Component Solutions

Software Built for Your Business

Recent updates include several enhancements and new features that will save you design time and improve your Component Solutions experience

Add Board

Easily add a structural or non-structural board to a truss

2D and 3D Views

View 2D and 3D views, side-by-side, in Layout view

Auto Add Connectors

Quickly add connectors to a truss or layout

Truss Status List

Display analysis status of trusses in a layout

Merge Plates

Easily merge adjacent plates

Stacking List

Define the stacking list in Truss Studio or Director

Enhanced End Descriptions

Functionality improvements include parapet extensions and drop legs

Web Calendars

Open multiple web calendars, side-by-side, on different windows

Director Truss Studio Both

Webinars

CS Truss Studio Layout View 2018.9 Highlights

CS Truss Studio Design View 2018.9 Highlights

Engineering Tip

The 3-Node Heel Analog Option provides an alternative analysis option for trusses. See 3-Node Heel Analog for more information.

Publication Date: 03/13/2019

Add Board

Purpose	Easily and quickly add a board to the interior or exterior of a truss profile. You can also specify the type, size, species, and alignment.
Prerequisites	An existing truss
Steps	Watch video

1. From the **Operations** menu, select **Add Board**.

You are prompted to select the first point on the truss. The following prompt displays:

Select the first point or select two lines that intersect at a point. Select the space bar prior to selecting the point to offset it.

Before selecting the first point, you can use the **R** key to define a "helper point."

Note: Make sure the Caption Bar, on the Applications menu, is turned on so that the prompts for each step are visible.

2. Select the first point on the truss. If you press the space bar prior to selecting a point, the Offset dialog displays.

Note that before selecting the second point, you can use the following modifier keys to aid in defining the point.

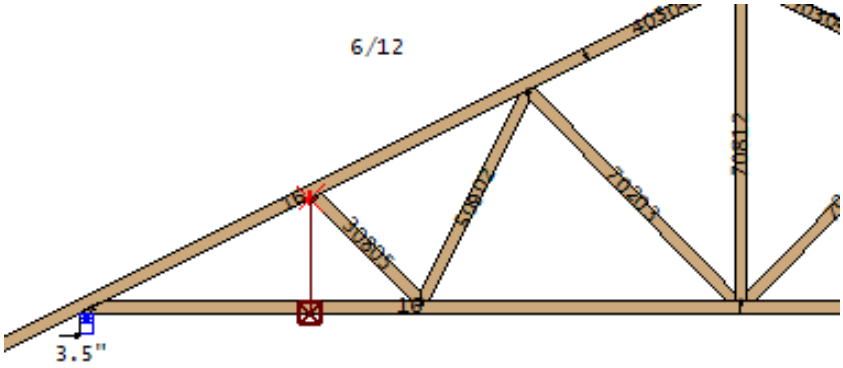
- O - opens Offset Point dialog
- V - sets a vertical line from the first point 1
- H - set a horizontal line from point 1
- P - open a dialog where you can enter a pitch or angle to set a line from the first point
- R - define a "helper point"

4. Select the second point on the truss.

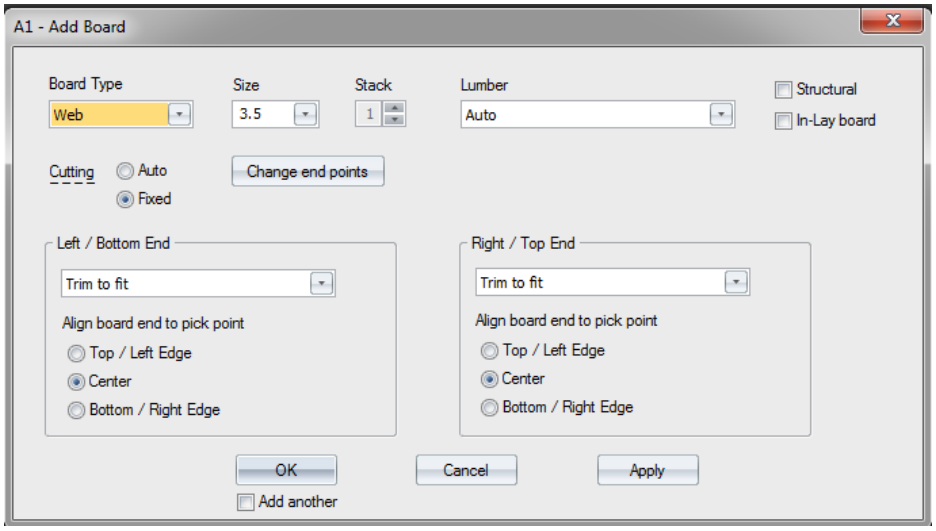
Note: To create a helper point, pick an arbitrary point using Shift-left click.

