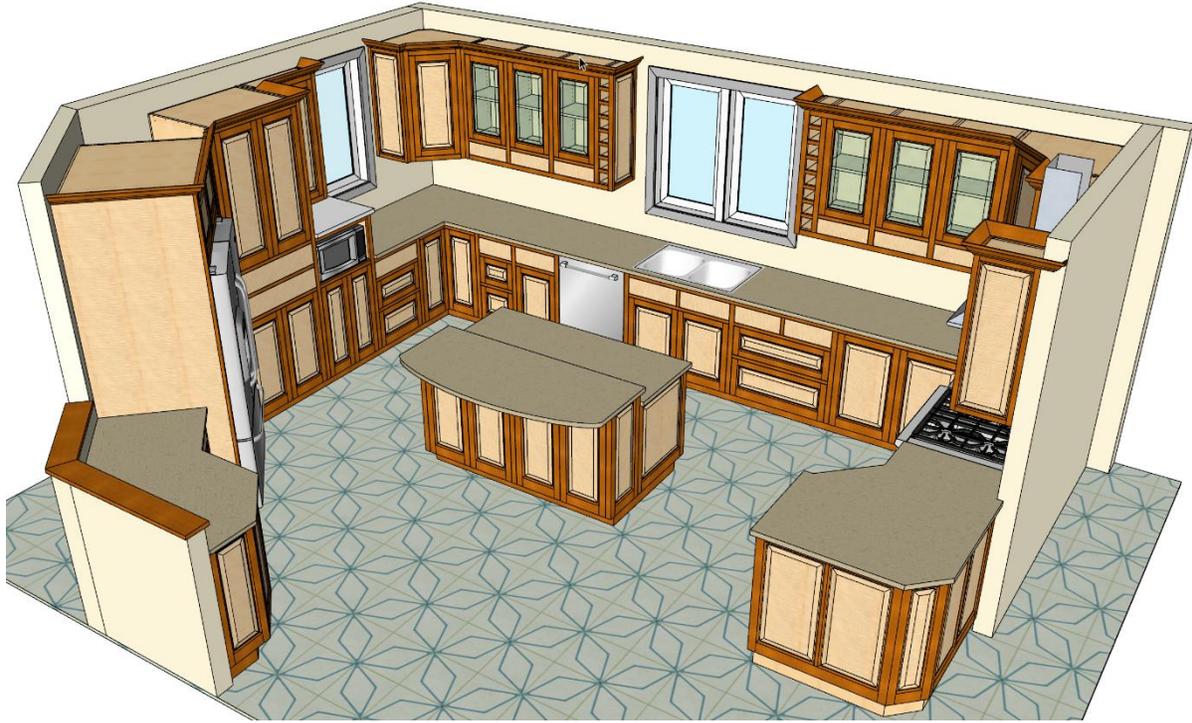


What's New in CabWriter 5?

CabWriter - The Cabinetmaker's Design, Documentation and Fabrication Tool



Optimized DXF Diagrams

Material Formats & Name

Material Format: 3/4 x 48 x 96

Material Name: Maple Plywood - Pre-Finished

Display Options

Description & Part #: Description: Part #: Sub-Assembly: Dimensions: Info || Banding:

Print Options

Diagrams: Cut List: Label Format: DXF - Avery 5160

Optimization Results

Has Grain?: Yes
Rotate Grain-less?: Yes
Ignore Grain?: No
Edge Margin: 1/4
Cutting Bit: 0.375
Clearance: 1/8
Nesting Direction: Optimum

Total Number of Instances = 217.
Placed Instances = 217 of 217.

Total number of sheets = 22.

Sheet Number 1
Sheet Efficiency = 93.0%.
Wasted Sheet = 7.0%.

Sheet Number 2
Sheet Efficiency = 93.9%.

[Add Sheet](#)

Sheet Preview
Label Preview

Sheet Materials List

Comp #	Sub-Assy	Description	Copies	Thick	Width	Length	Can Rotate	Banding	Info	Fin T	Fin W	Fin L	Tags
CB-26	CBUB4	CBUB4 Shelf	1	3/4	11 3/16	15 1/8	No	L	W / L	3/4	11 3/16	14 7/8	
CB-27	CBUB4	CBUB4 Top	1	3/4	11 11/16	15 1/4	No	W / L	W / L	3/4	11 7/16	15	
CB-3	CBUB1	CBUB1 Fixed Shelf	7	3/4	11 11/16	3 3/4	No	W / L	W / L	3/4	11 7/16	3 1/2	
CB-4	CBUB1	CBUB1 Left Side	1	3/4	11 11/16	34 7/8	No	W	W	3/4	11 7/16	34 7/8	
CB-5	CBUB1	CBUB1 Right Side	1	3/4	11 11/16	34 7/8	No	W	W	3/4	11 7/16	34 7/8	
CB-6	CBUB1	CBUB1 Top	1	3/4	11 11/16	3 3/4	No	W / L	W / L	3/4	11 7/16	3 1/2	
CB-8	CBUB2	CBUB2 Bottom	1	3/4	11 11/16	15 1/4	No	W / L	W / L	3/4	11 7/16	15	
CB-9	CBUB2	CBUB2 Fixed Shelf	1	3/4	11 11/16	15 1/4	No	W / L	W / L	3/4	11 7/16	15	

Sheet 1 - Maple Plywood - Pre-Finished_0.75in_x_48.0in_x_96.0in

Sheet 2 - Maple Plywood - Pre-Finished_0.75in_x_48.0in_x_96.0in

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Part 1 - New Functionality

What's New in CabWriter 5 - Part 1 Video Timeline

Time	Feature
1:36	One Piece Shaker Style
8:09	Mid-Rails in Doors & End Panels of Divided Cabinets
15:22	Automatic Texturing
24:48	Automatic Elevation & Section Views
38:13	New Box Schedule Report

One Piece Shaker Style

A new style for doors, drawer fronts, end panels and back panels has been added, called One Piece Shaker. This style is essentially the same as a slab or sheet style for doors/drawer fronts and end or back panels respectively. The difference is that a recessed field is cut in the middle to make it look like a basic Shaker style. The stile and rail dimensions follow the normal defaults for a frame & panel door/ drawer fronts or end and back panels. The primary use for this style is to provide a means for cutting door/drawer fronts, end and back panels on a CNC machine, while emulating a basic Shaker frame and panel look. Figure 1 shows an example of this style.

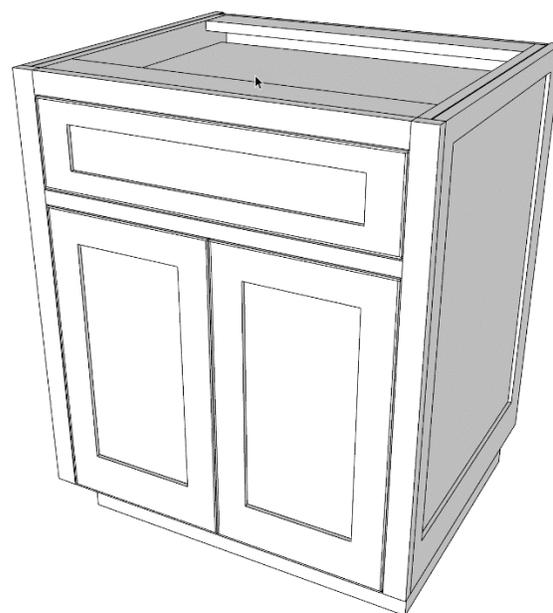


Figure 1 One Piece Shaker Style

Note that you can still use the Trim/Banding feature too, by setting the Enable CNC Cutting parameter to Yes in the General section of the Project tab. In fact, if you are going to use this style, and are going to mill the components on a CNC, you should use Enable CNC Cutting to avoid having to cut the components down later to allow for the Trim/Banding.

To accommodate the new One Piece Shaker style, several new parameters were added. A new parameter has been added to the CNC Setup tab, shown in Figure 2, to set the depth of the field.

