laminate your door panel @ 6" wide** alternating the end grain.
6. After 24 hours scrape away excess glue and **plane to 1/2" thick**.
7. **Trim both ends square**, but do not cut much off. We will come back to the door panel later on. Clearly write your name on it and set it aside **until you have** your cabinet assembled with the **face frame attached**.

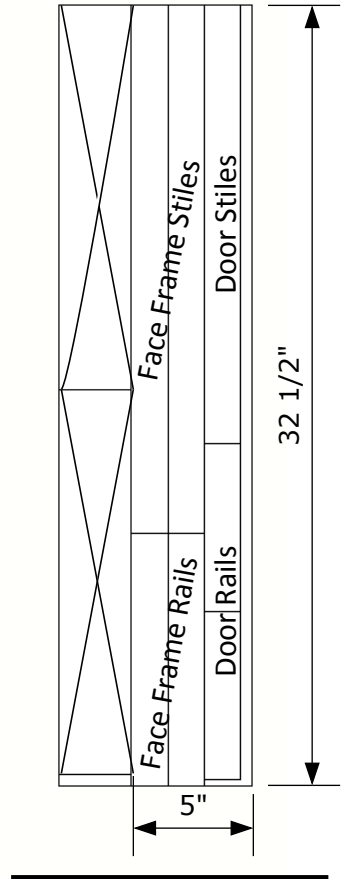


Pine DVD Cabinet		1 1/2":12"
Door Panel & Other parts		February 14, 2013

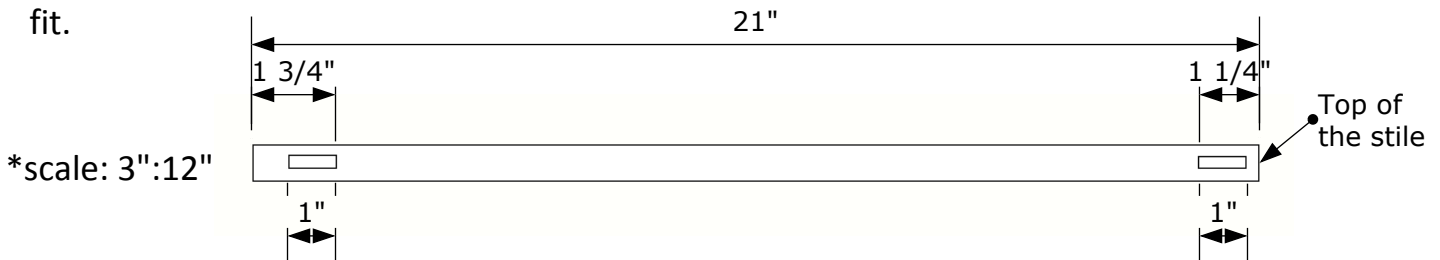
	Description	Parts/Unit	Length	Width	Th.
5.1	Face Frame Stile	2	~21"	1 1/2"	3/4
5.2	Face Frame Rail	2	~9 1/2"	1 1/2"	3/4

These pieces come from the offcut of your door panel. They will require careful attention to detail during break out. Be sure to write your name on every piece and label each piece as to what it is to become. The final dimension of these pieces will depend on your specific cabinet size. Assemble your project before cutting any of these pieces to final size.

1. **Plane** your offcut (as shown on the right) to **3/4"**
2. **Rip** two strips @ **1 1/2" wide**. Clearly write your name on the remaining piece and set it aside for now.
3. Using a mitre saw cut each 1 1/2" strip into two pieces. From each piece **you will get a rail and stile**. The face frame **stile** should be the exact **same length as your sides** (*awful close to 21" long*).
4. Using a mitre saw cut the remaining lengths of the strips to the **inside measurement of your cabinet plus 1/2"**. This should be *close to 9 1/2" long*. Verify by measuring your assembled cabinet.



5. Move to the mortising machine to cut mortises in your face frame stiles as shown below. Lockout the machine and install a 3/8" mortising bit. If you are unsure about how to proceed please ask your instructor. The tenons you will be cutting to fit into these mortises will be 1/2" long so set the depth stop on the machine to cut a 5/8" deep mortise to allow for an easy fit.

