

CabWriter 4.0.0 Release Notes 6-25-2020

New Functionality

1. I believe it was SketchUp Version 2019 that Trimble fixed the Make Unique and re-naming of components in the Entity Info dialog box to save the attributes. Unfortunately, the way they fixed it didn't account for the way CabWriter stored attributes and these tools continued to lose attributes of CabWriter components.

To solve this problem, and to remove the restriction of not re-naming CabWriter components with the Entity Info dialog box, or to not use Make Unique, we changed where & how CabWriter stores its attributes. Now, if you open a model created in a CabWriter version prior to this release (including all CabWriter 4 beta releases) and try to use any CabWriter tool, you will get the dialog box shown in Figure 1.

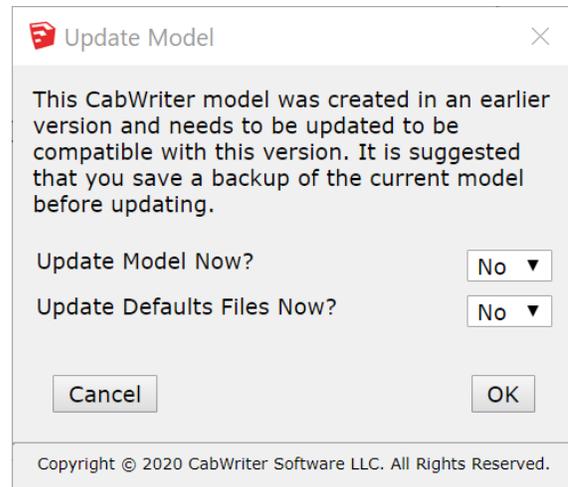


Figure 1 Update Model dialog box.

This dialog box give you a message that lets you know that the model you are working on is not compatible with this version of CabWriter. If you want to make it compatible you can select Yes for the Update Model Now drop down and click OK. However, before you do this you should save a backup copy of the model, because once updated, you cannot use it in an older version of CabWriter. Further, if the process of updating should create a problem, you want a backup to fall back on. Once you update a model it is marked as being created in this base version of CabWriter and you will not have to update it again for the life of CabWriter 4.0.0 release.

In addition to updating your model for this version, you have the opportunity to Update Defaults Files. Defaults files are not model specific, rather they are stored and available to all models. So you only have to update them once for this new CabWriter release, whereas any older model needs to be updated the first time you try to use it in this release.

This change should make it easy for users to work with this release and you can use this method of update and not have to use Re-Load Factory Settings (RFS) or Extension > CabWriter > Update Defaults Files.

As a result of this change you can now:

- a) Use the native Entity Info dialog box to change a component name or instance name while preserving its attributes and DNA (stored defaults and cabinet definition). But be careful; if you change a prefix you may detach it from its cabinet, or if you change a description you may

create other problems. CabWriter is very strict about its naming conventions and you need to obey them.

b) You can use Move/Copy and Make Unique to copy a CabWriter component with all its attributes and component DNA and rename it.

2. Updated the following dialog boxes to conform with the new (since SketchUp 2017)

UI::HtmlDialog Ruby class.

- a. Make CabWriter Component
- b. End Selector
- c. Modify End Selector
- d. CabWriter Web Page (Extensions > CabWriter > Purchase a License)
- e. LayOut Document SetUp
- f. Defaults File Selector
- g. Activate CabWriter License
- h. Section View
- i. CabWriter Message
- j. Assign Layers
- k. Provide a Wall Name
- l. Back Panel
- m. View License and Check for Updates
- n. Extended Entity Info

3. Added a check for version update. Every seven days, when opening SketchUp, a check will be made to see if the installed version of CabWriter is the latest version. If it is not, a message, shown in Figure 2, will inform the user that a newer version is available for download.



Figure 2 A newer version is available message.

4. Changed the Construct Walls tool's Provide a Wall Name dialog box to open with the OK button as the element with focus, shown in Figure 3. This allows the user to easily accept the default name by simply pressing the Enter key.

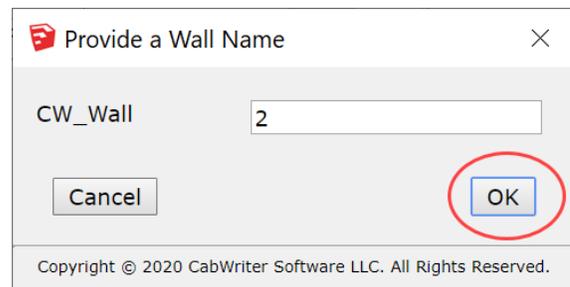
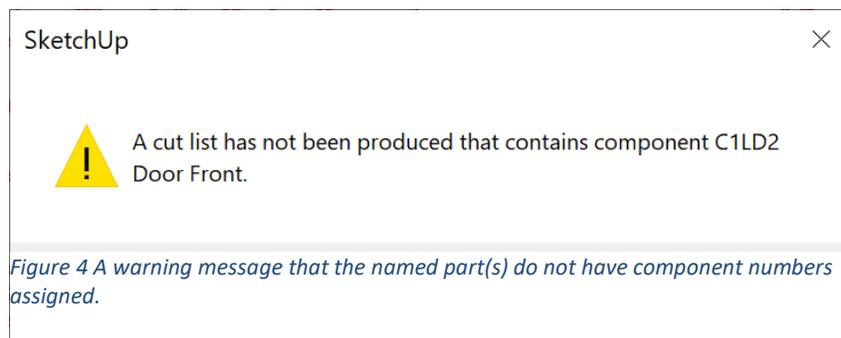


Figure 3 OK Button now has focus so the user can simply press Enter to accept a default name.

5. Changed the Blind/Butt Corner Stile parameter in the Upper Stiles & Rails section of the Face Frame tab to a default of 1 3/4" to match that of the same parameter in the Base Stiles & Rails section.

6. Made a change that allowed frameless cabinets that were next to each other, that is cabinets that did not share the same Story Stick but butted against one another, to have consistent vertical gaps between their doors and drawer fronts. To accomplish this the user must specify connectors at the ends of the cabinets that are to butt one another. These connectors are not drawn, but tell CabWriter that the user is expecting to butt another cabinet to this one and divides the gap by two.
7. In the past it was assumed that if Side Setback was used that both stiles of a box were drawn. We implemented a change that now do not require this. For example, you can specify a 1 5/8" End Sheet stile that is drawn in an otherwise pure frameless design and have a 1/8" Side Setback. The sides behind the End Sheet Stiles will be set back 1/8" but the sides behind virtual (non-drawn) connector stiles are not affected by the setback.
8. This change may also be classified as a bug fix. In the past slab doors were oversized in thickness based on the value of the parameter Frame & Panel Thickness found in the Door & Drawer Oversizing section of the CabWriter Settings Cut List tab. This is now conditioned such that if the specified material for a slab door or drawer front is type Sheet Good, no thickness oversizing is applied. If slab doors or drawer fronts are type Rough Lumber, thickness oversizing will be applied.
9. Changed Extensions > CabWriter > Purchase a License menu item and the View License and Check for Updates dialog box Download Latest Version button to open the respective CabWriter web pages in the user's default browser instead of the SketchUp built-in browser. The latter has limited functionality and did not accurately display the web pages.
10. This change might be also filed under Fixes. Changed the menu command File > CabWriter > Create Basic Scene Set to include all layers that contain one or more CabWriter component in the CutList scene. This means if a component has a CabWriter prefix such as C11LCP Large Island Top, the layer it resides on will be included in the Cut List scene. In the past if for example, Doors & Drawer Fronts were placed on the DXF scene, they were then left off the Cut List scene and the user would get the following error message when using File > CabWriter Production Documentation.



11. Made numerous changes to how File > CabWriter Production Documentation works. In the past, when the user selected the menu File > CabWriter Production Documentation, a message box would appear warning that this operation could take several minutes and the user should close the Outliner if open.

Now, when the user selects the menu File > CabWriter Production Documentation, a Production Documentation Setup dialog box appears. It still has the warning of the old message box, but it now has four options in addition. We added this dialog box because at least one popular CNC vendor's CAM software will only accept DXF files in metric units, regardless of the units the model was created in. For imperial users who do not have this problem with their CNC software or vendor, you can simply press enter on the keyboard.

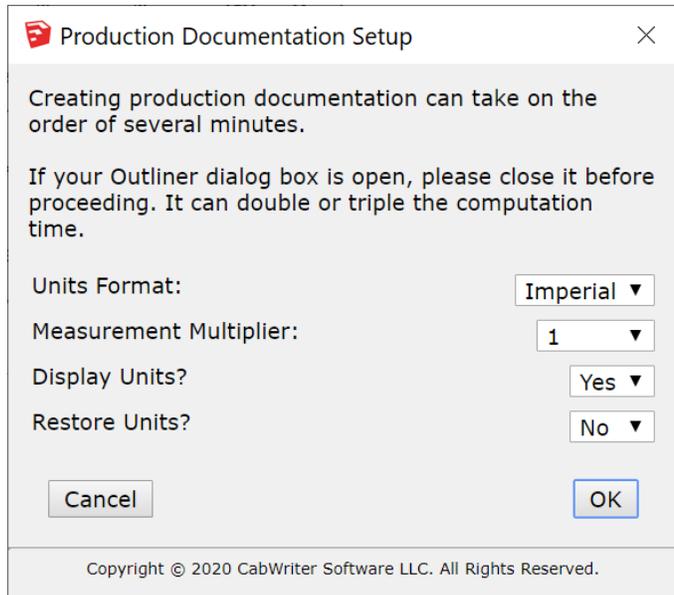


Figure 5 New Production Documentation Setup dialog box.

In addition to this Production Documentation Setup change, we have made another change. File > CabWriter Production Documentation and File > CutList Bridge > Sheet Optimization are separate menu commands, but both are part of the production documentation package. In the past, at the completion of CabWriter Production Documentation a message would appear that told the user where the documentation was stored, and the user released the message by clicking the OK button. Now, when you click the OK button CabWriter proceeds to sheet optimization just as if the user chose File > CutList Bridge > Sheet Optimization. You can still use the File > CutList Bridge > Sheet Optimization command separately and as many times as you wish, However, to make the settings in the Production Documentation Setup applicable to both documentation processes, they have been joined as one with the issuance of File > CabWriter Production Documentation.

Imperial users who do have the requirement to provide Metric DXF files can select Metric units in the Units Format drop down. You may also need to change the Measurements Multiplier drop down setting. With the latter change of tying File > CabWriter Production Documentation and File > CutList Bridge > Sheet Optimization together, whatever Units Format is chosen will apply to both operations.

Imperial users who are using CAM software that requires production documentation (DXF files) in Metric, may want two sets of documentation, all the way through optimization and printing

out optimized sheets and labels. Those users would run File > CabWriter Production Documentation twice; once with Units Format set to Metric and again with Units Format set to Imperial.

If you have designed your model in Imperial units, and that is the preferred units for your production documentation, but need the Metric DXF files, you should make your first pass with Metric selected for Units Format and Yes selected for Restore Units. That way, at the end of the Metric pass your Imperial units will be restored.

If you are producing Metric Sheet Optimization, you should consider setting Display Units to No. This will avoid double line heights in the cut list due to too many characters in the dimension fields.