A sample with two points selected is shown below.

Publication Date: 03/13/2019



After the second point is selected, the **Add Board** dialog displays.



5. Specify the following options on the dialog:

Board Type

- Web - add a structural board
- Filler Chord - add a non-structural board

Size - select the board size from the drop down list.

Stack - 1 is the default; up to 6 stacked pieces are allowed

Lumber

- Auto
  - For *non-structural members*, Auto uses the first material in the lumber priority list for the specified size.
  - For *structural members* Auto allows Truss Studio to select the lumber, evaluating for loading and other design criteria; the first lumber in the priority list of the specified size that works will be used.
- Select a specific type (species/grade) of lumber from the drop down

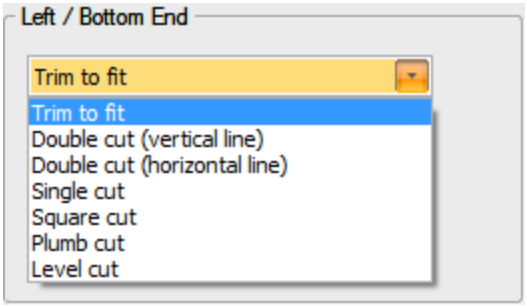
list. Lumber displayed in this list is based on lumber available in your inventory.

Structural - select this to add a structural board which is included in the analog model

In-Lay Board - add a new board between two existing boards. New boards input across existing boards are cut to the edges of intersecting members and do not overlap. When this option is unchecked, new boards input across existing bards will not be cut to the existing boards and instead will overlap.

Cutting

- Auto - alignment and cut determined automatically by Truss Studio. Existing members at a joint may adjust or be re-cut to accommodate the new board at the joint.
- Fixed - precisely defined alignment and cuts, based on predefined cuts for the end of each piece. Geometry and cutting is locked and maintained for existing boards at a joint. When you select this option, you can choose cut types from the Left/Bottom End and Right/Top End drop down lists.



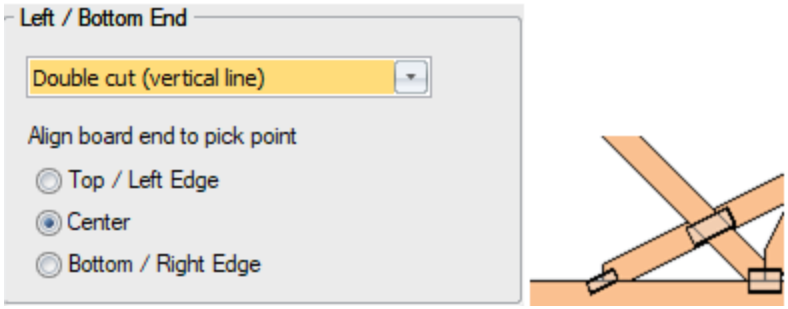
Change End Points - temporarily closes the Add Board dialog and allows re-selection of the start and end points of the new board.

End Cut Descriptions

Trim to Fit - trims the outside edge to the nearest board(s) going in the direction from the other end point to the cut end.