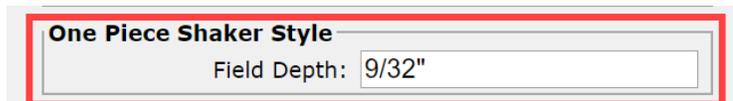


Figure 2 Field Depth parameter for One Piece Shaker style

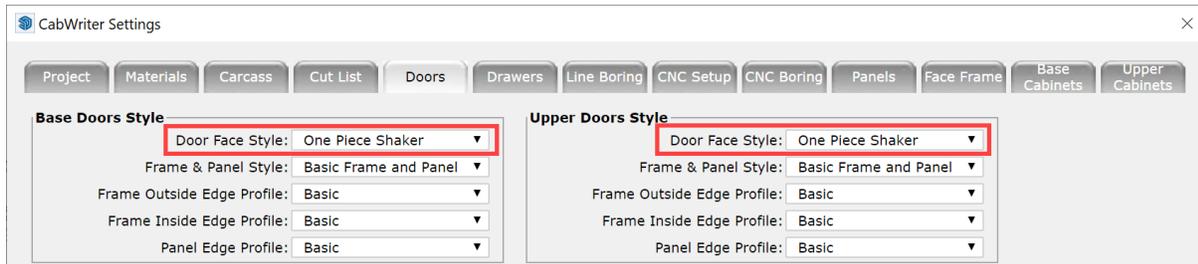


Figure 3 One Piece Shaker parameters on the Doors tab

Also, a new option, called One Piece Shaker, has been added to the Doors, Drawers, and Panels tabs, shown in Figure 3, Figure 4 and Figure 5 respectively.

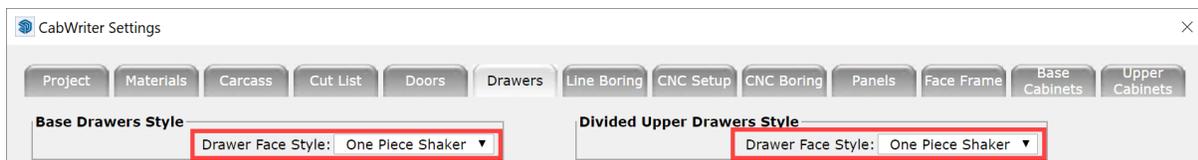


Figure 4 One Piece Shaker parameters on the Drawers tab



Figure 5 One Piece Shaker parameters on the Panels tab

In Figure 6 is a sheet optimization for a One Piece Shaker set of doors and drawer fronts.

There are a few things to be aware of when using this style:

- a. The end panel modeled with this style is still called a Right/Left End Sheet, and they will appear on the Base/Upper End Panels tag (layer).
- b. In the Materials section of the Materials tab, you must use the Slab Door/Drawer Front and End & Back Sheet parameters to specify the material for these parts.
- c. The material thickness is determined by Door/Drawer Front Thickness in the Base/Upper General Section of the Base/Upper Cabinets tab for door/drawer fronts; and Sheet Thickness in the appropriate section on the Panels tab for End and Back Panels.
- d. The One Piece Shaker End and Back Panels are essentially a End Sheet. Hence, while this style can be used with End Panel face frame stiles, best practices suggests that you use End Sheet stiles. If End Panel stiles are used their widths should be modified to account for the difference in thickness of the sheet material versus a frame and panel.

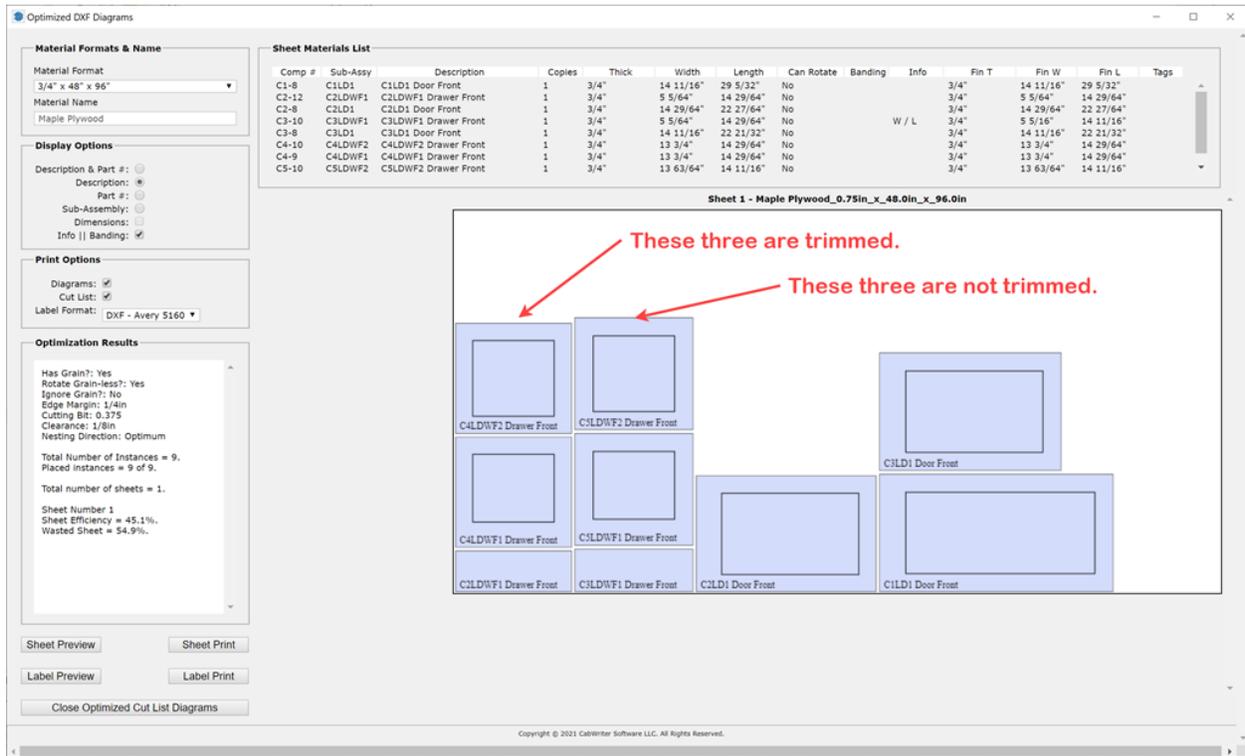


Figure 6 One Piece Shaker parameters on the Panels tab

Mid-Rails in Doors & End Panels of Divided Cabinets

In CabWriter 5 we added the ability to specify a mid-rail in the door and drawer fronts of Divided Upper and Divided Base cabinets. Figure 7 shows an assortment of cabinet styles, each with a mid-rail in its door fronts and end panels. This required addition of parameters and a re-arrangement of the Base Cabinets tab, shown in Figure 8, and the Upper Cabinets tab, shown in Figure 9. Notice there is one parameter on each tab in the Divided Base and Divided Upper sections labeled Door Mid-Rail Width. Also notice in Figure 10 that the Divided Box dialog box has a new column called Mid-Rail. The Option drop-downs have an additional choice called Divided Door, shown above right.

If a door with mid-rail is desired, the user must select a Divided Door is and supply a non-zero dimension in the corresponding Mid-Rail field. This dimension is the distance from the bottom edge of the door to the horizontal center of the mid-rail. Note it is the bottom edge of the door and not the bottom of the door opening. The Mid-Rail column is ignored for any other choice in the Option column, i.e. None, Door or Drawer.

We also implemented the ability to add mid-rails to the end panels of Divided Base, Divided Upper and Refrigerator Upper cabinets. In the case of a Refrigerator Upper, the sides must be extended to the floor. New parameters called End Panel Mid-Rail Width and End Panel Mid-Rail Position have been added to the Divided Base, Divided Upper and Refrigerator Upper sections of the Base Cabinets and Upper Cabinets tabs. See Figure 8 and Figure 9. If the End Panel Mid-Rail Position parameter is exactly