12. The Production Documentation dialog box, shown in Figure 7, has undergone substantial changes. Added the ability to include the Project Name in the Label Printing feature. In Figure 7, each Line #: now has included in its drop down the Project Name option. The Project Name is taken from the Project Name section of the Project tab. Recall that this name is initially taken from the SketchUp file name when the CabWriter project is created, but can be changed to another name by the user. Be sure that this name has no illegal directory or file characters. Note that the first line of a label is in bold text and the second line is italicized. This is to aid in quick identification when adding labels to milled parts. The user should judiciously choose the information that helps most in the first two lines.

13. Added the Stiles & Rails scene to the File > CabWriter > Create Basic Scene Set suite of scenes. Now when you use this tool The Assign Layers to Scenes dialog box drop downs will have an additional choice: Stiles & Rails. If you have a face frame design and want the stiles and rails of the door and drawer fronts to be included in the Stiles & Rails report they should be assigned to the Stiles & Rails scene. Drawer Boxes cannot be assigned to this scene because they do not include any stile and rail parts.

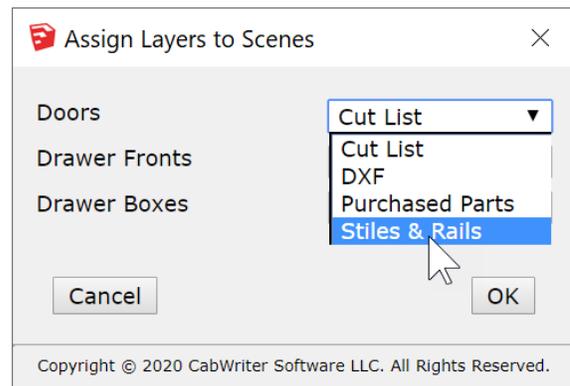


Figure 6 Assign Layers to Scenes dialog box.

14. Changed the place the selections on the Production Documentation dialog box are saved. In the past, any selection made on the Production Documentation dialog box was saved with the project model. The problem was, these selections had to be made for each model, and with there now being a possibility of six label formats, that became cumbersome. They are now saved with the CabWriter extension, so they only need to be set up once and will apply as a default for any model. Of course, while working on any model they can be changed.

Production Documentation
2
×

Cut List Files Delimiter

Comma
 Tab
 Semicolon

Scenes Used in Reports

Purchased Part Report: Purchased Parts ▼

Stile & Rail Report: Stiles & Rails ▼ 1

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

Stiles & Rails 1

Spreadsheet Compatible Cut List
 DXF by Material Name & Thickness
 CutList Plus fx
 CutList Plus fx with DXF
 No CutList Plus fx Report

3

Select a Label Format

Label: Stiles & Rails - Avery 5163 ▼

Assign Attributes to Label Line

Label Line	Attribute
Line 1:	Project Name ▼
Line 2:	Comp # ▼
Line 3:	Description ▼
Line 4:	Material Name ▼
Line 5:	Tags ▼
Line 6:	Banding ▼
Line 7:	Sheet Number ▼
Line 8:	Resized Dimensions ▼
Line 9:	Info ▼
Line 10:	Finished Dimensions ▼

PN: Gracie Hopkins Kitchen
P#: C1-52 (1 of 1)
CN: C1LFF Connector Stile
MN: Maple
Tag:
BDG:
S#: Sheet 1
RD: 27/32" x 1 1/2" x 30 3/4"
Info: T
FD: 13/16" x 1 1/2" x 30 3/4"

Stiles & Rails Labels

Select Format: Stiles & Rails - Avery 5163 ▼

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Figure 7 Numerous changes have been made to the Production Documentation dialog box.

15. Changed the Draw > CabWriter > Create Section From Section Plane menu command so that the user can select a current section plane, even if it is not the active section plane (a section cut is not displayed), include it with the cabinet(s) selection, and use it for the purpose of this command. CabWriter will make the selected section plane active and produce the scene.

16. Implemented native CabWriter sheet optimization.

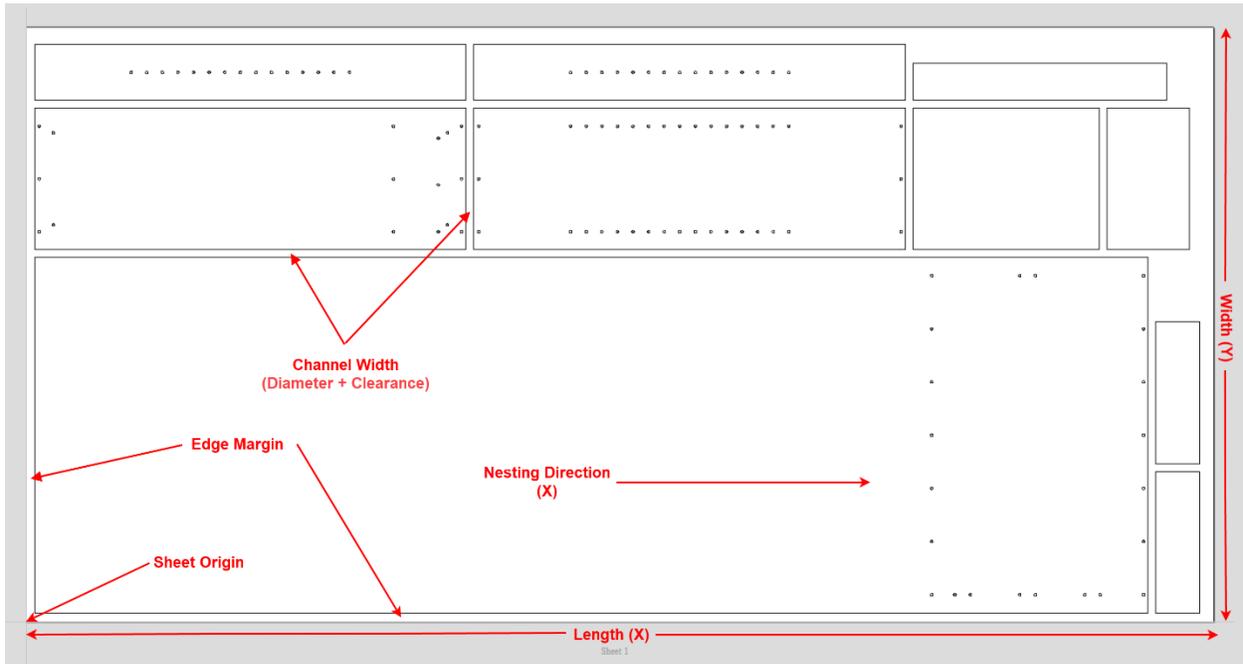


Figure 8 A CNC optimized sheet showing major parameters.

Let's start with some nomenclature. An optimized sheet layout, when viewed on the screen, shows the Length of a sheet in the X or horizontal direction, Width of a sheet in the Y or vertical direction, and the Thickness of a sheet in the Z or normal to the screen direction. The sheet origin is in the lower left corner and has an X,Y value of 0,0. Note that for sheet material with grain, the grain will normally run in the X direction. See Figure 8.

CNC Setup Tab

In the Cutting Bit Table section of the CNC Setup tab of the CabWriter Settings dialog box is the Outside Profile parameter with sub-parameters Diameter and Name. See Figure 10. The Diameter sub-parameter default of the Outside Profile parameter is added to the Clearance parameter in the CNC Settings section of the Sheet Optimization Settings dialog box to produce the Channel Width. See the Sheet Optimization Settings dialog box in Figure 9.

$$\text{Channel Width} = \text{Diameter} + \text{Clearance}$$

Channel Width is not a CabWriter parameter, nor is it a Sheet Optimization setting. It is a calculation

CabWriter makes and uses in its optimization code. Channel Width is the internal spacing between parts; internal spacing means all spacing except Edge Margin, found in the CNC Settings section of the Sheet Optimization Settings dialog box. See Figure 9.

Sheet Optimization Settings Dialog Box

To accommodate the new optimization tool a new setting dialog box has been added called Sheet Optimization Settings. See Figure 9. This dialog box is opened either at the end of a File > CabWriter Production Documentation menu has produced a cutting list, or directly with File > CutList Bridge > Sheet Optimization. Figure 9 shows the Sheet Optimization Settings dialog box with a material name of MDF chosen. In this example there are more than six available sheet sizes. You can use the scroll bar on the right to scroll through all of them.

Note: You must first use the File > CabWriter Production Documentation menu command to produce a cut list before you can use the File > CutList Bridge > Sheet Optimization menu command directly. Failing to do so may produce the message shown in New Functionality item 3. However, once you have produced a cut list you can use the File > CutList Bridge > Sheet Optimization menu command over and over with different settings to see various results and choose the one that best suits the user's purpose.

Default Sheet Format Section

At the bottom of Figure 9 is the Default Sheet Format section. The purpose of the Default Sheet Format parameters is to tell CabWriter the user's preferred sheet format and whether that format has grain. If, for example, an entire project was to use MDF ¾" X 5' X 8' without grain, a common MDF format, the user might set these defaults in the drop-down fields for Thickness, Width, Length and Has Grain? respectively: ¾", 60", 96", No.

The following parameters are the Default Sheet Format section defaults.

Thickness - Default is ¾" (19mm)

Width - Default is 48" (1219mm)

Length - Default is 96" (2438mm)

Has Grain? - Default is Yes

General Optimization Settings

The General Optimization Settings section has two defaults.

Rotate Grain-less Sheet Parts for Optimization

This is a Yes/No drop-down setting. When set to Yes, if a part is being placed on a sheet that does not have grain, the optimizer is free to rotate it if doing so achieves better optimization. The default is Yes. If the user wishes that no part be rotated the user should select No.