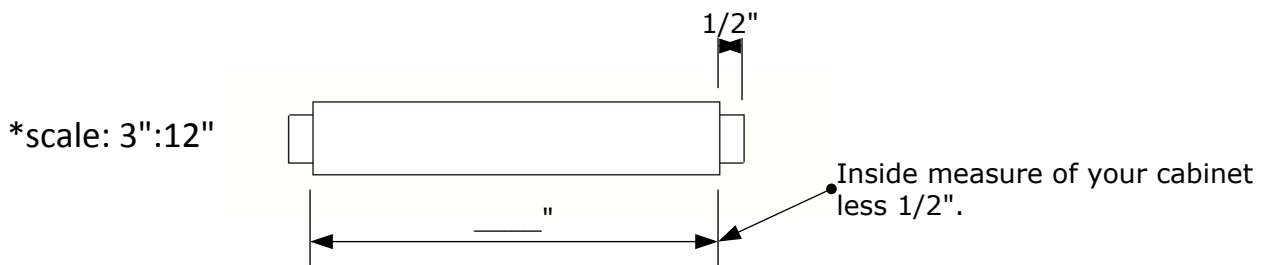
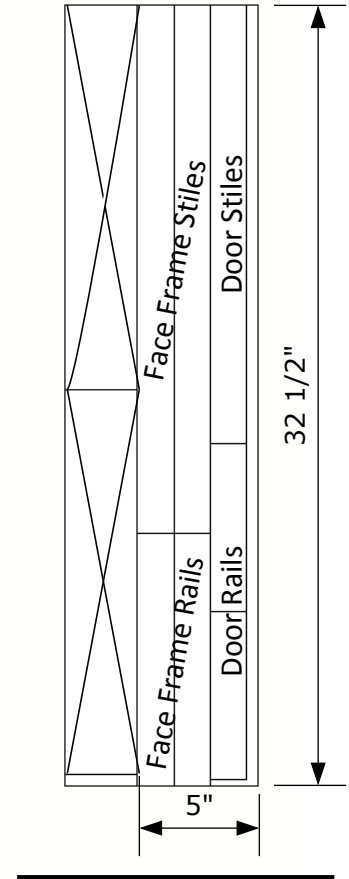


Pine DVD Cabinet	1 1/2":12"
Face Frame Stiles & Rails	February 14, 2013

	Description	Parts/Unit	Length	Width	Th.
5.1	Face Frame Stile	2	~21"	1 1/2"	3/4
5.2	Face Frame Rail	2	~9 1/2"	1 1/2"	3/4

These pieces come from the offcut of your door panel. They will require careful attention to detail during break out. Be sure to write your name on every piece and label each piece as to what it is to become. The final dimension of these pieces will depend on your specific cabinet size. Assemble your project before cutting any of these pieces to final size.

1. Grab your **face frame rails** and move to the dado sled. Lockout the machine and install a **1/2" dado blade** in the saw. If you are unsure how to do this safely, please ask your instructor.
2. Set the blade height just shy of 3/16". Cut all four sides on one end of a rail and test fit with the oak test blocks at the dado saw.
3. If the tenon you just cut will not fit, grab hold of the blade height adjustment knob at the front of the machine and, with both hands on the wheel, "turn the car left" to raise the blade. Only turn the blade about one inch at a time and recut your piece until it fits snugly in the test mortise.
4. Once set, cut the rest of the tenons on your face frame rails.



Pine DVD Cabinet		1 1/2":12"
Face Frame Stiles & Rails continued		February 14, 2013

Assembling the Face Frame

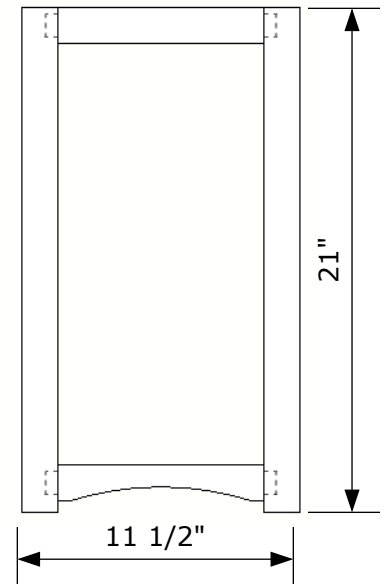
Your face frame should end up with a 1/2" overhang over the carcass. Before you apply glue though be sure to dry fit your parts and ensure the top of the frame is flush. Feel free to cut a "scallop" in the bottom rail for decoration if you'd like.

1. Dry fit your face frame. Check that the **top rail sits flush to the top of your stiles**. If not you may have to carefully trim either the top or bottom of the tenons with a chisel. Also check that the bottom rail sits flush to the bottom shelf of your carcass. Simply set your dry fit face frame onto the face of the carcass to verify. Again, you can trim the tenons on the bottom rail if need be.

2. Grab your **face frame rails** and apply glue to the tenons.

3. Apply some **glue to the mortises** and assemble the frame. Use a clamp across the top rail, and one across the bottom rail.