Double Cut (Vertical Line) - trims the board end to a vertical line at the pick point and the line from the intersecting board

Double Cut - Vertical Line Example

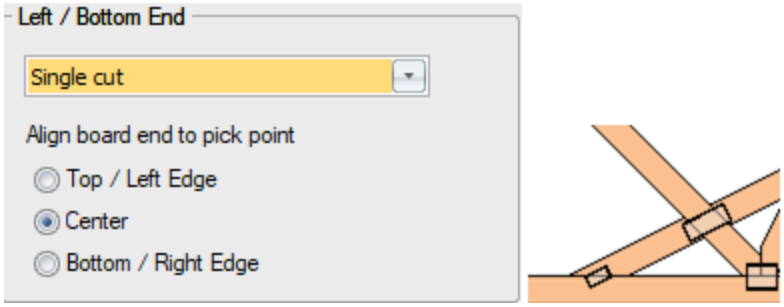


Double Cut (Horizontal Line) - trims the board end to a horizontal line through the pick point and the line from the intersecting board

Double Cut - Horizontal Line Example

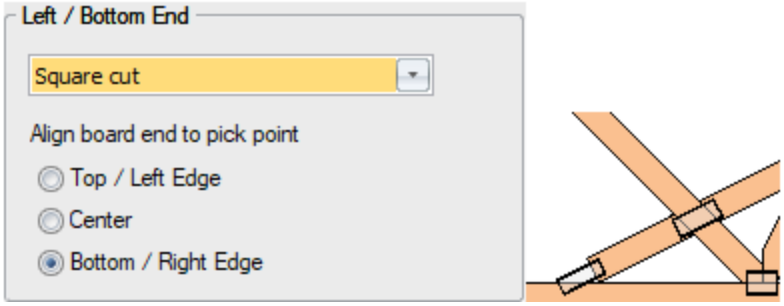
Single Cut - trims the board against the line from the intersecting board

Single Cut Example



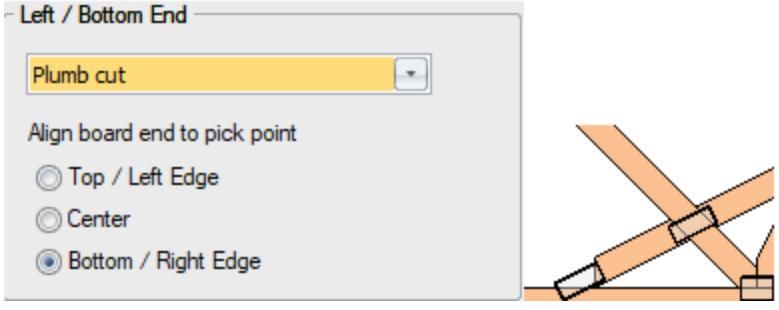
Square Cut - trims the board to a perpendicular line to the board being added at the pick point

Square Cut Example



Plumb Cut - trims the board to a vertical line through the pick point

Plumb Cut Example



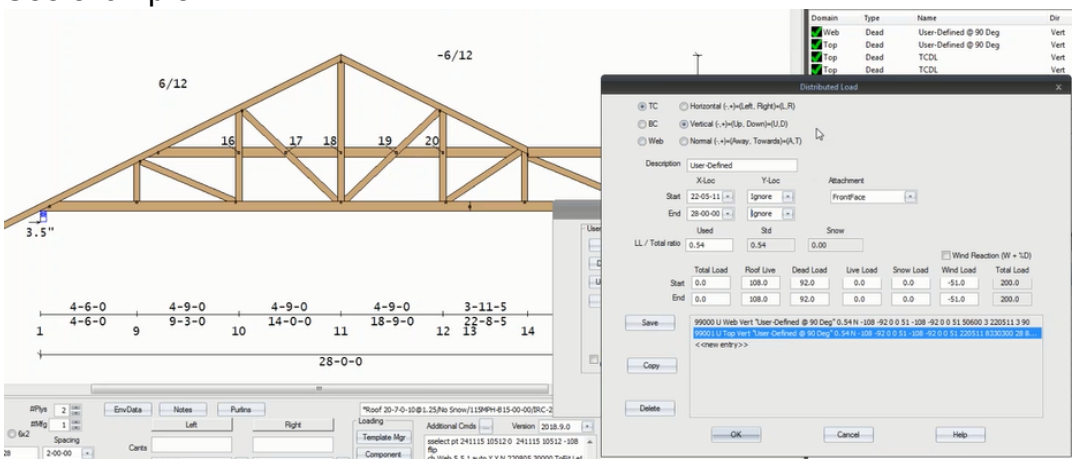
Level Cut - trims the board to a horizontal line through the pick point

Add another - check this box to keep the **Add Board** dialog open and continue adding new boards

6. Click **Apply** to add the board to the truss and keep the **Add Board** dialog open. Click **OK** to add the board and close the dialog (unless **Add another** is selected).