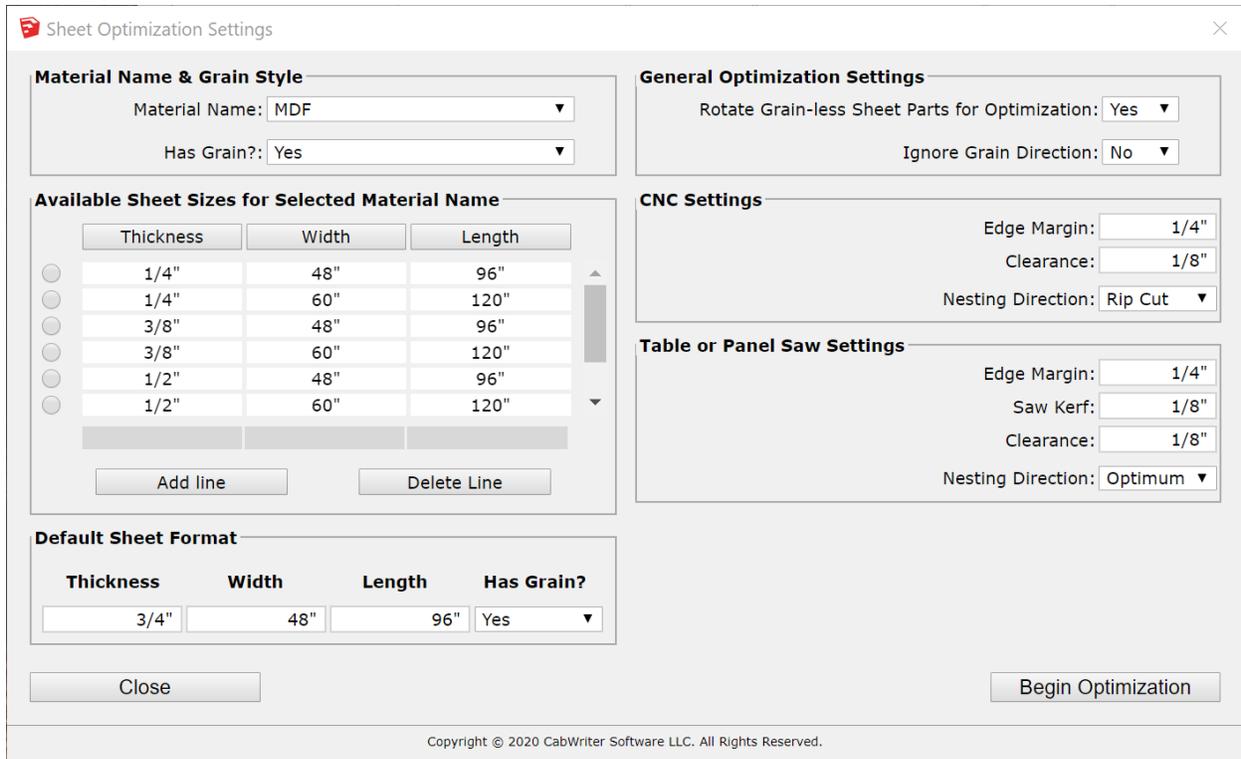


Figure 9 The new Sheet Optimization Settings dialog box.

Ignore Grain Direction

This is a Yes/No drop-down setting. When set to Yes, it is equivalent to specifying all sheets used in the project as having no grain. This might be useful if the user intends to paint plywood material. The Default is No.

CNC Settings

This section contains settings that apply to DXF file generation for CNC cutting.

Edge Margin

This setting specifies cutting bit margin around the four edges of a sheet material where there may be edge damage. The default setting is $\frac{1}{4}$ " (6.4 mm).

Diameter

Diameter is NOT found in the CNC Settings section of the Sheet Optimization Settings dialog box. Rather it is found on the CNC Setup tab of CabWriter Settings as described above in CNC Setup Tab. It is repeated here to emphasize it is added to the Clearance parameter in the CNC Settings section of the Sheet Optimization Settings dialog box to produce the Channel Width. The Clearance parameter is the one described below.

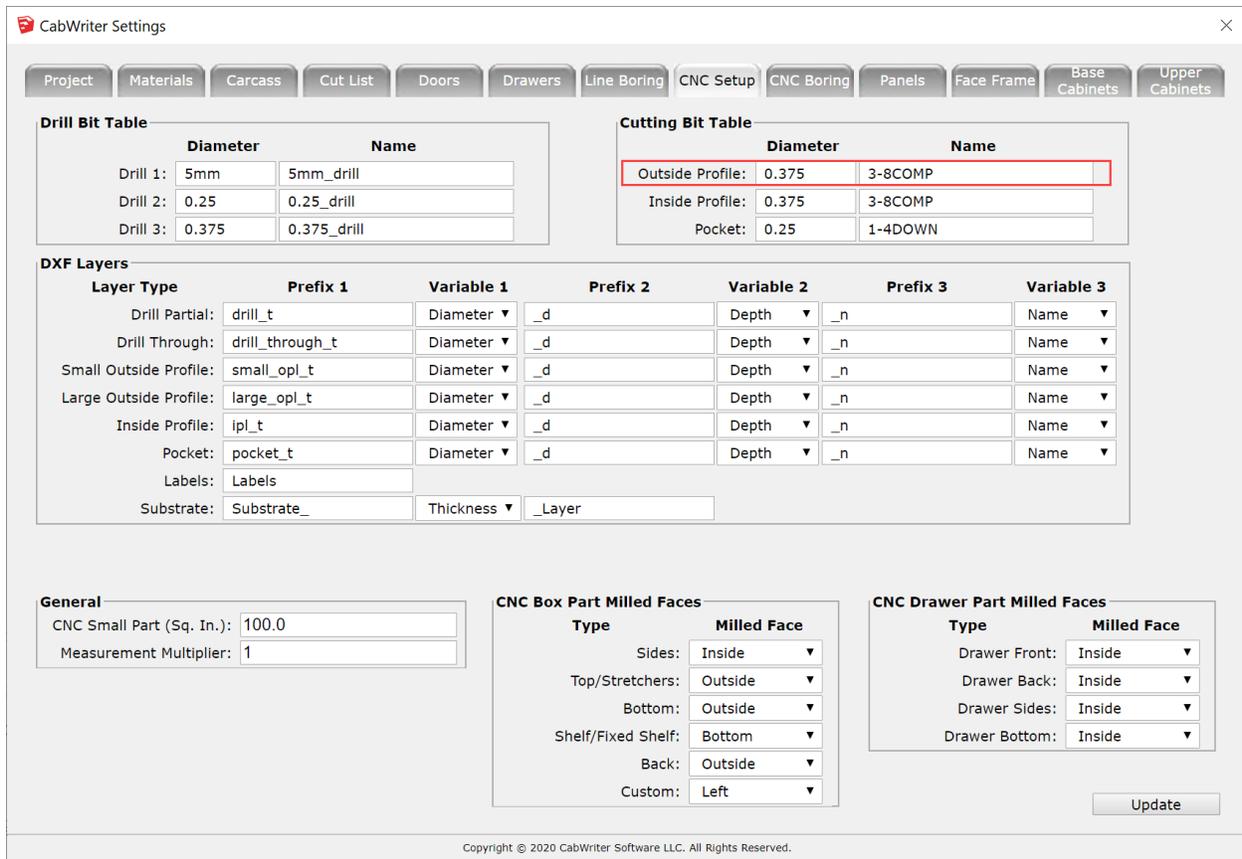


Figure 10 The CNC Setup tab Cutting Bit Table with the Outside Profile Diameter default.

Clearance

Clearance is a setting provided to protect a part that has already been defined by an outside profile cut, from being damaged or shrunk by an outside profile cut of an adjacent part. The default is 1/8" (3.2 mm). The Clearance setting is added to the Diameter default, shown in Figure 3, to produce the Channel Width shown in Figure 1.

Nesting Direction

Nesting direction is a setting used by the optimization code to determine where sequential parts are placed. The default is Optimum. The user can choose Rip Cut, Cross Cut or Optimum. Optimum will achieve the best results, i.e. use the fewest sheets. If the user prefers rip cuts for the first few milling cuts then Rip Cut is the correct setting. If the user prefers cross cuts for the first few milling cuts then Cross Cut is the correct setting.

Table or Panel Saw Settings

This section contains settings that apply to cutting diagrams for table and panel saw milling.

Edge Margin

This setting specifies saw blade margin around the four edges of a sheet material where there may be edge damage. The default setting is 1/4" (6.4 mm).

Saw Kerf

The Saw Kerf is the width of the cut made by a saw blade. The default is 1/8" (3.2 mm). The Saw Kerf setting is added to the Clearance setting, below, to produce the Channel Width.

Channel Width = Saw Kerf + Clearance

Channel Width is the internal spacing between parts; internal spacing means all spacing except Edge Margin. See Figure 1.

Clearance

Clearance is a setting provided to protect a part that has already been defined by a saw blade cut, from being damaged or shrunk by a saw blade cut of an adjacent part. The default is 1/8" (3.2 mm).

Nesting Direction

Nesting direction is a setting used by the optimization code to determine where sequential parts are placed. The default is Optimum. The user can also choose Rip Cut, Cross Cut or Optimum. Optimum will achieve the best results, i.e. use the fewest sheets. If the user prefers rip cuts for the first few milling cuts then Rip Cut is the correct setting. If the user prefers cross cuts for the first few milling cuts then Cross Cut is the correct setting.

Material Name & Grain Style

The Material Name & Grain section has two fields that permit the user to choose whether a material has grain or not.

Material Name

A drop-down field called Material Name is provided so the user can select a material name and review, add or delete the sheet formats available for use in the optimization process. The material names in the list are the same as the Sheet Goods Material Name list, the same list that is used in CutList Bridge and on the Materials tab of the CabWriter Settings.

Has Grain?

A Yes or No setting indicating whether sheets of the selected Material Name has grain. Parts placed on sheets without grain are eligible for rotation for better sheet optimization results. Notice that this setting applies to all formats of a given Material Name.

Available Sheet Sizes for Selected Material Name

When a material name is selected from the Material Name drop-down, this section is populated with the currently available sheet sizes for sheet optimization in a table format. If a sheet size is not currently available it may be added using the Add Line button or a currently available size can be deleted using the Delete Line button. The user may also use the fields under the Thickness, Width and Length buttons to change a currently available size. In this way the user tells CabWriter the size sheet it wants the

optimizer to consider in its sheet optimization process.

When this dialog box is opened CabWriter automatically adds a sheet size for each sheet good material name and thickness combination used in the project. The length and width of that sheet size is the Length and Width shown in the Default Sheet Format section.

Add Line

Add Line is a button that will add a blank line to the table.

Delete Line

Delete Line is a button that will delete a line from the table. To delete a line, you must first select it by selecting the radio button to the left of the line, and then click the Delete Line button.

Thickness

Thickness is both a column heading and a button. When the Thickness button is pressed it will sort the table in “alphabetical order” by Thickness. Because of the way sorting is done in Ruby code, alphabetical order really means grouping.

Width

Width is both a column heading and a button. When the Width button is pressed it will sort the table in “alphabetical order” by Width. Because of the way sorting is done in Ruby code, alphabetical order really means grouping.

Length

Length is both a column heading and a button. When the Length button is pressed it will sort the table in “alphabetical order” by Length. Because of the way sorting is done in Ruby code, alphabetical order really means grouping.

Close Button

The Close button will save all changes made to the Sheet Optimization Settings and close the dialog box.

Begin Optimization

The Begin Optimization button will save all changes made to the Sheet Optimization Settings, close the dialog box and begin the optimization. Figure 12 shows a typical optimized sheet. A blue instance is one that has not been rotated while a yellow instance is one that has been rotated. Noted on each instance is the instance label, in this case the component name, length and width dimensions and the Info information indicating which dimensions have been re-sized. Above the sheet is the sheet number, material name and the material format dimension.

When the optimization is complete the Optimized Sheet Diagrams dialog box will automatically open. It will open and display the optimized results for the first Material Format on the drop-down list shown in Figure 11. In this case that is Maple Plywood – ¾" x 48" x 96". The optimized sheet in Figure 12 is the result. If the user selects another format, such as the one highlighted in Figure 11, the dialog box changes to the one shown in Figure 13.

Notice in Figure 11 that the formats are grouped by material name. You must pick a format under a material name and that set of sheets and their cut list will populate the dialog box along with optimization results. In **Error! Reference source not found.** you see the results for Maple Plywood – Pre-Finished ½" x 48" x 96" shown. Each time you make another selection from the Material Format drop down you will see different results. Let's walk through the Optimized Sheet Diagrams dialog box in detail.