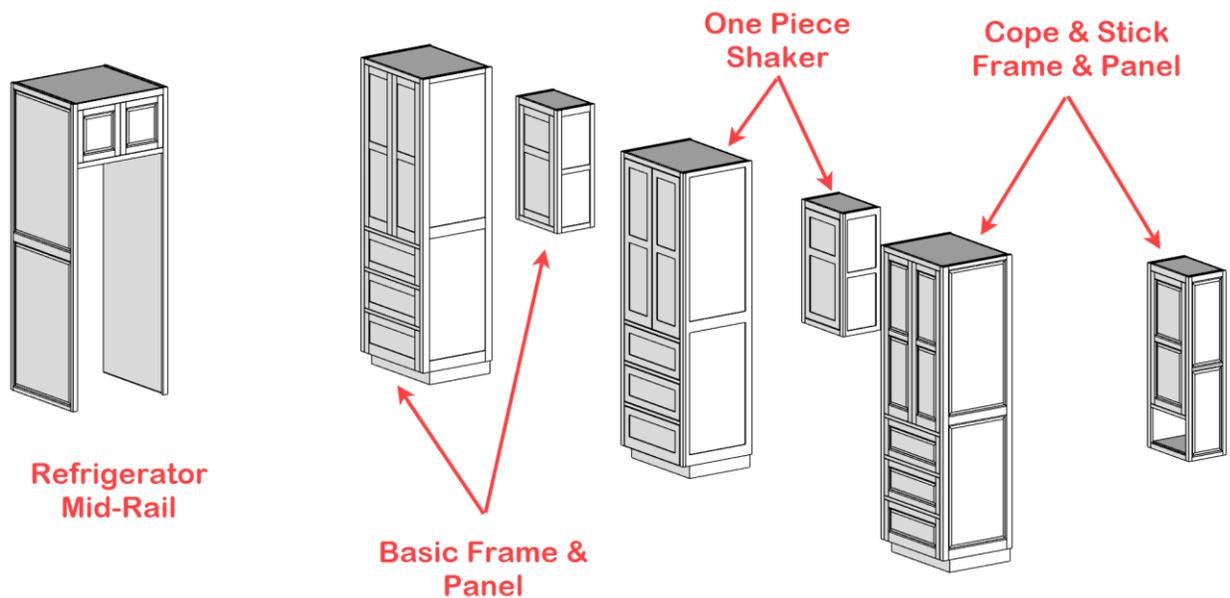


Figure 7 A collection of cabinets in various styles, each with Mid-Rails in the Doors and End Panels

0.0, no mid-rail will be drawn. If a non-zero End Panel Mid-Rail Position parameter is specified, a mid-rail will be drawn at that position. The reference for the mid-rail position is the bottom of the panel to the horizontal center of the mid-rail.

The addition of mid-rail capability required changes in the Door & Drawer Report. Figure 11 shows the new Door & Drawer Report. All the changes are in the Frame & Panels Doors section. Notice that to the right of the Frame Material column are three columns labeled Panel Material, Top Panel Material and Bottom Panel Material. Top Panel Material and Bottom Panel Material are new. In doors with no mid-rail there is only one panel and its material will appear in the Panel Material column. The Top Panel Material and Bottom Panel Material for this one panel door will be labeled N/A, not applicable, as shown in line 24 of Figure 11. For doors with a mid-rail, there are two panels and their material will be found in the Top Panel Material and Bottom Panel Material columns, and the Panel Material column will be marked N/A, as shown in lines 20 through 23.

To the right you will find two more columns: Mid-Rail Width and Mid-Rail Position. If there is a mid-rail in the door its width will be found in the Mid-Rail Width column and the mid-rail's position will be found in the Mid-Rail Position column. If there is no mid-rail in the door this entry will be marked N/A in both the Mid-Rail Width and Mid-Rail Position columns.

Note: The dimension in the Mid-Rail Position column is the distance from the bottom edge of the Bottom Rail to the mid-point of the Mid-Rail.

CabWriter Settings

Project Materials Carcass Cut List Doors Drawers Line Boring CNC Boring Panels Face Frame Base Cabinets Upper Cabinets

Base Carcass

Side Position:

Solid Top or Stretchers:

Mid-Stretchers (Frameless Only):

Draw Bottom Trim?:

Draw Alignment Slot?:

Stretcher/Top Thickness:

Side/Partition Thickness:

Back Thickness:

Bottom Thickness:

Bottom Trim Thickness:

Drawer Divider Thickness (x2):

Stretcher Width:

Alignment Slot Width:

Diagonal Shelf Board Width:

Opening Filler Width:

Alignment Slot Depth:

Side Setback:

Bottom Inset:

Base General

Counter Top Height:

Counter Top Thickness:

Cabinet Depth (Face to Wall):

Carcass Gap (Back to Wall):

Door/Drawer Front Thickness:

Door/Drawer Front Top Clearance:

Door/Drawer Front Bottom Clearance:

Standard Base

Number of Shelf Hole Columns:

Number of Shelves:

Standard Base w/ Drawers

Number of Shelf Hole Columns:

Number of Shelves:

Blind Corner Base

Number of Shelf Hole Columns:

Number of Shelves:

Blind Corner Displacement:

Diagonal Corner & Lazy Susan Base

Number of Shelf Hole Columns:

Number of Shelves:

Back Corner:

Sink Base

Draw Back Stretcher:

Draw Front Stretcher:

Divided Base

Number of Shelf Hole Columns:

Solid Top or Stretchers:

Cabinet Height:

Door Mid-Rail Width:

End Panel Mid-Rail Width:

End Panel Mid Rail Position:

Update

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Figure 8 Base Cabinets tab with new parameters for mid-rails

CabWriter Settings

Project Materials Carcass Cut List Doors Drawers Line Boring CNC Setup CNC Boring Panels Face Frame Base Cabinets Upper Cabinets

Upper Carcass

Side Position:

Draw Bottom Skin?:

Draw Bottom Trim?:

Draw Alignment Slot?:

Top Thickness:

Side/Partition Thickness:

Back Thickness:

Bottom Thickness:

Bottom Trim Thickness:

Bottom Skin Thickness:

Stretcher Width:

Alignment Slot Width:

Diagonal Shelf Board Width:

Opening Filler Width:

Alignment Slot Depth:

Side Setback:

Bottom Inset:

Top Inset:

Extend Sides:

Upper General

Cabinet Height:

Cabinet Depth (Face to Wall):

Carcass Gap (Back to Wall):

Door/Drawer Front Thickness:

Door/Drawer Front Top Clearance:

Door/Drawer Front Bottom Clearance:

Standard Upper

Number of Shelf Hole Columns:

Number of Shelves:

Blind Corner Upper

Number of Shelf Hole Columns:

Number of Shelves:

Blind Corner Displacement:

Diagonal Corner Upper

Number of Shelf Hole Columns:

Number of Shelves:

Back Corner:

Carcass Gap (Back to Wall):

Refrigerator Upper

Number of Shelf Hole Columns:

Number of Shelves:

Carcass Gap (Back to Wall):

Carcass Side to Floor Gap:

Carcass Sides to Floor?:

End Panels to Floor?:

End Panel Mid-Rail Width:

End Panel Mid Rail Position:

Divided Upper

Number of Shelf Hole Columns:

Cabinet Height:

Door Mid-Rail Width:

End Panel Mid-Rail Width:

End Panel Mid Rail Position:

Update

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Figure 9 Upper Cabinets tab with new parameters for mid-rails