You can apply loads to newly added boards using the Component Loading dialog.

See example



Examples

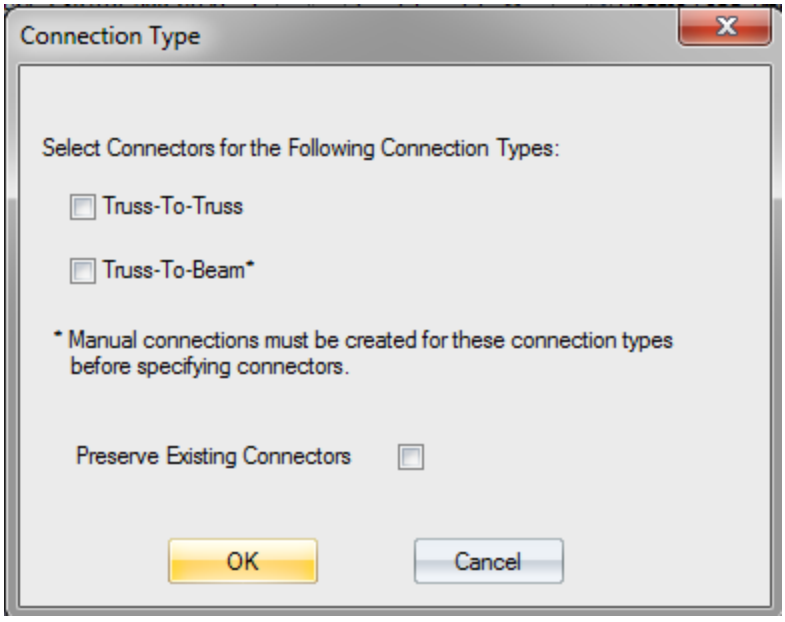
Two common situations where this feature is helpful include:

- Structural/transition gables
- Adding a dormer

Automatically Add Connectors

Purpose	Quickly add connectors to a truss or layout
Prerequisites	An existing layout with truss-to-truss or truss-to-beam connections
Steps	1. Select **Auto Connector Selection** from the **Truss Operations** menu or click .

The **Connection Type** dialog displays.



2. Select the connection type.

Note that if you select Truss-to-Beam connection, a manual connection must first be created for this type before you can specify a connector solution.

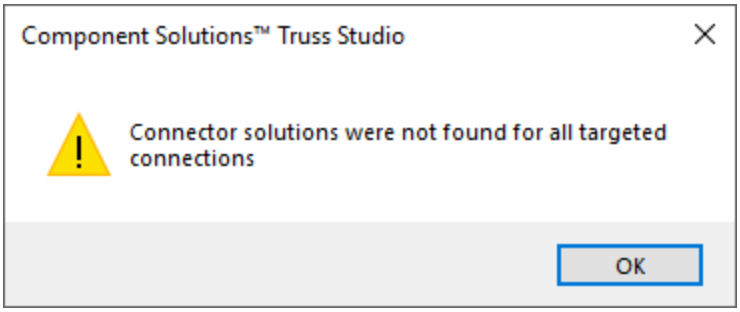
3. To preserve existing connectors, check the **Preserve Existing Connectors** check box.
4. Click **OK**.

Notes: Connectors are specified for all of the connection types selected on this dialog, and where the load exceeds the amount specified in the EnvData > Layout Settings > Load Transfer > Minimum Load Before Auto Specifying Connectors setting.

The lowest cost installed connector in your inventory is selected for each connection.

If there is not a viable connector solution in your inventory, the lowest

installed cost connector from the comprehensive Simpson Strong-Tie connector catalog. is selected. If a non-inventory item is specified it will be indicated on the layout and also flagged as a special order item in Director (indicated by red text). If there are no passing solutions for a connection, no connector is specified and the following message displays:



Connectors are only specified for loaded connection indicators. They are not specified for non-loaded connection indicators that do not have an associated bearing.

A future version of Truss Studio will identify which specific connections do not have solutions.