Optimized Cut List Diagrams Dialog Box

The Optimized Cut List Diagrams dialog box is a rather large box in terms of pixel height and width. It has scroll bars which can be used on display resolutions smaller than necessary to view the whole dialog box.

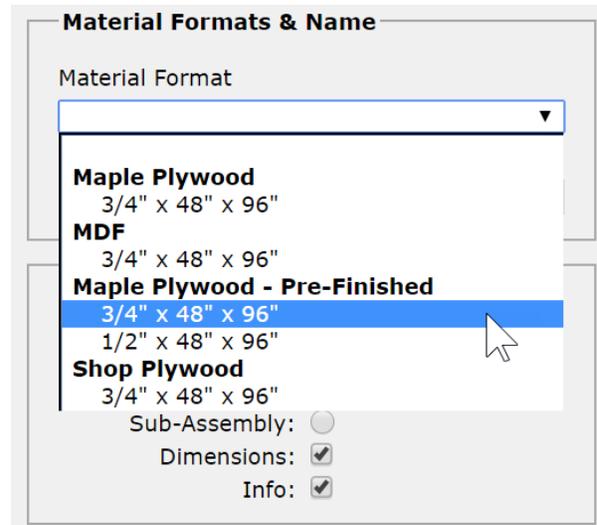


Figure 11 Material Formats & Name drop down.

Sheet Display Area

The Sheet Display Area is the area in the dialog box that the sheet diagrams reside. In Figure 13 & **Error! Reference source not found.** you will notice that Sheet 1 is shown along with a portion of Sheet 2, and there is a rather large blank area to the left of Sheets 1 & 2. The Sheet Display Area is sized to accommodate up to a 60" x 120" sheet good. However, you will need to be printing on paper larger than letter size 8 ½" x 11" to accept it.

Each sheet displayed will have the sheet number, material name and format above the sheet. A blue instance is one that has not been rotated while a yellow instance is one that has been rotated. Noted on each instance is the instance label, in this case the component name, length and width dimensions and the Info attribute information indicating which dimensions have been re-sized.

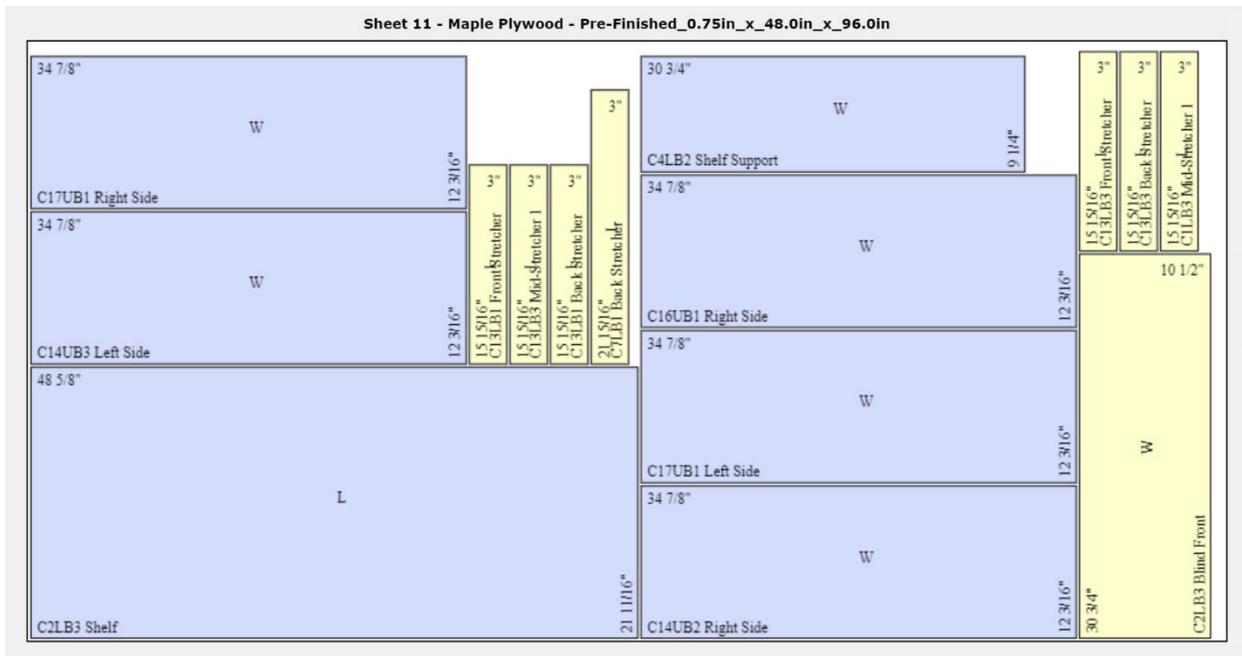


Figure 12 A typical CabWriter optimized sheet.

Sheet Materials List

The Sheet Materials List contains the cut list for the material name and format chosen. It is NOT the entire cut list for the project, only the portion that applies to the material name and format chosen. There is a scroll bar to the right to permit scrolling through the entire list. The user can click on any instance in the Sheet Display Area and its entry in the cut list will be highlighted; C6-17 C6LB3 Blind Front is highlighted in Figure 13.

Note that the dimensions show on each instance in the display area are those in the Width and Length columns of the cut list; these are the initial cut dimensions taking into account any re-sizing. Fin W and Fin L columns show the final width and final length dimensions.

Material Formats & Name

This section of the Optimized Cut List Diagrams dialog box is where the user begins; it is immediately opened after optimization is completed. CabWriter examines the entire model and collects all of the materials and their thicknesses. It then looks at the preferred format shown in the Sheet Optimization Settings dialog box in section Default Sheet Format shown in Figure 9. It then organizes this information into a drop-down labeled Material Format. An example is shown in Figure 11. Once the user selects a format the Material Name field is filled in. The Material Name field is locked and not changeable by the user.

Display Options

The Display Options section permits the user to choose what is displayed inside each instance's rectangle. Four radio buttons allow for a choice of one label format: part Description and Part # (the Part # is pre-pended to the part Description), part Description only, Part # only, Sub-Assembly only. Two

check boxes allow for displaying the instance's Dimensions and/or Info || Banding (re-sizing dimensions Info and Banding separated by a double pipe).

The instance's label will appear in the lower left corner, and in the horizontal direction, of un-rotated instances. Note that for rotated instances (yellow rectangles in Figure 12 through Figure 14s), the label appears in the lower right and in the vertical direction. The Length appears in the upper left and horizontal direction while the Width appears in the lower right and vertical direction. The Length generally appears in the horizontal or X direction unless an instance is rotated. The Info is centered in a part. Note that for rotated parts the Dimensions and Info are rotated just like the label information.

Print Options

The user can print the cut list shown in the Sheet Material List section and the sheet diagrams. Which of these can be chosen from two check boxes labeled Diagrams and Cut List. These lists and diagrams are designed to print in the Landscape paper orientation and in color (or gray scale). The user does not have to manually choose these options in the Print dialog box. CabWriter takes care of that.

CabWriter can also print labels with one to ten selectable lines of information on Avery 5160 or 5163 label stock. The drop-down labeled Label Format provides this choice. Labels are printed in the order that instances are placed on sheets.

Buttons

There are five buttons at the bottom left: Close Optimized Cut List Diagrams, Label Preview, Label Preview, Sheet Preview and Sheet Print. The Close Optimized Cut List Diagrams button will simply close the Optimized Cut List Diagrams dialog box, and the Cut List Preview dialog box if it is open. However you close the Optimized Cut List Diagrams dialog box, whether by using the Close Optimized Cut List Diagrams button or the box's close X icon, if you have produced DXF optimized files during CabWriter Production Documentation you will be taken to another optimization dialog box called Optimized DXF Diagrams.

The Label Preview button will open a dialog box that will preview a partial sheet of label stock print out reflecting the Label Format chosen with the Label Format drop-down. The Label Print button will open the system's Print dialog box to permit the user to print the label stock.

The Sheet Preview button opens the Cut List Preview dialog box which will provide an overview page followed by the Cut List and Cut List Diagrams. The Sheet Print button will open the system's Print dialog box. Upon printing the Cut List Preview box will automatically close.

Optimized Cut List Diagrams

Material Formats & Name

Material Format: 1/2" 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: Cut List - Avery 5163

Sheet Materials List

Comp #	Sub-Assy	Description	Copies	Thick	Width	Length	Can Rotate	Banding	Info	Fin T	Fin W	Fin L	Tags
C1-1	C1LB1	C1LB1 Back#1	2	1/2"	31 13/64"	30 3/4"	No	1/2"	W	1/2"	30 61/64"	30 3/4"	
C1-14	C1LB3	C1LB3 Back	1	1/2"	16 3/4"	30 3/4"	No	1/2"	W	1/2"	16 1/2"	30 3/4"	
C1-8	C1LB2	C1LB2 Back	1	1/2"	14 3/4"	30 3/4"	No	1/2"	W	1/2"	14 1/2"	30 3/4"	
C10-1	C10LB1	C10LB1 Back	1	1/2"	30 3/4"	86"	No	1/2"	W	1/2"	30 1/2"	86"	
C11-1	C11UB1	C11UB1 Back	1	1/2"	8 7/16"	34 7/8"	No	1/2"	W	1/2"	8 3/16"	34 7/8"	
C12-1	C12UB1	C12UB1 Back	1	1/2"	22"	38"	No	1/2"	W	1/2"	21 3/4"	38"	
C13-1	C13LB1	C13LB1 Back	1	1/2"	23 1/2"	45 5/8"	No	1/2"	W	1/2"	23 1/4"	45 5/8"	
C14-1	C14LB1	C14LB1 Back	1	1/2"	21 1/2"	30 3/4"	No	1/2"	W	1/2"	21 1/4"	30 3/4"	

Sheet 1 - Maple Plywood - Pre-Finished_0.5in_x_48.0in_x_96.0in

Sheet 2 - Maple Plywood - Pre-Finished_0.5in_x_48.0in_x_96.0in

Optimization Results

Has Grain?: Yes
 Rotate Grain-less?: Yes
 Empty Grain: No
 Edge Grain: 1/2in
 Saw Kerf: 1/8in
 Clearance: 1/8in
 Nesting Direction: Optimum

Total Number of Instances = 39.
 Placed Instances = 38 of 39.

The following instances were not placed:
 C6LB3 Back

Total number of sheets = 9.

Sheet Number 1
 Sheet Efficiency = 87.6%
 Wasted Sheet = 12.1%

Sheet Number 2
 Sheet Efficiency = 79.6%

Sheet Preview

Label Preview

Close Optimized Cut List Diagrams

Sheet Print

Label Print

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Figure 14 The Format is Maple Plywood - Pre-Finished 1/2" x 48" x 96"

Optimization Results

This area shows the results of the optimization. The first five lines are taken from the Sheet Optimization Settings dialog box, shown in Figure 9. The first two lines are from the General Optimization Settings section. The next three lines are from the Table or Panel Saw Settings section. These default options are repeated in the Optimization Results just to make it easy for the user to recall the conditions under which the optimization was performed.