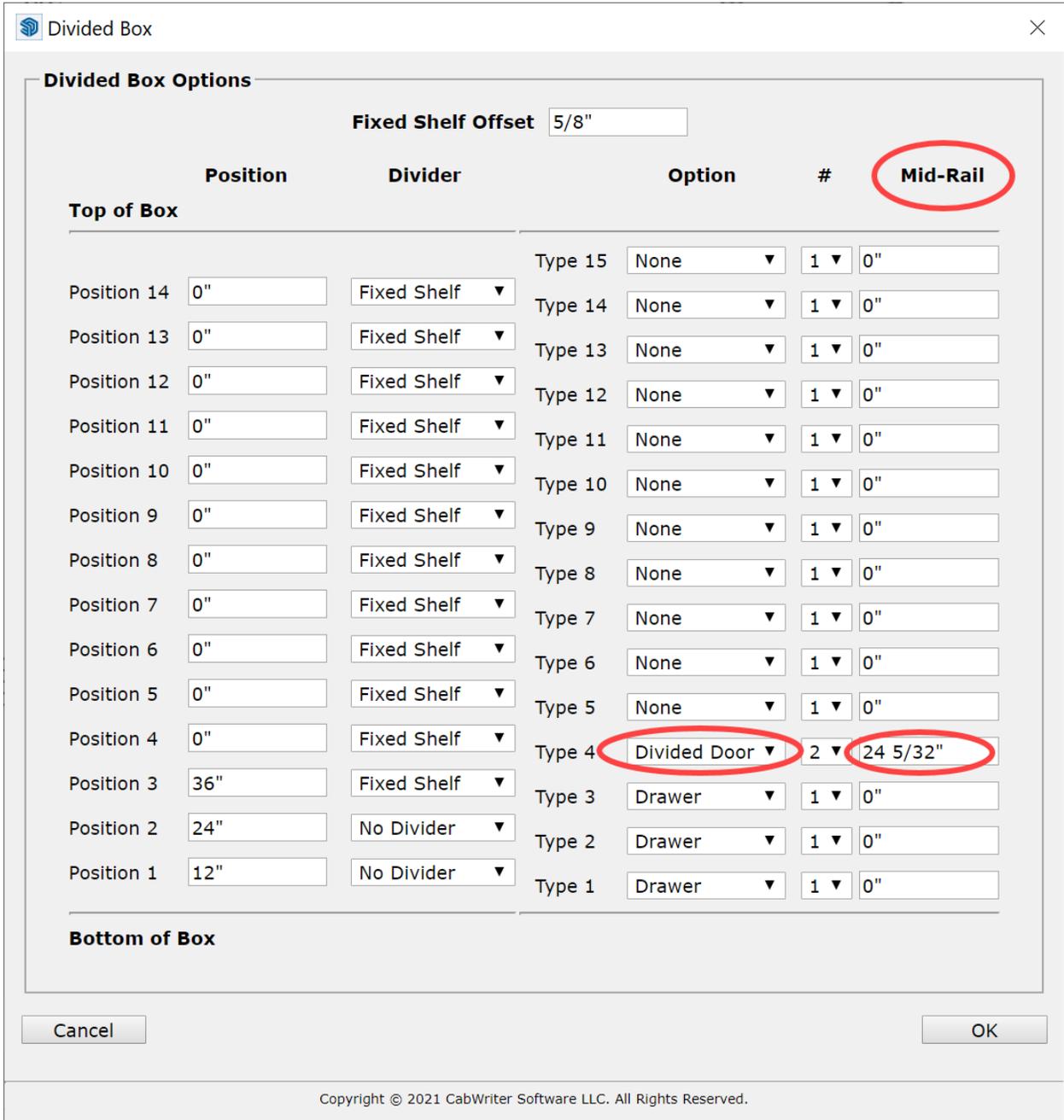


Figure 10 The Divided Box dialog box with new Divided Door option and Mid-Rail column

Automatic Texturing

Texturing cabinets can be very helpful when displaying a design to a client. Prior to CabWriter 5, the cabinetmaker had to use native SketchUp tools to accomplish this, and that was very time consuming, and the textures supplied with SketchUp are less than acceptable. We have added several automated methods of texturing and provided the cabinetmaker with approximately 250 real wood grain textures.

Since wood grain textures are actually part of the materials definition, we added a Texture column with eight texture parameters to the Materials section of the Materials tab, shown in Figure 12. These eight parameters coincide with the eight component types, material types and material names. We have also added a Texture Preview window so the user can see the texture chosen for a given Material Type/Material Name combination.

These eight textures drop-downs are parameters like any other CabWriter parameter; they are stored in the defaults in each cabinet component. The user should, before drawing the first cabinet of a model, go to the Materials tab and set up all material Types, material Names and material Textures. Having done that, when a cabinet is drawn it will automatically be textured.

When cabinets are first drawn, they are automatically textured. Textures can be changed with a cabinet edit or re-draw, just like any other parameter. Further, we have added to new commands: *Draw > CabWriter > Texture Model* and *Draw > CabWriter > Texture Selected*. These are automatic texturing commands. The first textures the entire model; any CabWriter part, except custom parts (CP in the prefix) and walls will be textured. The second will texture whatever parts are selected provided they are CabWriter parts and not custom parts or walls.

Whatever way the user chooses to texture, CabWriter will adjust for grain direction, including in the carcass parts because it uses the auto-grain correction feature of CabWriter. Using the commands *Texture Model* and *Texture Selected* will always texture using the current contents of the CabWriter settings. However, when editing or re-drawing a cabinet, you will be asked, as always, whether to use the stored defaults or the current CabWriter Settings. So, in the latter case, the choice will determine the textures used.

There are eleven factory installed texture patterns that come with CabWriter 5. However, there are nearly 250 available from the CabWriter website. Look under the SketchUp menu for *Download Textures*. The user must be licensed and logged in to access the download files.

The first image on the cover page of this document is an example of a textured model. Notice, you can texture with glass as well as wood grain. The custom parts, walls, counter tops, window trim etc. can also be textured using native SketchUp tools.

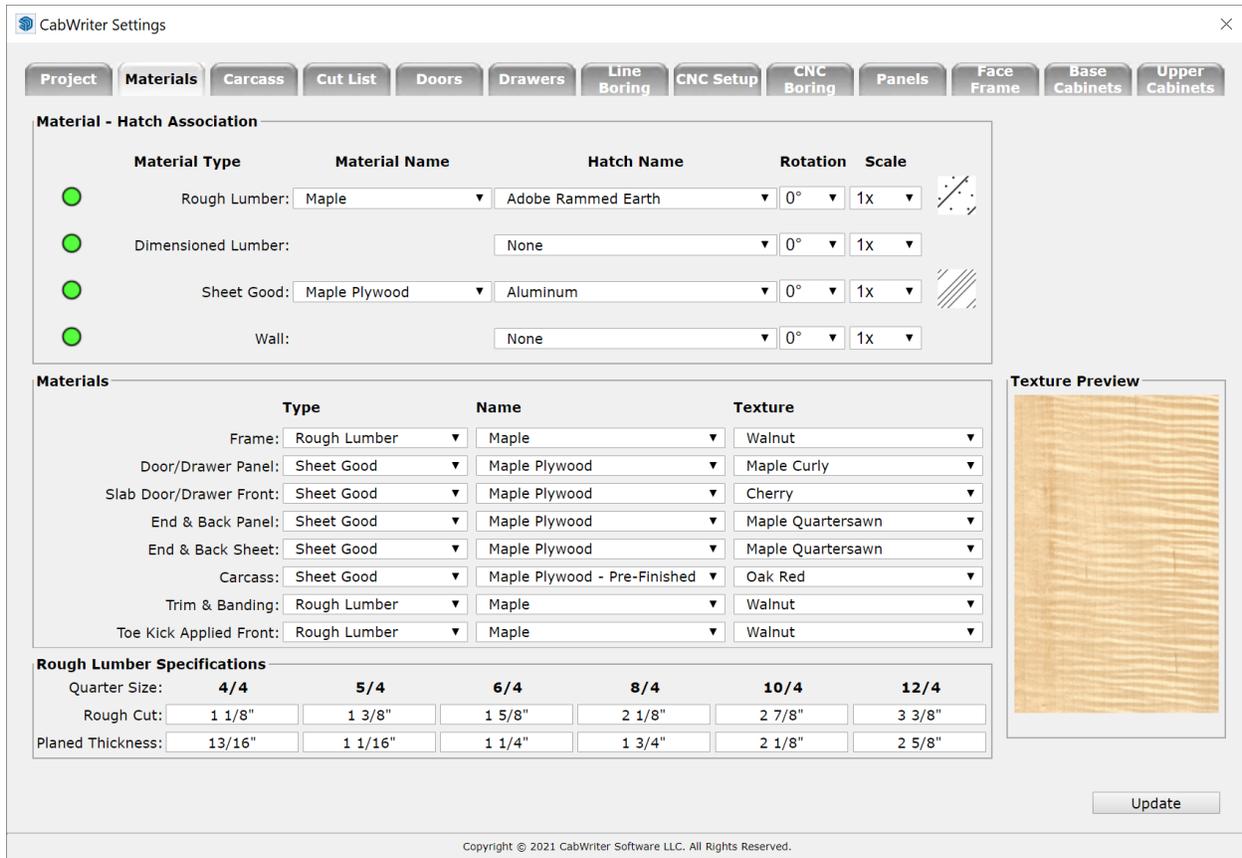


Figure 12 The Materials tab showing the new Texture column and Texture Preview area

Automatic Elevation & Section Views (PRO & CNC)

Extended the *File > CabWriter > Create Basic Scene Set* command to automatically generate all elevation and section views. This command now analyses all CabWriter cabinets and

chooses a minimum set of section planes required to produce all elevation and section views. This

required the addition of two defaults in the Section Plane Positions section of the Project tab shown in Figure 13.

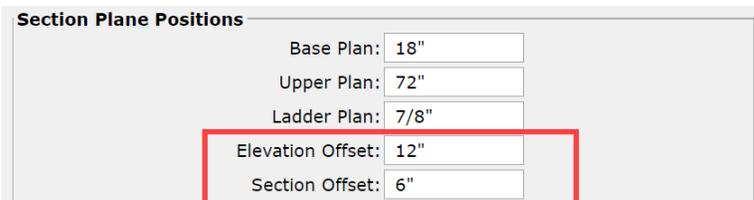


Figure 13 New parameters in the Section Plane Positions section of the Project tab

Elevation Offset – This parameter applies to only the Elevation views. It is the distance the section plane is placed in front of the cabinets. Typically, this means in front of the base cabinets in the view, but if there are no base cabinets, it will be placed in front of the upper cabinets by the distance specified.