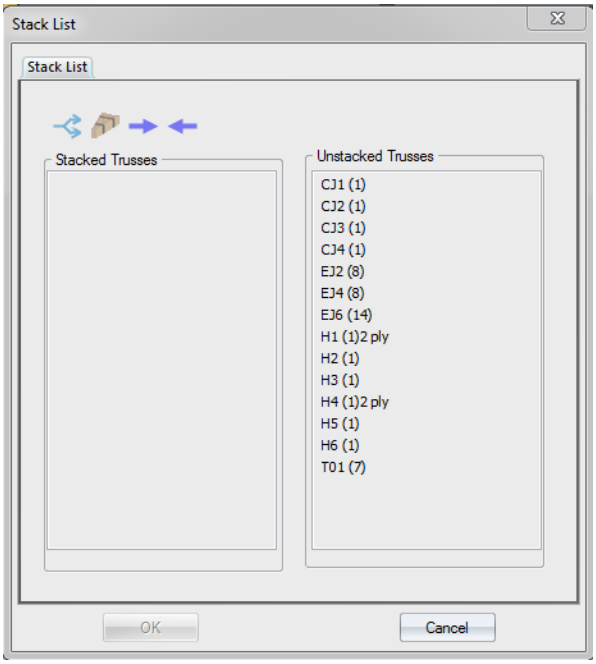
Create Stacking List in Layout

Purpose	Create the stack list both in CS Director and Truss Studio. From Layout it is easier to view the order in which the trusses will be stacked on the roof.
Prerequisites	An existing layout
Steps	Watch video

1. From the **Output** menu, select **Stack List** or click .

The **Stack List** dialog displays.

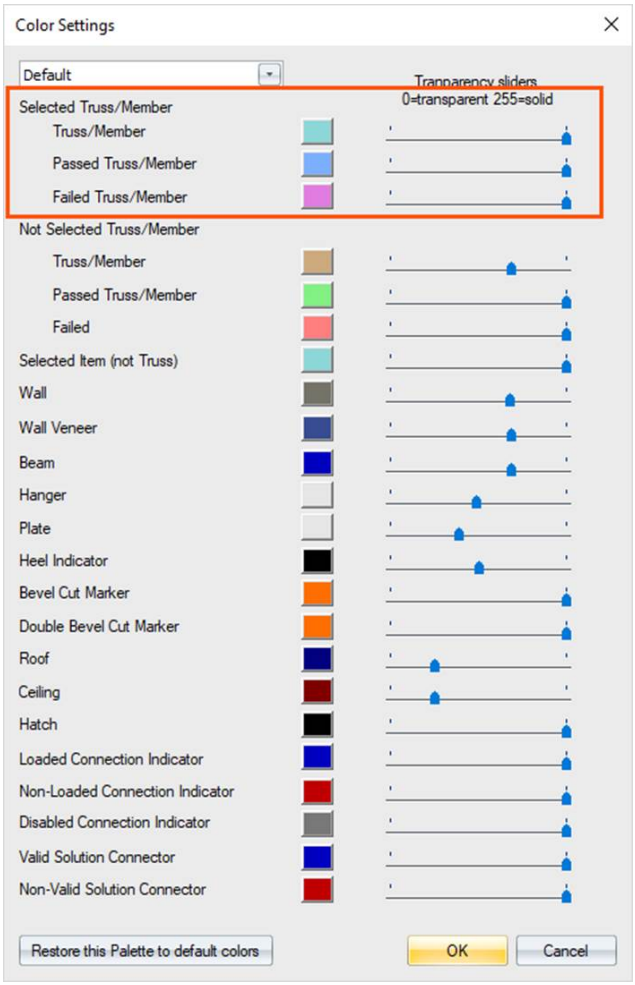
- The **Unstacked Trusses** list shows all trusses in the elevation. This may include trusses that are not on the layout but have been added to the elevation in Director. At this point the **Stacked Trusses** list is blank until trusses are moved to that column.



You can click one or more trusses and drag them to the desired column. You can also use the arrows at the top of the dialog to move trusses.