The next line informs the user of the Total Number of Instances that are required to place. Note that these are instances (or parts), not components, and therefore can be greater than the number of lines in the Cut List. The second line indicates the Placed Instances as a part of the total. Notice in Figure 14 that 38 of 39 instances were placed. When less than the total of instances are placed, a red set of lines will appear to indicate those instances that were not placed for some reason. In this case C6LB3 Back was not placed. An examination of that part in the model will show that it is too wide to fit on a sheet of 48" x 96" material. As the cabinetmaker you need to make a design change to correct the situation.

The next line indicates "Total number of sheets = ", and reports an integer representing the total number of sheets optimized. This is followed by a set of three lines for each sheet with the sheet number, sheet efficiency percentage and wasted sheet percentage. The latter two may not add up to 100%, because they are calculated differently.

When using either the Sheet Preview or Sheet Print buttons, a cover page is created that includes the Optimization Results from the first line to the "Total number of sheets = " line inclusive. Its heading is the project name. Its sub-heading is the material name and sheet format. A footer includes the project name, page number and total pages and the date of creation. This cover page is followed by the cut list, if selected, and the sheet diagrams, if selected.

Optimized DXF Diagrams Dialog Box

When the user closes the Optimized Cut List Diagrams dialog box, using either the Close Optimized Cut List Diagrams button or the box's close X icon, CabWriter looks to see if the user requested a DXF by Material Name & Thickness report in the Production Documentation dialog box shown in Figure 7. If requested (checked) the Optimized DXF Diagrams dialog box opens as shown in Figure 15. This dialog box is very much the same as the Optimized Cut List Diagrams dialog box with the following exceptions:

1. Actual shapes of parts are used and derived from the sheet optimized DXF files.
2. Joinery is shown in the diagrams, including the cutting bit guide lines.
3. The dimensions cannot be displayed, since they would not be useful anyway, and it avoids clutter.

All other buttons and fields work exactly as the Optimized Cut List Diagrams.

Material Formats & Name

Material Format: 3/4" x 48" x 96"

Material Name: Cherry Plywood - Pre-Finished

Display Options

Description & Part #: Description: Part #:

Sub-Assembly: Dimensions:

Info || Banding:

Print Options

Diagrams: Cut List:

Label Format: DXF - Avery 5163

Optimization Results

Has Grain?: Yes
 Rotate Grain-less?: Yes
 Edge Grain: 1/4"
 Cutting Bit: 0.375
 Clearance: 1/8in
 Nesting Direction: Optimum

Total Number of Instances = 235.
 Placed Instances = 235 of 235.
 Total number of sheets = 23.

Sheet Number 1
 Sheet Efficiency = 91.0%.
 Wasted Sheet = 9.0%.

Sheet Number 2
 Sheet Efficiency = 93.1%.
 Wasted Sheet = 6.9%.

Sheet Number 3
 Sheet Efficiency = 93.9%.
 Wasted Sheet = 6.1%.

Sheet Materials List

Comp #	Sub-Assy	Description	Copies	Thick	Width	Length	Can Rotate	Banding	Info	Fin T	Fin W	Fin L	Tags
C1-4	C1LB1	C1LB1 Right Side	1	3/4"	22 7/16"	30 3/4"	No		W	3/4"	22 3/16"	30 3/4"	
C1-5	C1LB1	C1LB1 Shelf	2	3/4"	35 7/16"	35 11/16"	No		L	3/4"	35 7/16"	35 7/16"	
C1-6	C1LB1	C1LB1 Shelf Support	1	3/4"	9 1/4"	30 3/4"	No		W	3/4"	9"	30 3/4"	
C1-7	C1LB1	C1LB1 Top	1	3/4"	36 3/32"	36 3/32"	No		W/L	3/4"	35 27/32"	35 27/32"	
C1-9	C1LB2	C1LB2 Back Stretcher	1	3/4"	3"	13 15/16"	Yes		L	3/4"	3"	13 11/16"	
C10-2	C10UB1	C10UB1 Bottom	1	3/4"	24 3/4"	24 3/4"	No		W/L	3/4"	24 1/2"	24 1/2"	
C10-3	C10UB1	C10UB1 Left Side	1	3/4"	11 7/16"	34 7/8"	No		W	3/4"	11 3/16"	34 7/8"	
C10-4	C10UB1	C10UB1 Blank Side	1	3/4"	11 7/16"	34 7/8"	No		W	3/4"	11 3/16"	34 7/8"	

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

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

Sheet Preview Sheet Print

Label Preview Label Print

Close Optimized Cut List Diagrams

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Figure 15 The Optimized DXF Dialog Box showing Cherry Plywood - Pre-Finished 3/4" x 48" x 96" format.

17. Added the ability to mill slab door and drawer fronts on the CNC and allow for trim and banding. Up till now, when cutting slab doors and drawer fronts on the CNC, their dimensions were full size. That is, re-sizing (under-sizing in this case), does not apply to part milled on the CNC. This is because DXF files are generated by using the SketchUp component as actually drawn. We have now added the ability to draw trim or banding around a slab door or drawer front, hence making the actual slab smaller by twice the thickness of the trim/banding in both width and height. Hence, the door or drawer front is now milled to actual size. To do this we have had to add a new default and change the name of another. Be aware that if you intend to cut your door and drawer front on a table or panel saw you should not use this capability. It is only for user's who wish to cut their doors and drawer fronts on the CNC machine. **Further, you must make this choice BEFORE drawing any cabinets, lest you have to re-draw them to take advantage of this capability.**

Enable CNC Cutting:

This new default is found in the General section of the CabWriter Settings Project tab and has two options:

Yes – Selected only when the user wishes to mill slab door and drawer fronts on the CNC machine adjusted smaller to allow for trim or banding. CabWriter treats trim and banding as though they are the same except for thickness.

No – Slab doors and drawer fronts can still be milled on the CNC machine, but they will be drawn to finished dimensions in the model and milled to finished dimensions on the CNC with no accounting for trim or banding thickness. CabWriter treats trim and banding as though they are the same except for thickness.

Trim or Edge Banding Thickness:

This default is a name change only from Edge Banding Thickness to Trim or Edge Banding Thickness. It is located in the Slab Door & Drawer Undersizing section of the Cut List tab. If Enable CNC Cutting is set to Yes, this default will define the trim/banding thickness. If Enable CNC Cutting is set to No, this default will define the cut list under sizing. CabWriter treats trim and banding as though they are the same except for thickness.

Figure 16 shows a cabinet drawn with Enable CNC Cutting set to Yes.

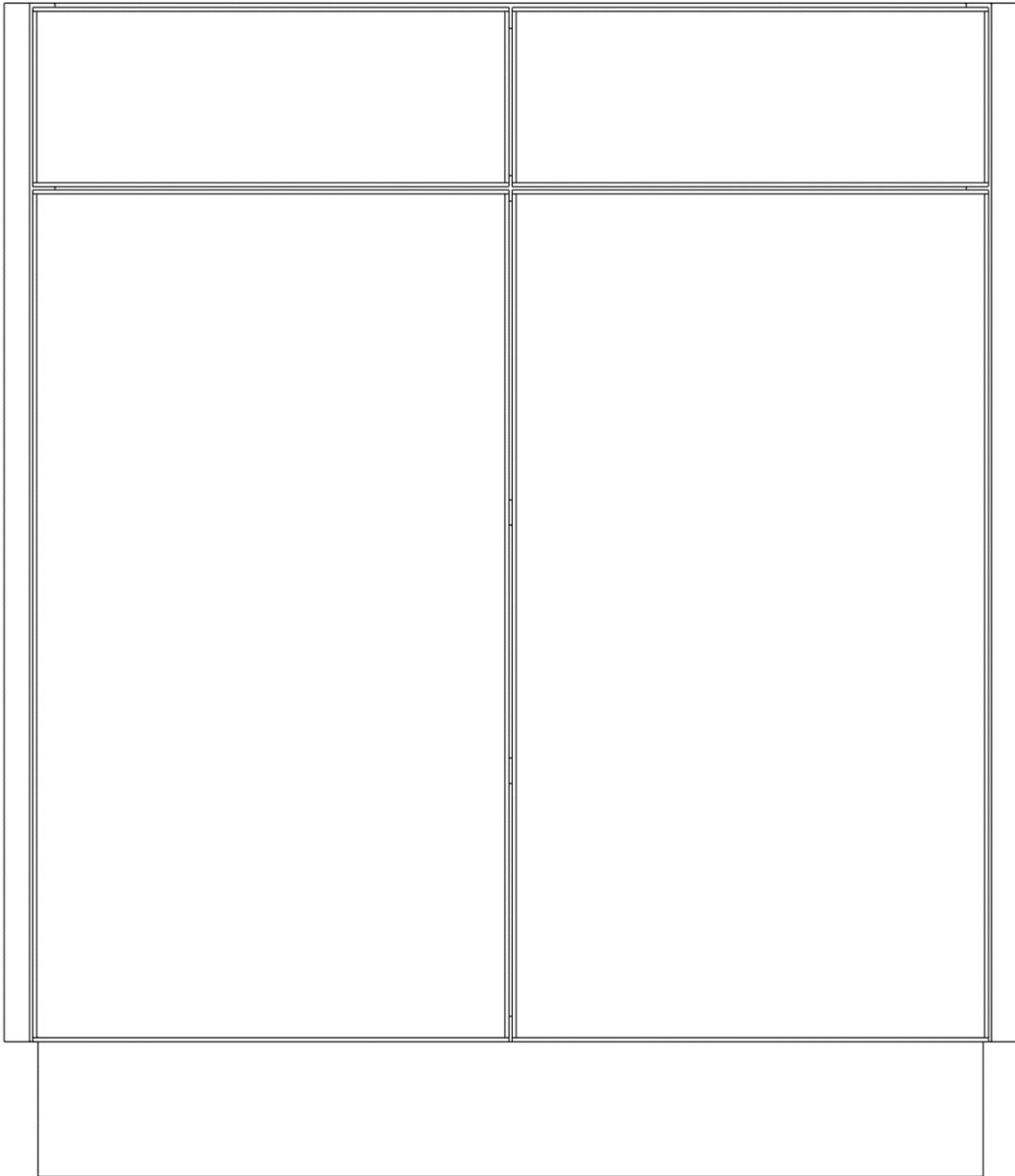


Figure 16 A frameless base cabinet with banded slab doors & drawer fronts.

18. Implemented a change to add separate top and bottom door and drawer front gaps. These are the gaps between: the top of the door or drawer front and the top of the cabinet when the top rail is not drawn; and the bottom of the door or drawer front and the bottom of the cabinet when the bottom rail is not drawn. These new gap parameters only apply to door or drawer fronts at either the top of a cabinet or the bottom of a cabinet. They do not apply to doors or drawer fronts that are between other door or drawer fronts.

When the top rail is drawn, the gap between it and the top of the door or drawer front will be defined by the existing Door/Drawer Gap in the General section of the Project tab. Likewise when the bottom rail is drawn, the gap between it and the bottom of the door or drawer front will be defined by the existing Door/Drawer Gap.

Here is the summary of the parameters.

Project Tab:

Door/Drawer Gap - Defines vertical gaps & in-between horizontal gaps between door and drawer fronts. When either the bottom rail and/or the top rail is drawn, it will define the gap between that rail and the applicable door and drawer front. This parameter is not new.

Door/Drawer Countertop Clearance – This parameter has been retired.