Section Offset – This parameter applies to only the Section views. It is the distance the section plane is

placed inside the cabinets relative to their front face. Typically, this means inside the upper cabinets in the view, but if there are no upper cabinets, it will be placed inside the base cabinets by the distance specified.

Create Basic Scene Set created 25 scenes automatically in the model in Figure 14. In addition to the usual scenes, it produced 8 Elevation scenes and 6 Section scenes. Scene tabs will be named Elevation A through Elevation (next letter) and Section A through Section (next letter). If necessary, the lettering will wrap to AA, AB, AC etc. In Figure 15 notice the naming of the section planes; BP is Base Plan, UP is Upper Plan and LP is Ladder Plan. Elevation view section planes begin with the letter E and then A through the next n letters. Section view section planes begin with the letter S and then A through the next n letters. E.g., The scene called Elevation A has a section plane labeled EA; the scene called Section D has a section plane labeled SD.

VERY IMPORTANT: You should try to use the *Create Basic Scene Set* only once per model. Any changes to a scene should be done using *Draw > CabWriter > Create Section From Section Plane*. The reason this is important is, if you use *Create Basic Scene Set* again, each time you use it you will be duplicating section planes. If you feel you really want to run it again, you should first display only the section planes, select all of them and erase them. Then run *Create Basic Scene Set* again.

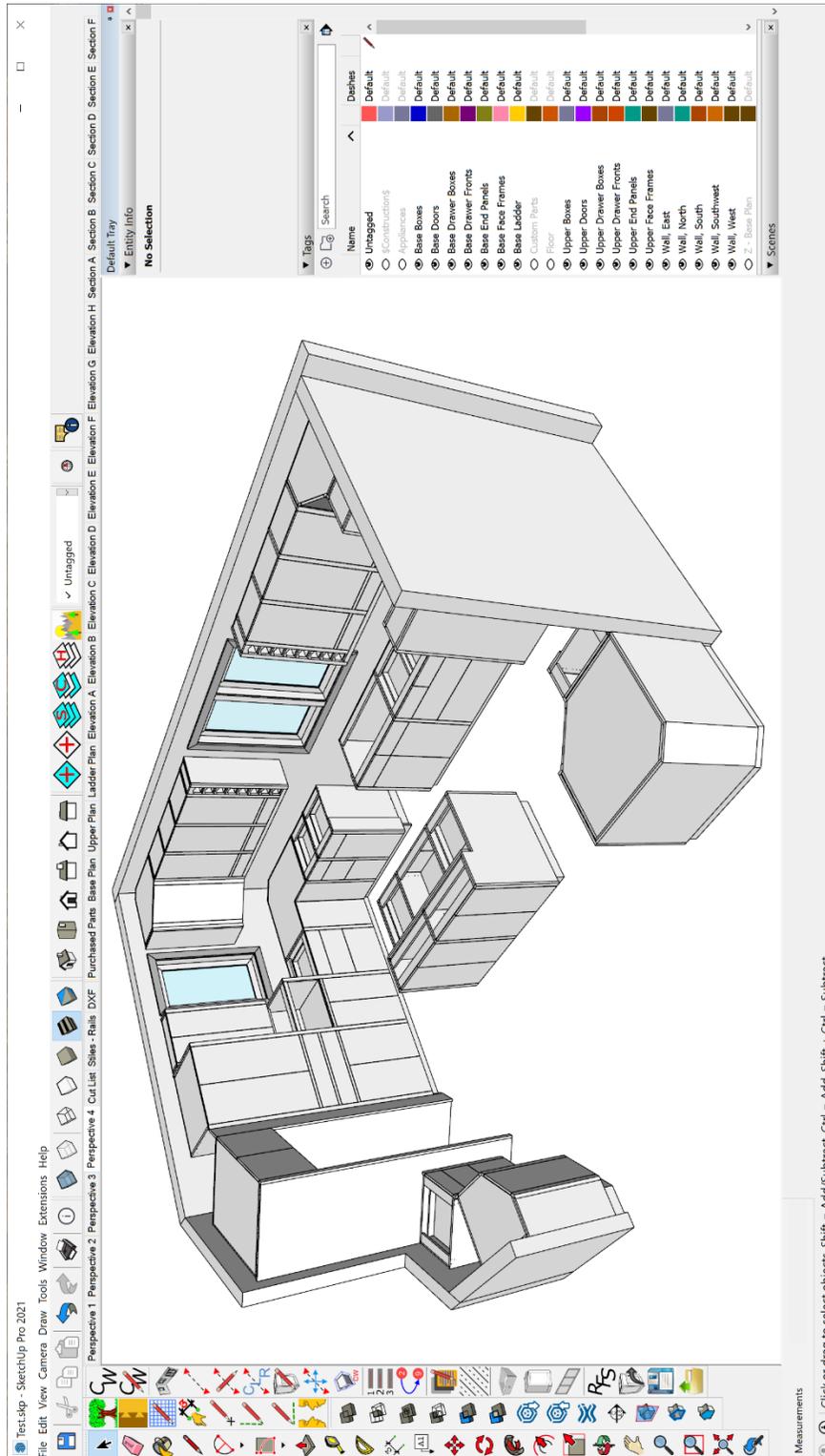


Figure 14 Gracie Hopkins Kitchen with 25 automatically created scenes including all necessary Elevations and Sections

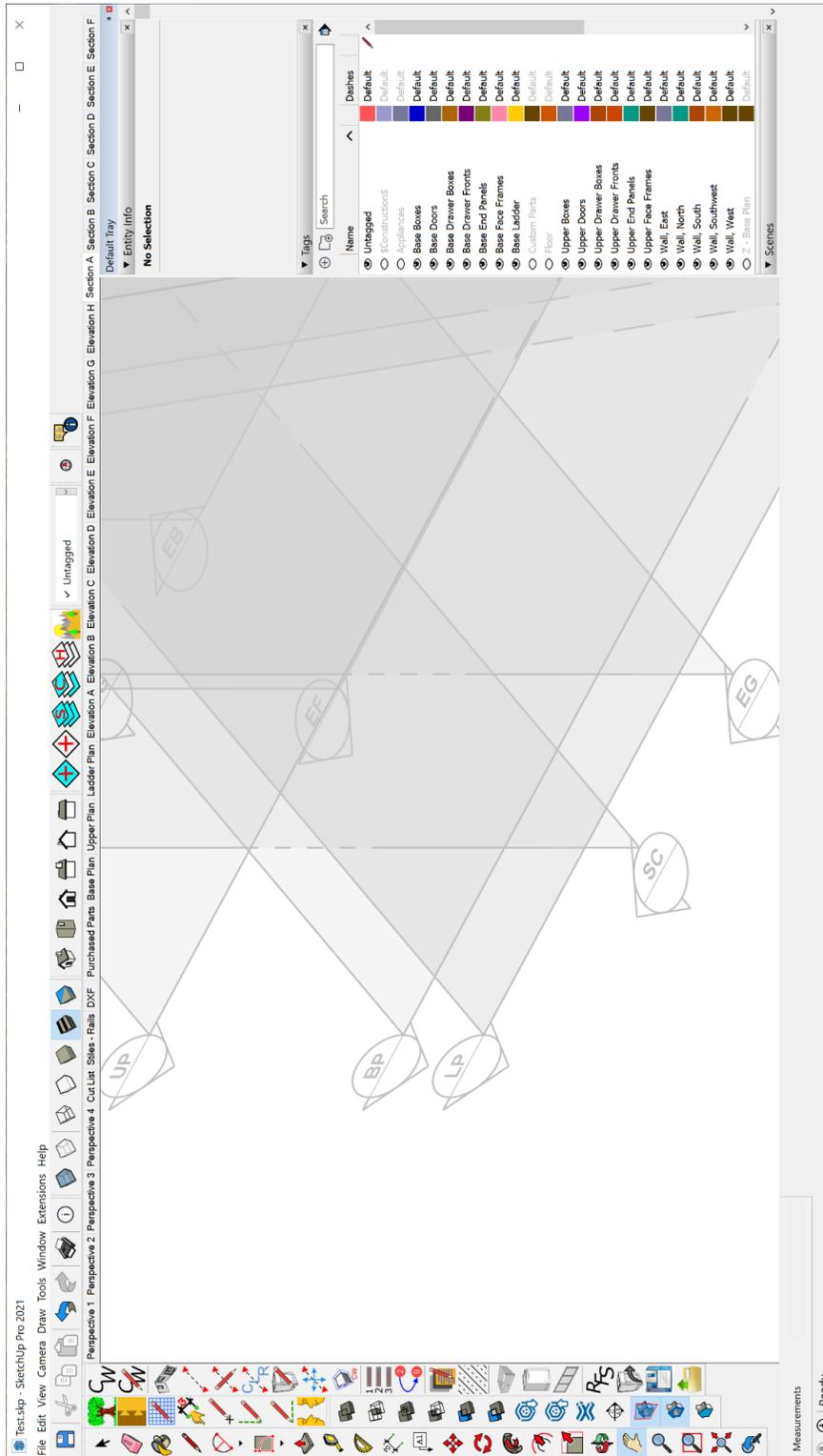


Figure 15 Section planes used in the model with the new section plane labeling

New Box Schedule Report (PRO & CNC)