4. Once dried, use **biscuits** to apply the **sanded face frame** onto the carcass. Ask your instructor for help with this step.



Pine DVD Cabinet	1 1/2":12"
Face Frame assembly	February 14, 2013

	Description	Parts/Unit	Length	Width	Th.
6.1	Door Stiles (vertical)	2	?	1 1/2	3/4
6.2	Door Rails (horizontal)	2	?	1 1/2	3/4
6.3	Door Panel	1	?	?	1/2

Once you have all of your door pieces cut to rough length and your assembled carcass has the face frame attached you can move onto creating the door. Your door will be sized about 1/8" less overall (in length and width) than the size of the opening of your face frame.

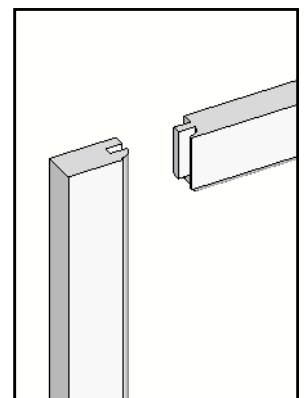
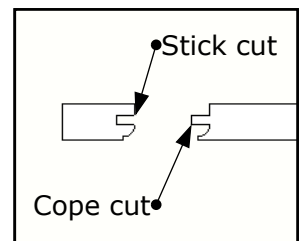
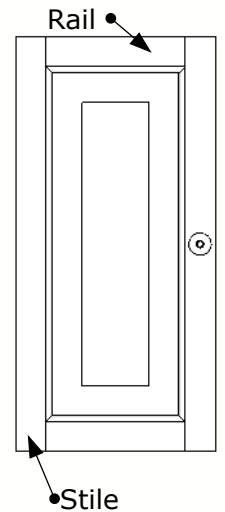
1. Cut your **stiles to finished length**. This can be measured using the inside measure of the **height of the face frame less 1/8"**.

2. Cut your **rails to finished length**. This can be measured using the inside measure of the **width of the face frame less 2 3/8"**.

3. Setup the router table with the **stick cutting bit** to cut the panel groove and patterned edge on the **inside of the rails and stiles**. Please ask your instructor for assistance.

4. Setup the router table with the **cope cutting bit** to cut the **end grain of your rails**. Once cut, dry fit your door together and measure the overall width. If needed now is the time to cut your rails shorter and re-router them.

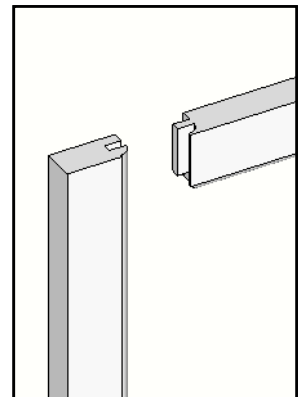
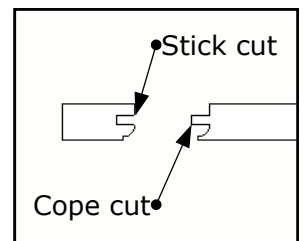
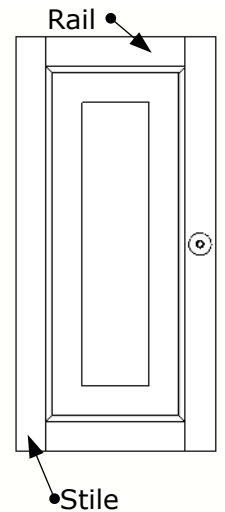
5. When the door frame fits your carcass measure the overall size of the door. The door panel should be 2 3/8" shorter in length and width.



Assembling the Door

Once your door rails and stiles are cut to size and your door panel fits nicely you are ready to glue. Just remember that the door is a floating panel. The door system is designed to allow for expansion and contraction so do not apply any glue to the door panel.

1. Sand all of the door parts; stiles, rails, and the door panel up to 220 grit.
2. Apply glue in the panel groove of one stile where the rails will be.
3. Apply glue to the cope cut of one rail, place it into the stile, then put the door panel in place.
4. Apply glue to the cope cut of the other rail and put it in place.
5. Apply glue to the final stile and fit it to complete assembly of the door.
6. Use two clamps to ensure a tight fit.



Completing your Cabinet

The final step in constructing your cabinet is to cut a plywood back. Apply a bit of glue to your rabbets and along the back edge of your shelves and tack the back in place with a few 1" nails.

Reflection

1. What would you do different if you had to build this project again?
2. What did you learn that surprised you during this process?
3. How would you change your finished project to make it better?

Pine DVD Cabinet	NTS
Door Assembly	February 14, 2013