Base Cabinets Tab:

Door/Drawer Top Clearance - Defines the gap between the uppermost door/drawer front and the cabinet top (bottom side of countertop or divided base cabinet height) when no top rail exists.

Door/Drawer Bottom Clearance - Defines the gap between the bottom most door/drawer front and the bottom of the cabinet when no bottom rails exists.

Upper Cabinets Tab:

Door/Drawer Top Clearance - Defines the gap between the uppermost door/drawer front and the cabinet top when no top rail exists.

Door/Drawer Bottom Clearance - Defines the gap between the bottom most door/drawer front and the bottom of the cabinet when no bottom rails exists.

19. Implemented changes to the Sink Base cabinet to allow the user to: choose whether to draw the back stretcher; and select a vertical front stretcher or a traditional horizontal front stretcher. The vertical front stretcher runs from the top of the sink cabinet down to a width of the stretcher below the door opening. This protrusion into the door opening provides a top door stop. Using the vertical front stretcher eliminates the need to cut out for the sink in the traditional horizontal front stretcher. Two new parameters have been added in a Sink Base section of the

Base Cabinets tab.

Base Cabinets Tab:

Draw Back Stretcher – The default is Yes and results in drawing the back stretcher. A selection of No will cause the back stretcher to not be drawn.

Draw Front Stretcher – The default is Horizontal and will cause the traditional horizontal front stretcher to be drawn. A selection of Vertical will cause a vertical front stretcher to be drawn.

20. Implemented two new parameters that allow the user to extend the sides of a cabinet and/or inset the cabinets top. These parameters only apply to upper cabinets.

Implemented the parameter called Top Inset in the Upper Carcass section of the Upper Cabinets tab. This parameter works much the same way as the Bottom Inset parameter. This parameter is handy if the user wishes to put trim or molding above the doors; or to include lighting above the cabinet. You no longer have to use native tools to extend the sides, end panels, end sheets or top rail.

Implemented a feature that allows the user to extend the sides of an upper cabinet a specified distance above the cabinet height. To facilitate this, we added a new parameter in the Upper Carcass section of the Upper Cabinets tab called Extend Sides. When this default is greater than 0" the sides will extend above the cabinet height by that amount. This feature is useful for providing a structure for adding trim or molding.

This Extend Sides parameter can be used in conjunction with the Top Inset parameter to allow for inset tops and extended sides as shown in Figure 17.

21. Improved Production Documentation Performance. I used the Gracie Hopkins Kitchen (the kitchen used in the training videos CabWriter Comprehensive) to test the performance improvement. This model is a fairly large model and should be a good representation of performance improvement. Here are the results:

Old Code - 115.93 seconds

New Code - 72.19 seconds

43.74 second reduction

37.73% reduction

The improvement is better if you intend to use the native CabWriter optimization and DXF generation and leave CutList Plus fx out of the CabWriter Production Documentation reports.

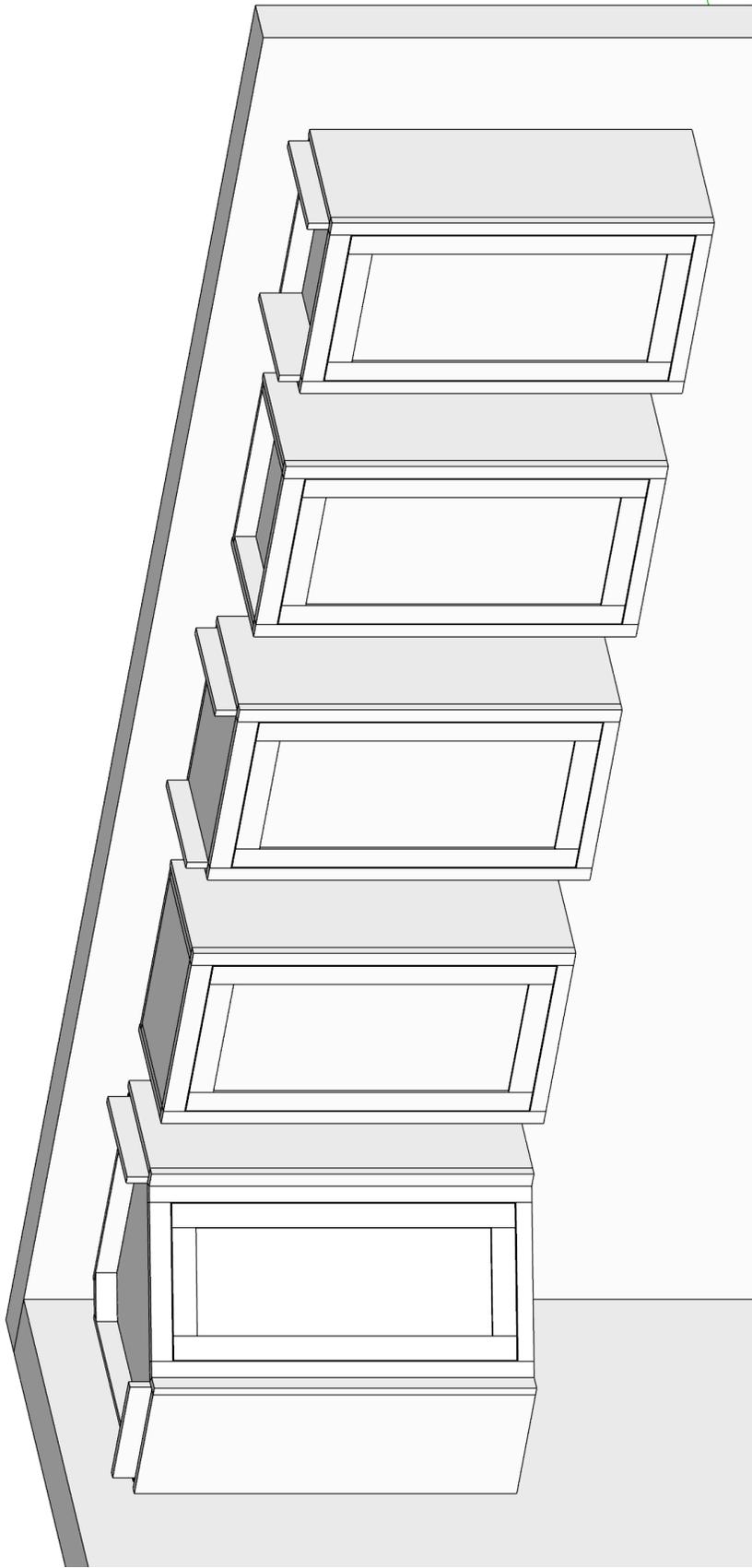


Figure 17 Extend Sides parameter can be used in conjunction with the Top Inset parameter, separately or together.

1. Removed 'Printing Options' from the Draw > CabWriter menu to make room for a new command; it should never have been there.

23. Added a new menu item 'Create Drawer Box Parts' to the Draw > CabWriter menu. This menu tool replaces the drawer boxes created by CabWriter with five individual drawer box parts. There are five styles of drawer box parts implemented as shown in the drop-down in Figure 18.

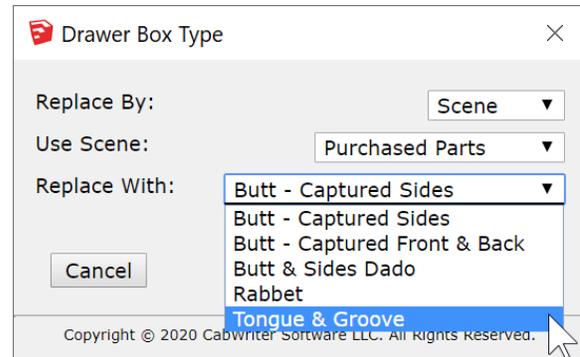


Figure 18 Drawer Box Type dialog box.

To use this tool choose menu Draw > CabWriter > Create Drawer Box Parts. The dialog box in Figure 18 will appear. You can

choose the drawer boxes you want to replace either by selecting those boxes with the Select tool or by choosing a scene where they appear. Use the Replace By drop down and choose either Scene or Selection. If you choose Scene you must choose the target scene in the Use Scene drop down. Lastly, choose a style, for example Butt – Captured Sides, in the Replace With drop down. Click on OK and the Butt Style Drawer Box dialog box will appear, shown in Figure 19.

Most of the defaults are self-explanatory, but to aid the user, when the cursor is placed inside one of the input fields in the right column the picture will change to indicate what the parameter is, or means. When the defaults are selected click Draw and wait for the results.

Users who intend to use this tool to replace drawer boxes with drawer box parts should follow this procedure:

- a. Before using Create Drawer Box Parts, be sure to use CabWriter Production Documentation and check Drawer Fronts, Drawer Boxes and Doors in the Select Desired Reports section of the dialog box.
- b. Use the Create Drawer Box Parts to replace the simple drawer boxes with the five box parts.
- c. If the material used in the drawer box parts is a sheet good and you want them to appear in your optimized cut list and DXF diagrams be sure to add the layer (now tag) they exist on to your CutList scene and DXF scene.
- d. Re-use CabWriter Production Documentation to create new cut lists that include the drawer box parts, but this time DO NOT check Drawer Fronts, Drawer Boxes and Doors in the Select Desired Reports section of the dialog box lest you get an error message and/or lose the drawer box report with the slider information in it.