Based on some email conversations and discussions in a Webinar, we have created a new report called the Box Schedule. This report is aimed exclusively at project costing, and should not be used for cabinet construction. Many cabinetmakers estimate project cost based on the number and length of each box type, number of doors, drawers and shelves. That is what this report provides. The report is a CSV file called `box_schedule.csv`. It has two sections, each with the same information, but sorted differently. The first section is simply by box number and the second section is by box type. The first section is most useful for checking correctness against a model and the second section is most useful for project costing.

The Box Schedule report is part of the CabWriter Production Documentation set of reports. It requires a valid scene name assigned to the Cut List Report in the Scenes Used in Reports section of the Production Documentation dialog box shown in Figure 16. This scene is the same scene that is used to produce the cut list file. All Base and Upper box parts should be included in this scene, and there should never be duplicate instances; that is, never copy a box or box part and include that copy in the Cut List Report scene. Doing so would result in double accounting and raise the project cost beyond actual.

Figure 17 is a snippet of the second section of the new Box Schedule Report.

Production Documentation

Cut List Files Delimiter

Comma Tab Semicolon

Scenes Used in Reports

Purchased Part Report Purchased Parts ▼

Rough Lumber Report Rough Lumber ▼

Cut List Report Cut List ▼

DXF Report DXF ▼

Door & Drawer Front Oversize

Oversize each side and end by:

Select Purchased Part Reports

Drawer Fronts

Drawer Boxes

Doors

Select Milled Part Reports

Box Schedule

Rough Lumber

Spreadsheet Compatible Cut List

DXF by Material Name & Thickness

CutList Plus fx

CutList Plus fx with DXF

No CutList Plus fx Report

Cancel Create Reports

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Figure 16 Production Documentation dialog box with new Box Schedule Report

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
46	Blind Corner Base													
47														
48	Box		# of Doors	# of Drawers	# of Shelves		Box Height	Box Depth	Box Width		Dec Height	Dec Depth	Dec Width	
49	C6LB3		2	2	2		34 3/4	24	50		34.75	24	50	
50														
51	Divided Base													
52														
53	Box		# of Doors	# of Drawers	# of Shelves		Box Height	Box Depth	Box Width		Dec Height	Dec Depth	Dec Width	
54	C10LB1		4	2	4		90	24.30 1/2	24		90	24	30.5	
55	C13LB1		2	2	2		49 5/8	24.23 1/4			49.625	24	23.25	
56														
57	Divided Upper													
58														
59	Box		# of Doors	# of Drawers	# of Shelves		Box Height	Box Depth	Box Width		Dec Height	Dec Depth	Dec Width	
60	C12UB1		2	1	1		39 1/8	7.21 3/4	7		39.125	7	21.75	
61	C15UB1		1	1	2		36	13 16 1/2	5		36	13	16.5	
62	C15UB2		1	1	2		36	13 16 1/2	5		36	13	16.5	
63	C15UB3		1	1	2		36	13 16 1/2	5		36	13	16.5	
64	C15UB4		7	7	7		36	13	5		36	13	5	
65	C8UB1		7	7	7		36	13	5		36	13	5	
66	C8UB2		1	1	2		36	13 16 1/2	5		36	13	16.5	
67	C8UB3		1	1	2		36	13 16 1/2	5		36	13	16.5	
68	C8UB4		1	1	2		36	13 16 1/2	5		36	13	16.5	
69	C9LB1		2	1	1		39 1/8	7.21 3/4			39.125	7	21.75	
70														
71	Drawer Bank Base													
72														
73	Box		# of Doors	# of Drawers	# of Shelves		Box Height	Box Depth	Box Width		Dec Height	Dec Depth	Dec Width	
74	C14LB1		3	3	3		34 3/4	24.21 1/4			34.75	24	21.25	
75	C18LB1		3	3	3		30 3/4	24 16 1/2			30.75	24	16.5	
76	C18LB3		3	3	3		30 3/4	24 16 1/2			30.75	24	16.5	
77	C11B1		3	3	3		34 3/4	24 14 1/2			34.75	24	14.5	
78	C11B2		3	3	3		34 3/4	24 14 1/2			34.75	24	14.5	
79	C2LB1		3	3	3		34 3/4	24 18 1/4			34.75	24	18.25	
80														

Figure 17 A snippet of the new Box Schedule Report

Part 2 - Functionality & Parameter Changes

What's New in CabWriter 5 - Part 1 Video Timeline

Time	Feature
1:24	Rough Lumber Report Replaces Stiles & Rails Report
10:55	Redesigned Sheet Optimization Settings Dialog Box
16:33	Cut & Paste Instances on Optimized Sheet
20:30	Eliminate Any Instances or Cabinets from Any Report by Hiding Them
25:26	Construction Hole Depth
28:49	Z-Depth Option
30:38	Ladder Base Thickness

Rough Lumber Report Replaces Stiles & Rails Report (PRO & CNC)

Made major changes to the Stiles & Rails Report; in fact, it is no longer called Stiles & Rails Report, but rather, Rough Lumber Report. This new Rough Lumber Report, shown in Figure 18, now includes the following changes:

a) In addition to door and drawer front stiles and rails, the Rough Lumber report now includes ladder base Applied Faces, Face Frame stiles and rails, End Panel stiles and rails and Back Panel stiles and rails.

b) Ladder base Applied Faces are now placed on the Base Face Frames layer.

c) Create Basic Scene Set no longer creates a scene called Stiles – Rails, but rather, Rough Lumber. This name change is reflected in the Production Documentation dialog box shown in .

Figure 18 Production Documentation dialog box

d) The definition of rough lumber quarter thickness is now a set of CabWriter parameters that the user can change. A new section called Rough Lumber Specifications has been added to the Materials tab and shown in Figure 19. The Planed Thickness line is used to determine the crossover points between quarter thicknesses. The default shown are industry standard, but many suppliers have their own specifications. Some sell only rough-cut lumber and others sell both rough-cut and planed thickness lumber. Each user should check these settings against their supplier.

Rough Lumber Specifications						
Quarter Size:	4/4	5/4	6/4	8/4	10/4	12/4
Rough Cut:	1 1/8"	1 3/8"	1 5/8"	2 1/8"	2 7/8"	3 3/8"
Planed Thickness:	13/16"	1 1/16"	1 1/4"	1 3/4"	2 1/8"	2 5/8"

Figure 19 The Rough Lumber Specifications section of the Materials tab

Notes of Caution: The Rip and Cross Cut reports are based on the Under-sizing/Oversizing dimensions reflecting the setting on the Cut List tab. If the user intends these to be final dimensions, then the applicable dimensions on the Cut List tab should be set to 0.0.

Redesigned Sheet Optimization Settings Dialog Box

Changed the way the left side of the Sheet Optimization Settings dialog box works. The new Sheet Optimization Settings dialog box is shown in Figure 20. The first thing to notice is that the select radio buttons, and the Add Line and Delete Line buttons, are gone. Also gone is the Thickness field in the Default Sheet Format section. The Available Sheet Sizes for Selected Material Name section has been renamed to Sheet Sizes by Selected Material Name.

Sheet Optimization Settings creates and manages a file called `sheet_goods_sizes.csv`. This file resides in the directory specified on the Lists tab of the Extended Entity Info in the folder called Optimization Files. Each time the Sheet Optimization Settings dialog box is opened, CabWriter examines every sheet good component and makes note of its thickness and material name. It then checks to be sure there is an entry in the `sheet_goods_sizes.csv` for each material name and thickness combination. If it doesn't find one, CabWriter creates an entry using the material name, thickness, default Width, default Length and default Has Grain?. This file can grow in size as you create more projects. This file is used during optimization to specify the sheet dimensions and whether the sheet has grain. Notice in the Sheet Sizes by Selected Material Name section under the Thickness column, that the thicknesses are greyed out. The user cannot change the thickness fields; those are determined by the thickness of components for each material name. However, the user can change the Width and Length fields.