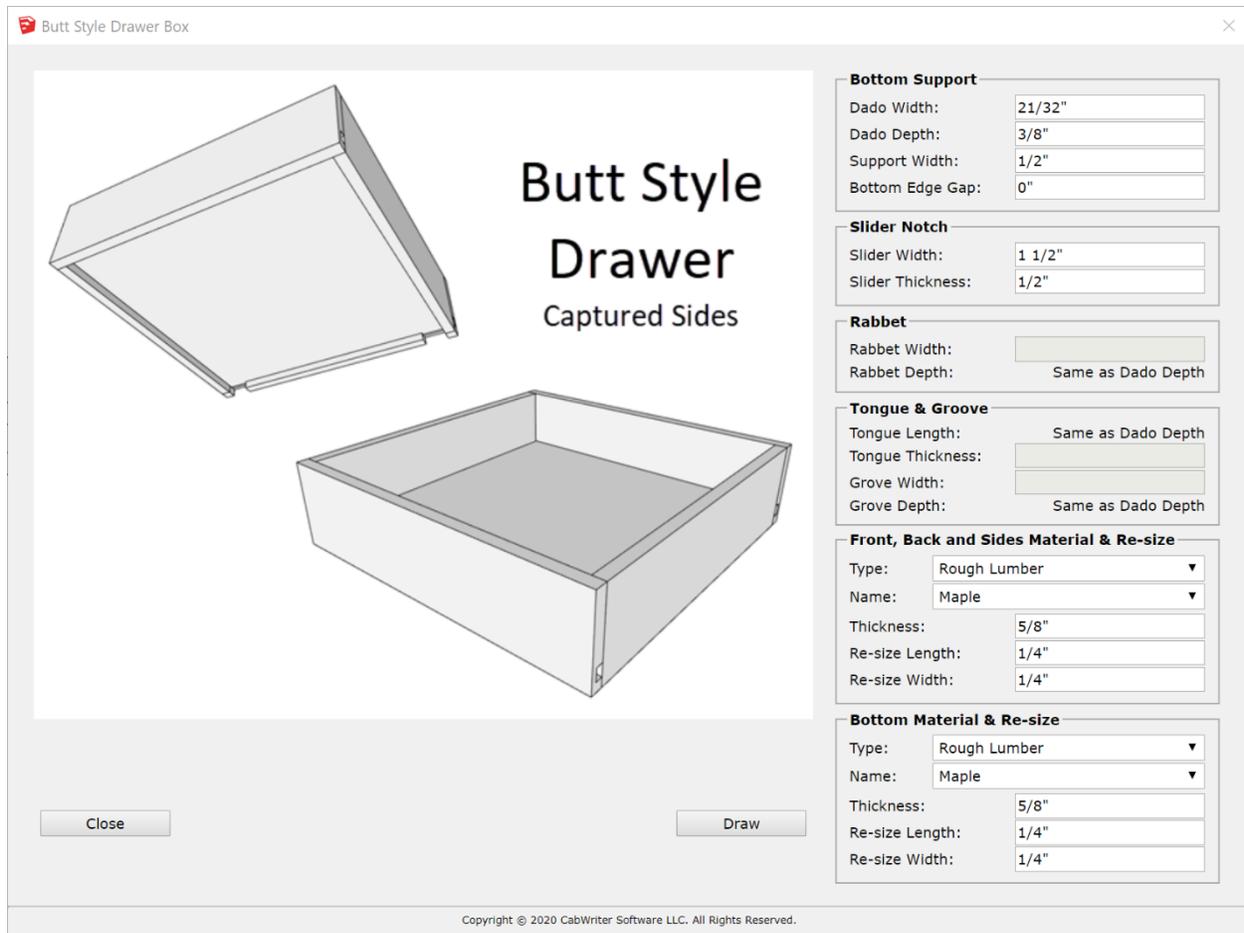


Figure 19 Butt Style Drawer Box dialog box for the Captured Sides option.

You now can use File > CutList Bridge Sheet Optimization to produce cut list and DXF diagrams that include your drawer box parts.

A number of new defaults have been added with the addition of this tool. Most of them are shown in the Butt Style Drawer Box dialog box shown previously in Figure 19. Four may require some explanation: Re-Size Length and Re-Size Width for the Bottom and also the Front, Back and Sides. These defaults behave exactly as Oversizing defaults on the Carcass tab. Whatever value exists in these fields will be added to the Length or Width of the part in the cut list Width and Length column. These represent the initial cut. The actual As Drawn dimensions will appear in the Fin W and Fin L columns representing the finished length and width. These may be particularly useful for the Bottom, which is going to fit into dados in the front, back and sides. You may wish to allow for glue by using a negative number such as $-1/32''$.

There are some additional new defaults on the CNC Setup tab of CabWriter Settings in the CNC Drawer Part Milled Faces section shown in Figure 20. These let CabWriter know which face of each part is important and must be the one used to generate the DXF files. The default is Inside

because it is the inside of each of the Front, Back and Sides that have a dado that can be cut on the CNC machine.

CabWriter Settings

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

Drill Bit Table			Cutting Bit Table		
	Diameter	Name		Diameter	Name
Drill 1:	5mm	5mm_drill	Outside Profile:	0.375	3-8COMP
Drill 2:	0.25	0.25_drill	Inside Profile:	0.375	3-8COMP
Drill 3:	0.375	0.375_drill	Pocket:	0.375	3-8COMP

DXF Layers						
Layer Type	Prefix 1	Variable 1	Prefix 2	Variable 2	Prefix 3	Variable 3
Drill Partial:	drill_t	Diameter ▾	_d	Depth ▾	_n	Name ▾
Drill Through:	drill_through_t	Diameter ▾	_d	Depth ▾	_n	Name ▾
Small Outside Profile:	small_opl_t	Diameter ▾	_d	Depth ▾	_n	Name ▾
Large Outside Profile:	large_opl_t	Diameter ▾	_d	Depth ▾	_n	Name ▾
Inside Profile:	ipl_t	Diameter ▾	_d	Depth ▾	_n	Name ▾
Pocket:	pocket_t	Diameter ▾	_d	Depth ▾	_n	Name ▾
Labels:	Labels					
Substrate:	Substrate					

General	
CNC Small Part (Sq. In.):	100.0
Measurement Multiplier:	1

CNC Box Part Milled Faces	
Type	Milled Face
Sides:	Inside ▾
Top/Stretchers:	Outside ▾
Bottom:	Outside ▾
Shelf/Fixed Shelf:	Top ▾
Back:	Outside ▾
Custom:	Left ▾

CNC Drawer Part Milled Faces	
Type	Milled Face
Drawer Front:	Inside ▾
Drawer Back:	Inside ▾
Drawer Sides:	Inside ▾
Drawer Bottom:	Inside ▾

Update

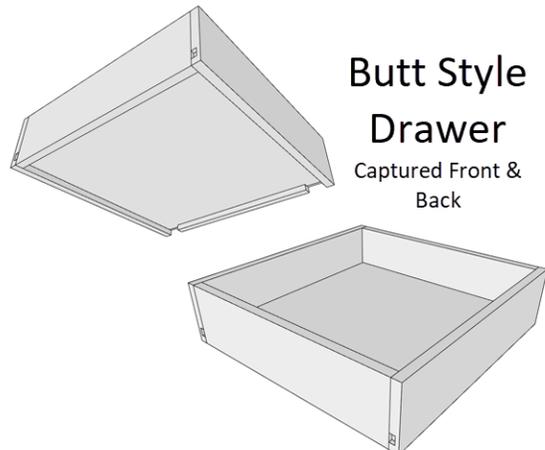
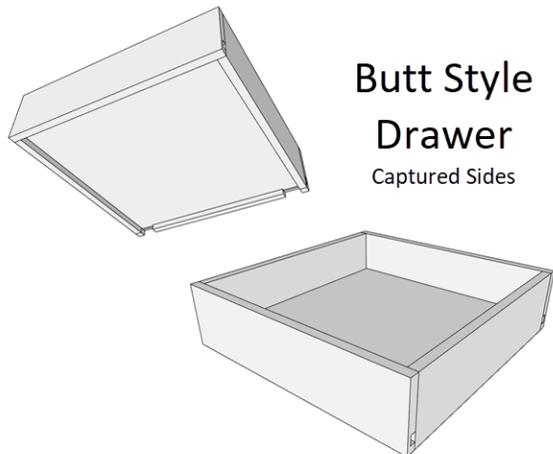
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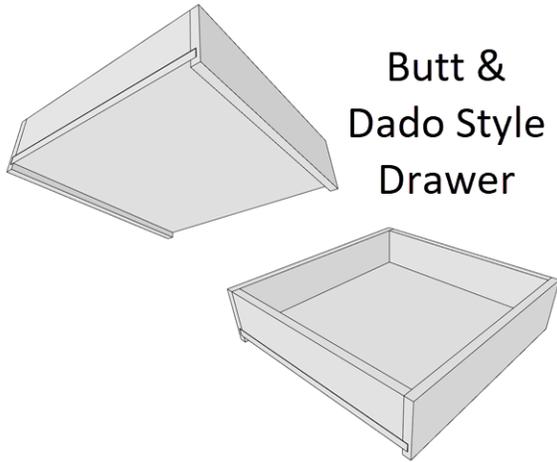
Figure 20 Defaults added to the CNC Setup tab to accommodate CNC milling of drawer box parts.

Figure 21 through Figure 23 show the five different types of drawer.

Figure 21 Butt Style Drawer with Captured Sides.

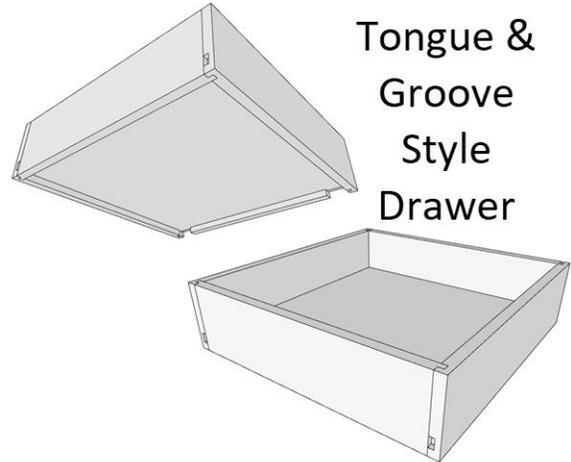
Figure 22 Butt Style Drawer with Captured Front & Back.





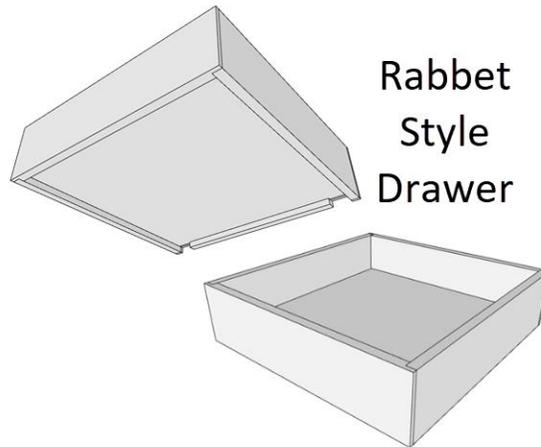
**Butt &
Dado Style
Drawer**

Figure 25 Butt & Dado Style Drawer.



**Tongue &
Groove
Style
Drawer**

Figure 24 Tongue & Groove Style Drawer.



**Rabbit
Style
Drawer**

Figure 23 Rabbit Style Drawer.

24. Stored the CabWriter Base Version number in Layer0 CW Proj dictionary with attribute name CW_Version. This provides a way for CabWriter 4 and future versions to know what version of CabWriter a model was created in. With that information we can better handle compatibility with older model versions.
25. Added a new report to the CabWriter Production Documentation suite of reports. It is called Stiles & Rails Schedule and it is found where Door & Drawer Schedule and Cut Lists are located. To understand how it works, begin by reviewing the new Production Documentation dialog box shown in Figure 7. To generate this report, you must create a scene and assign it to the Stiles & Rails Report as shown in the field labeled 1 in Figure 7. In the Gracie Hopkins Kitchen model, I called this scene Stiles & Rails. That scene contains only the Base Face Frames, Base Doors, Base Drawer Fronts, Base End Panels, Upper Face Frames, Upper Doors, Upper Drawer Fronts and Upper End Panels layers. In other words, any layer with a frame and panel construction on it. In this release, the File > CabWriter > Create Basic Scene Set command will automatically create this scene for you. (The scene's tab will actually say Stiles – Rails because the & symbol doesn't appear to work.)

The Stiles & Rails Report can be very useful for designs that have complete face frames or partial face frames. The report analyses the face frames and give the user a Rip Cutting Schedule and a Cross Cutting Schedule. The Rip Cutting Schedule sorts by same material thickness and widths and tells you the linear feet (or centimeters) required. The Cross Cutting Schedule sorts by the same thickness, width and length and tells you the quantity required. This latter report can be very useful when cross cutting on a miter saw fitted with a computer-controlled stop, such as the TigerStop (<https://configurator.tigerstop.com>).