In the example shown at the top of the page, for a Metric project, there are three thicknesses of MDF material: 6.4 mm, 12.5 mm and 19.0 mm. Notice that the 12.5 mm and 19.0 mm thicknesses are going to be optimized on sheets of width = 1219.20 and length = 2438.40 mm, while the 6.4 mm thickness parts will be optimized on sheets of width = 1524.00 mm and length = 3048.00 mm. These sheet formats will be remembered in the `sheet_goods_sizes.csv` file and will be the same for a new project until the user once again changes them.

IMPORTANT: THIS MEANS THAT EACH TIME THE SHEET OPTIMIZATION SETTINGS DIALOG BOX IS OPENED THE USER SHOULD LOOK AT EACH MATERIAL NAME AND THICKNESS COMBINATION TO BE SURE THE CORRECT WIDTH AND LENGTH IS SPECIFIED.

Sheet Optimization Settings

Material Name & Grain Style

Material Name:

Has Grain?:

General Optimization Settings

Rotate Grain-less Sheet Parts for Optimization:

Ignore Grain Direction:

Sheet Sizes by Selected Material Name

Thickness	Width	Length
6.40 mm	1524.00 mm	3048.00 mm
12.50 mm	1219.20 mm	2438.40 mm
19.00 mm	1219.20 mm	2438.40 mm

CNC Settings

Edge Margin:

Clearance:

Nesting Direction:

Table or Panel Saw Settings

Edge Margin:

Saw Kerf:

Clearance:

Nesting Direction:

Default Sheet Format

Width:

Length:

Has Grain?:

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Figure 20 Redesigned Sheet Optimization Settings dialog box

Cut & Paste Instances on Optimized Sheet

Added the ability to cut and paste instances on a layout diagram for both Optimized Cut List Diagrams and Optimized DXF Diagrams dialog boxes. There are two new buttons called Add Sheet and Paste, shown in Figure 21, respectively.

To move an instance from one sheet to another, follow this sequence:

- a) Click on an instance to select it. You will see it highlighted in the Sheet Materials List.
- b) Click the paste button.
- c) A dialog box will appear asking for the sheet you want to put the instance on. The last sheet is suggested because it is usually the one with unused space. The user can change the sheet number as required. Click on the OK button.
- d) The sheet you specified will automatically scroll into view. Move your cursor around the sheet and notice as you do the instance will be displayed in one of three colors: Red, Orange or Green. Red means you cannot place it there. Orange means you can place it there, but you will not have the specified distances between objects that the others have. Green will appear when you are within two inches of an upper-left or lower-right corner point of an adjacent instance, and means you will have the specified spacing. Click at that point and the instance will be placed and the diagrams will be updated.
- e) Sometimes the last sheet doesn't have enough space to place an instance, or the number of instances you wish to place. So, you can add an empty sheet to the diagram with the Add Sheet Button.
- f) If you wish to abort a cut & paste, either click the Cancel button on the Select a Sheet dialog box in Figure 22, or, if you are moving the selected instance on the target sheet, simply move the instance until it is red

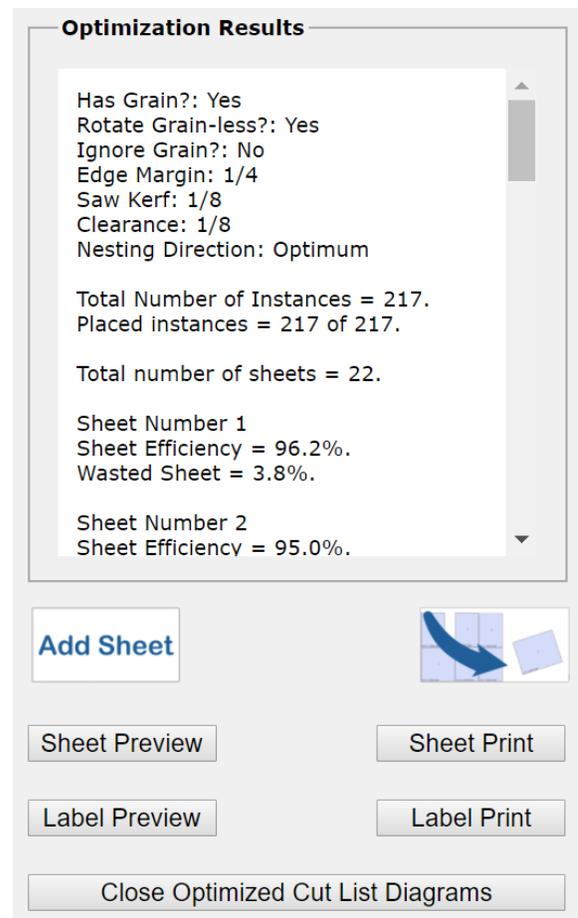


Figure 21 The new Add Sheet and Paste buttons

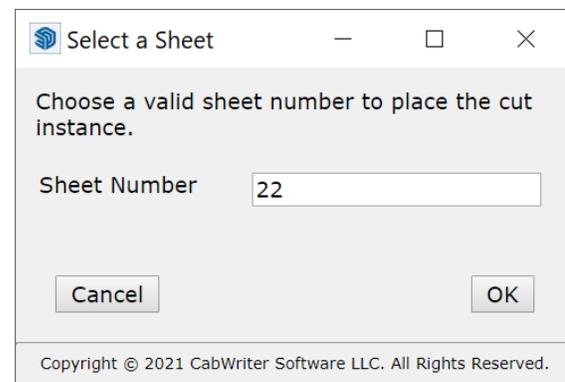


Figure 22 The Select a Sheet dialog box always suggests the last sheet

and click.

In addition to moving instances from one sheet to another, you can also move instances around on the same sheet using the same sequence.

This feature is useful if you want to place door or drawer fronts on a sheet and arrange them for optimal grain matching, or perhaps you just want to cluster a certain type of parts on a sheet.

A Word of Caution. Each time you press the Begin Optimization button on the Sheet Optimization Settings dialog box, CabWriter will begin optimization from the beginning, and any work you have done in moving instances around will be lost. Therefore, you need to print out your labels and layout sheets before you close either the Optimized Cut List Diagrams or the Optimized DXF Diagrams dialog boxes. In the case of the Optimized DXF Diagrams, you also need to save the Sheets Folders containing the DXF files, because those too will be regenerated from the beginning and all your changes will be lost.

Eliminate Any Instances or Cabinets from Any Report by Hiding Them

There are four scenes used in CabWriter Production Documentation to create the various reports shown in Figure 23. You can now use the Entity Info dialog box Hide icon (eye), or menu *Edit > Hide*, to hide an instance(s) in a scene. Subsequently, any reports generated using that scene will not include any hidden instances. The scene assigned to Purchased Part Report is used to generate the Drawer Fronts Report, the Drawer Boxes Report and the Doors Report. These three reports are included in the file called `door_and_drawer_schedule.csv`.

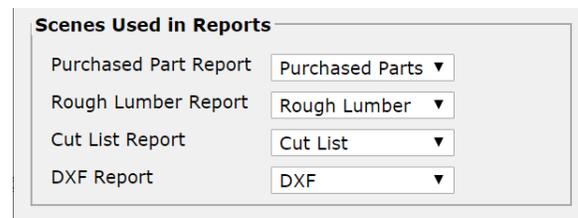


Figure 23 The Scenes Used in Reports section of the Production Documentation dialog box

The scene assigned to Rough Lumber Report is used to create the Rough Lumber report and generates a file called `rough_lumber_schedule.csv`. The scene assigned to the DXF Report is used to generate the optimized DXF layouts and to produce all of the DXF files.

The scene assigned to the Cut List Report is used to create the cut list files, and this file is very special; it is the database for all the other reports. Therefore, the user must be careful not to hide instances in the Cut List Report scene, if those instances are to be included in any of the other scenes. Said another way, the Cut List Report scene must include all instances included in any other report. Typically, all CabWriter instances should be in the Cut List Report, however, if the user is careful about the above rule, instances can be hidden in the Cut List Report scene to produce a smaller, targeted, cut list.

Note: Normally, once you have used *File > CabWriter Production Documentation*, you can use *File > CutList Bridge > Sheet Optimization* as many times as you wish. That way you can change optimization settings and see the results. However, if you change the visibility of a component on the DXF Report scene, you must go back to *File > CabWriter Production Documentation* before optimizing any layouts.

Construction Hole Depth

Up till now, construction holes have been assumed to be through holes. Some cabinetmakers use dowels and need construction holes that are drilled to a specified depth. So, we added a new parameter default to the CNC Boring tab in the Construction Holes section called Hole Depth. See Figure 24. This permits construction holes that are not through holes.

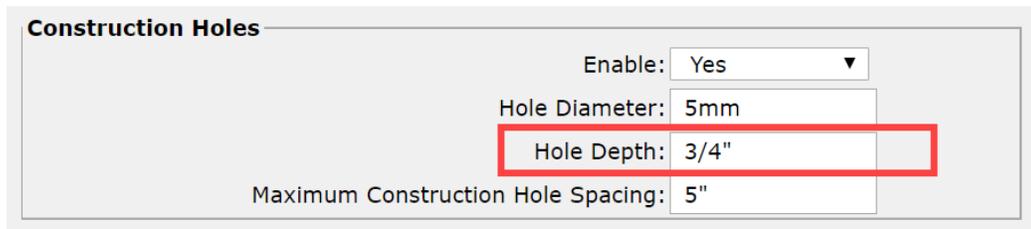


Figure 24 Construction Holes section of the CNC Boring tab with new Hole Depth parameter

To accommodate this change, two new parameters were added to the CabWriter Settings CNC Setup tab, shown in Figure 25.

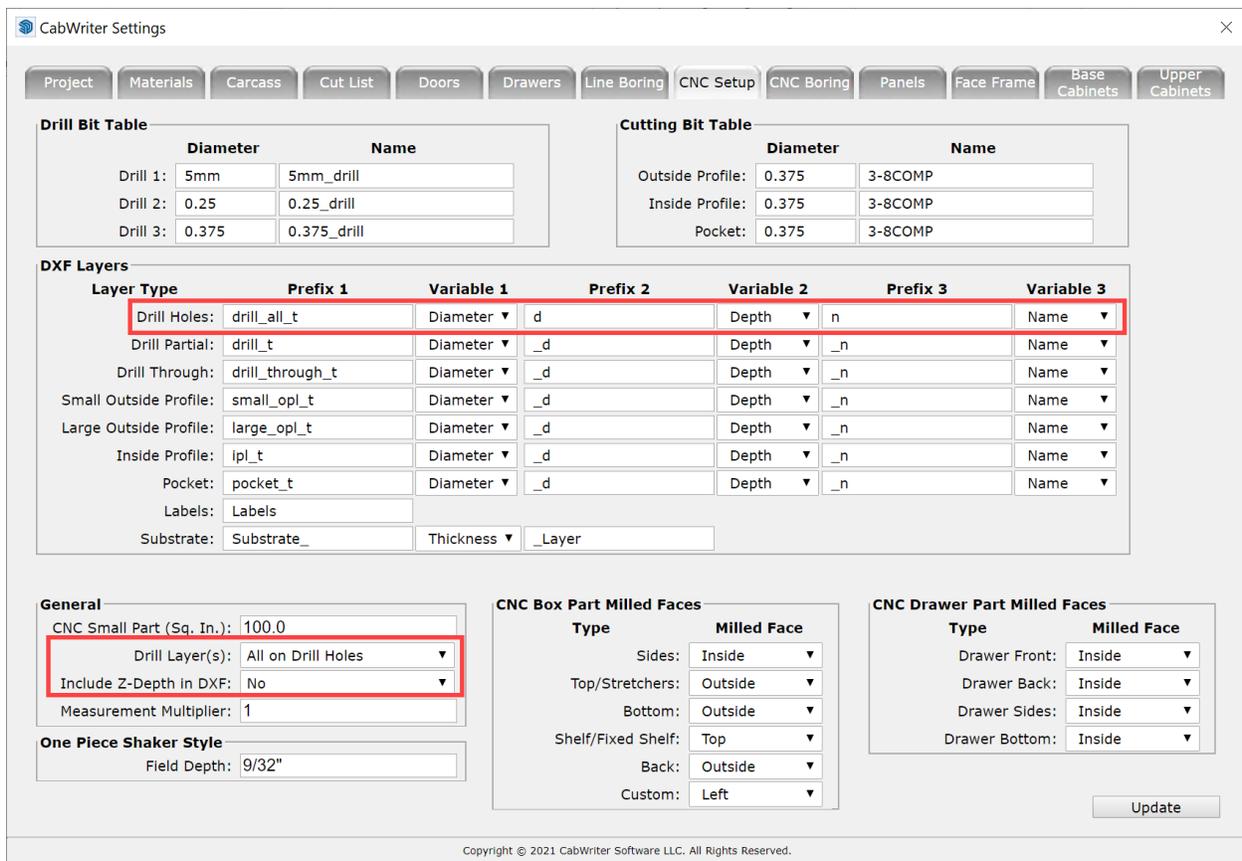


Figure 25 CNC Setup tab with new parameters

In the General section is a parameter called Drill Layer(s). There are two choices:

- a) All holes are on the Drill Holes layer – This is the factory default
- b) Use Drill Partial & Drill Through layers

In the DXF Layers section is a new layer called Drill Holes. With this new layer the user has much more flexibility in layer naming and layer organization. Here are some changes in CabWriter V.

Prefix 1, Prefix 2 and Prefix 3 Supports Spaces

Any of the user defined Prefixes can contain, begin and/or end with a space character. This makes layer names more readable.

Hole Depth Is Embed-able in the DXF File

DXF files generated by CabWriter V can have all geometry depth embedded in the DXF file(s). If the CAM software you are using reads this embedded depth you can use it for tool path-ing and can leave Prefix 2 and Variable 2 blank. The default in the General section called Include Z-Depth in DXF controls whether or not the geometry depth is embedded. The default is No.

Drill Layer(s) Set to All on Drill Holes

With this option the layers called Drill Partial and Drill Through in the DXF Layers section are ignored. All drill hole layer names are generated using the construction defined by Drill Holes. For example, if you want all drill holes of a given diameter, and drilled with a specified bit name, independent of hole depth, simply leave Drill Holes Prefix 2 and Variable 2 blank.

Drill Layer(s) Set to Use Drill Partial/Through

With this option the Drill Holes layer is ignored. Holes that are drilled the thickness of the board have layer names generated using the construction defined by Drill Through. Holes that are less than the thickness of the board have layer names generated using the construction defined by Drill Partial.

Z-Depth Option (CNC)

Added a new parameter to the CNC Setup tab in the General section called Include Z-Depth in DXF. See Figure 26. The default is No. A Yes default will add the depth of a part, hole, pocket etc. to the DXF file, giving the DXF a 3D look. Some CAM software uses this Z-Depth to aid in automatically generating tool pathing. A No default, the default case, leaves out the Z-Depth and provides a 2D DXF.

General	
CNC Small Part (Sq. In.):	100.0
Drill Layer(s):	All on Drill Holes ▼
Include Z-Depth in DXF:	No ▼
Measurement Multiplier:	1

Figure 26 General section of the CNC Boring tab

Ladder Base Thickness

We decoupled the Ladder Base thickness from the carcass thickness. Carcass thickness is defined by Side/Partition Thickness in the Base and Upper Carcass sections of the Base Cabinets and Upper Cabinets tabs respectively. In the past this parameter determined the thickness of the Ladder Base too. With the addition of a new default called Ladder Thickness, to the Toe Kick section of the Carcass tab, the Ladder Base has its own thickness. The default for Ladder Thickness is $\frac{3}{4}$ ". See Figure 27.

The image shows a software interface for configuring a 'Toe Kick'. The title 'Toe Kick' is in the top left. Below it are several settings, each with a label and a value field:

- Toe Kick Style: Ladder Base (dropdown)
- Toe Kick Height: 4" (text input)
- Toe Kick Depth: 3" (text input)
- End Rib Inset: 3/4" (text input)
- Ladder Base Gap: 1/2" (text input)
- Ladder Thickness: 3/4" (text input, highlighted with a red box)**
- End Panel Inset Distance: 1" (text input)
- Horizontal Stretcher Width: 3" (text input)
- Applied Front Thickness: 3/4" (text input)
- Horizontal Stretcher Position: Bottom (dropdown)
- Maximum Vertical Divider Spacing: 36" (text input)
- Draw Toe Kick Frame?: Yes (dropdown)

Figure 27 Toe Kick section of the Carcass tab with new Ladder Thickness parameter