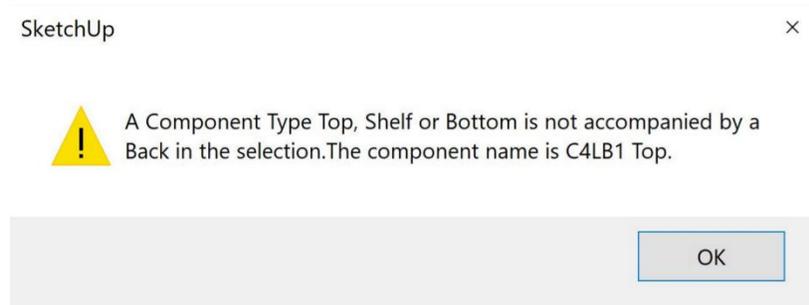
The RIP Cutting Schedule will also give you an estimate of the number of bd-ft of rough lumber required based on standard industry practice of Quarter sizing. In the table below the Quarter Size is the rough lumber thickness you would buy at the lumber yard to get a maximum Planed Thickness. The Rough Cut is the thickness the board is cut prior to drying. CabWriter uses the initial cut thickness, which may include some oversizing, and chooses the smallest Quarter Size to allow for that thickness.

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

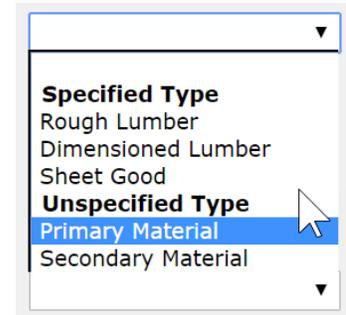
Fixes

1. Added a rescue and error message in the `cw_methods.rb re_draw_cabinet` to capture any CabWriter cabinet part that may not have CutList Bridge attributes.
2. Changed the name of the Assign Layers dialog box to Assign Layers to Scenes to be more descriptive and accurate. This is the dialog box that appears with menu File > CabWriter > Create Basic Scene Set.
3. Added an error message that will appear when no section cut can be made from the Draw > CabWriter > Create Section From Section Plane menu command.
4. Corrected the Shelf/Fixed Shelf parameter in the CNC Milled Faces section or the CNC Setup tab to a default setting of Top. This is to allow the DXF file generation to mill the tongue including its rabbet.
5. When the user chooses File > CabWriter to LayOut > Send Scenes to LayOut without first creating a user template in LayOut, an error message would appear in the Ruby Console. But if the user didn't have the Ruby Console open then would be no indication of the error. I add an error message that appears in a message dialog box that explains what the user must do to resolve the problem.
6. When drawing a Diagonal Corner Upper with an Overlay cabinet style the cabinet was not completed leaving the door un-drawn.
7. When using the Story Stick tool, the user might occasionally get a measure indicating that the selected input point was not valid. That message was 'You must pick a point on a Construction Point, Construction Line, Vertex or Edge.'. Following that message and after clicking OK, the user was left in a Select tool state. Now the user is automatically returned to the Story Stick tool at the state of the last successfully completed point.
8. Somewhere in a previous beta release, CabWriter style files were either corrupted or SketchUp changed their internal format. The result was SketchUp bug splats after opening certain SketchUp files or new files if those files did not already contain the CabWriter styles. New updated files have been added.
9. The use of 5/8" thick plywood resulted in three decimal digits (0.625) instead of two like 0.5 and 0.75. That screwed up a variable name in my code (my bad). This could also occur with other sheet good thicknesses. However, the only problem it caused is that the Optimization Results section is left blank for that thickness. It didn't affect anything of importance. It is now fixed to round 5/8", or any thickness, to two decimal digits.

10. Had to replace all the SketchUp files in folder Plugins\cabwriter\router_shaper_profiles because somewhere along the way they became corrupted.
11. There was a problem with the CutList Plus fx radio buttons cluster on the Production Documentation dialog box, where the chosen radio button didn't always produce a report consistent with the cluster's settings.
12. Changed the default CNC Edge Margin to 0.5" (12.8mm) to avoid a 3/8" cutting bit from going off the board.
13. When drawing a Divided Upper the Cabinet Height parameter that CabWriter referenced was that for a Divided Base in the Base Cabinets tab, instead of the Divided Upper in the Upper Cabinets tab. Drawing a Divided Base worked just fine.
14. When drawing a Lazy Susan Base with other that stile widths of 1 1/2" (e.g. 3/4") in either Face Frame or Overlay Cabinet Style AND when drawing them as though you were standing facing the left wing of the cabinet, the Face Frame Rails were misplaced.
15. Fixed some problems in the optimization algorithm that was producing less than desired results.
16. Fixed a problem with CutList Bridge Setup tab, where choosing part numbering by CutList Bridge and Numerically didn't stick and raised an error.
17. When drawing a divided cabinet with two drawers on the bottom the drawer fronts were mis-sized.
18. Fixed a problem where choosing a Sub-Type in the Make CabWriter Component dialog box would not cause CutList Bridge attributes to be written if it were the second use of that dialog box in the current session.
19. Fixed a problem where if you created CabWriter Production Documentation with DXF layer names different than the DXF layer names stored in the cabinets (those that were set at the time the cabinet was constructed) AND included a Drawer Boxes report request then the DXF layer names in the DXF file would be those stored in the cabinets.
20. Fixed a problem where when creating CabWriter Production documentation the user might get an error message like the one below when there is actually nothing wrong with the model. It is actually a problem with the way SketchUp orders vertices of a face. This problem is likely to rarely show up except under unusual circumstances.

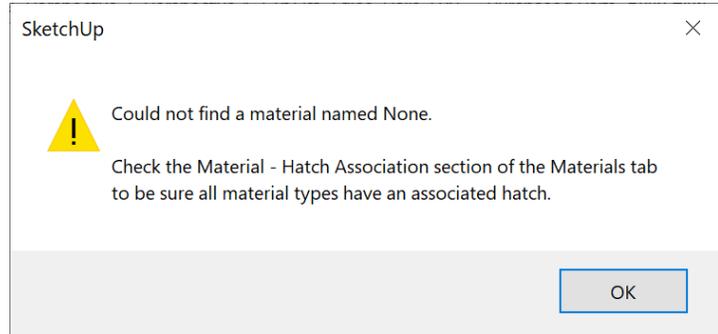
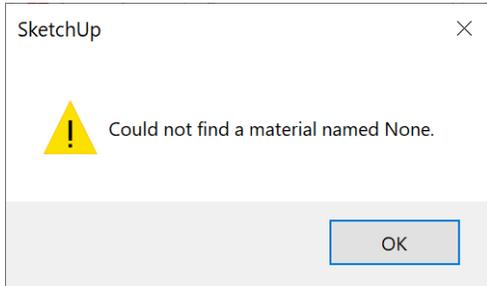


21. Fixed a problem where an error would be raised if a user designed part were made a drawer box part using Make CabWriter Component.
22. Fixed a problem where you couldn't switch from the Materials tab to the Cut List tab in the CabWriter Settings dialog box. However, you were able to get to the Cut List tab from every other tab besides Materials.
23. On the Materials tab, in the Materials section, I removed the option groups Specified Type and Unspecified Type as well as Primary Material and Secondary Material from the Type drop down lists. The Primary and Secondary Material are a CutList Bridge feature that allows CutList Plus fx to assign material. This is useful for non-CabWriter projects, but CabWriter requires the user assign material types and names in the application. These option groups will still be available in the Extended Entity Info dialog box.
24. Fixed a Sheet and DXF Optimization problem where parts could be overlapping (occupying the same space).
25. Fixed a problem with the Refrigerator Upper cabinet. If drawn with the cabinet sides NOT extended to the floor and with inset joinery, the insets and pockets were drawn incorrectly.
26. Fixed a problem with Drawer Supports that are thicker than 1/2". The right drawer support would appear to have no Drawer Slider holes because the holes were drawn from the left side and 1/2" deep, hence on a support greater than 1/2" thick they would not show. Drawer Slider holes drilled in the Drawer Support now go all the way through regardless of the thickness of the Drawer Support.
27. Fixed a problem with hinge plate holes in Divided Cabinets. The front offset was referring to the shelf hole front offset default instead of the hinge plate hole front offset. It is now corrected.



28. Fixed a problem with creating DXF files for the Rabbet Style and Tongue & Groove Style drawers. While this problem first appeared on these types of drawers, they could have shown up on other cabinet parts with the right combination of joinery default parameters. The user can now create DXF files that include Butt Style, Rabbet Style or Tongue & Groove Style drawers.
29. Fixed a problem where the Thickness value for the Substrate layer would be the same for all thicknesses of plywood.
30. Fixed a problem where rotated parts were not colored yellow on Print Preview, nor were their labels rotated. The same problem occurred if a format of plywood were selected a second time.
31. Fixed a problem with the Lazy Susan Corner cabinet where the sides were not set back when the Side Setback in the Base Carcass section of the Base Cabinets tab was greater than zero.
32. Fixed a problem with the Divided Base cabinet. When the bottom was inset the CNC hinge holes and shelf holes were placed too high in the sides by an amount equal to the bottom inset.
33. Optimize Sheets didn't work if the Model Info was set to Format Decimal and Units to Millimeters. Fixed numerous problems.
34. Fixed a serious problem with the Extended Entity Info that crept in at the very beginning of CabWriter 4 changes; when we converted the remaining dialog boxes from the old style WebDialog to the new style HtmlDialog this problem was introduced. This problem caused component attributes to change if more than one component was selected at a time. In fact, all selected components would be set to only the common attributes and any other attribute would be set to empty.
35. Fixed the ordering of points in DXF files such that they are all ordered in the counterclockwise direction.
36. Fixed an issue with the Create a Back Panel tool where the panel could be drawn collapsed in the Z direction, i.e. drawn very short. This had to do with comparing floating point numbers different in only the least significant digits.
37. Fixed an issue that was missed when Extend Sides was implemented. The Refrigerator Upper cabinet sides did not extend.

38. Fixed an issue with File > CabWriter > Create Basic Scene Set. If you attempted to use this tool before assigning a hatch pattern to all materials you got the message below left. This message is lame and doesn't give the user a clue as to the problem. So, I changed a number of things. First, I changed the message to the one on the right.



Second, CabWriter now uses a default pattern for all CabWriter materials and wall called None. So, if you do not assign a hatch pattern to a material CabWriter will use None. None is a legal choice for a hatch pattern, however, if it is assigned intentionally by the user, or as a default by CabWriter, you will see an orange light next to the material type or wall as shown below. It is simply telling you that not all materials have a hatch pattern assigned. You only need to pay attention if you want a hatch pattern assigned to all materials.

Material - Hatch Association					
	Material Type	Material Name	Hatch Name	Rotation	Scale
	Rough Lumber:	Maple	None	0°	1x
	Dimensioned Lumber:		None	0°	1x
	Sheet Good:	Maple Plywood	None	0°	1x
	Wall:		None	0°	1x

This is what the Material - Hatch Association section of the Materials tab will look like on a new project before the user assigns any hatches. If you see a red light instead of either orange or green, that is a catastrophic failure, likely meaning a hatch file is corrupt.

39. Fixed a problem with the rough_lumber_schedule.csv report. If there was more than one material name in the rough lumber list, only one of those names were used in the board feet summary.