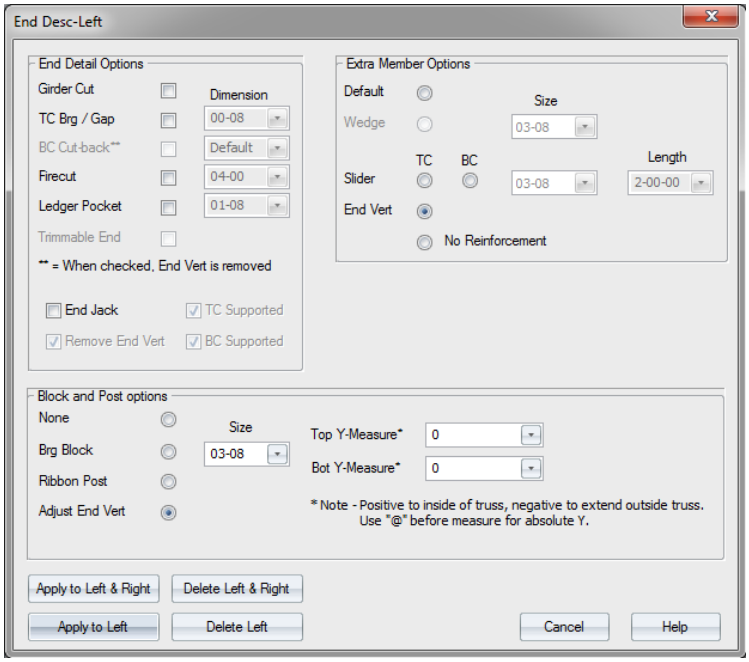
Another way to select trusses to include in the stack list is to click an individual truss in layout or drag a line across multiple trusses, while the Stack List is open. The trusses are automatically added to the list of Stacked Trusses.

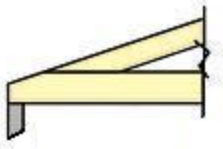
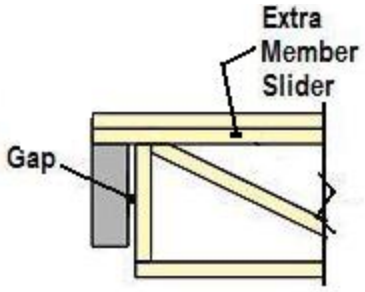
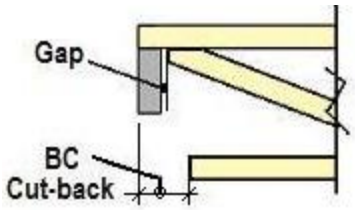
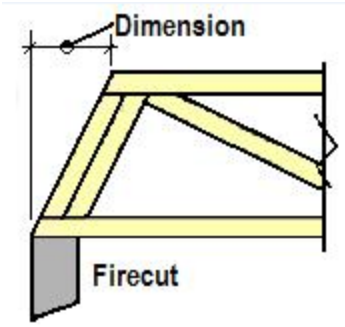
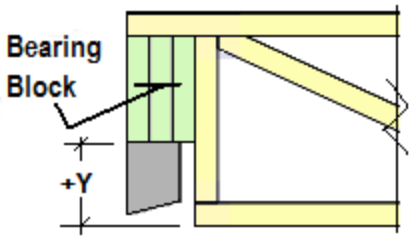
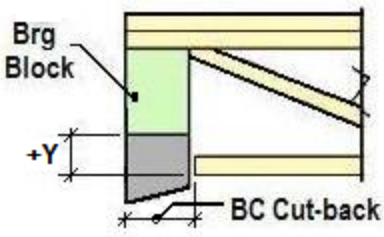
Note: When the Stack List dialog is open, Truss Studio highlights trusses on the Layout that have already been moved to the Stacked Trusses list using the Selected Truss/Member color specified in **EnvData > Color Settings**. Trusses return to their normal colors when the Stack List dialog is closed.

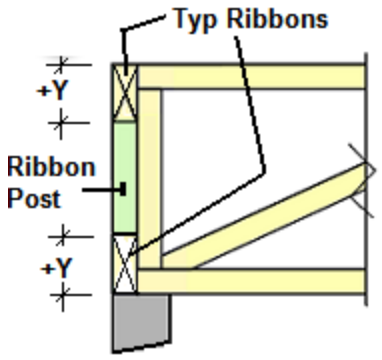
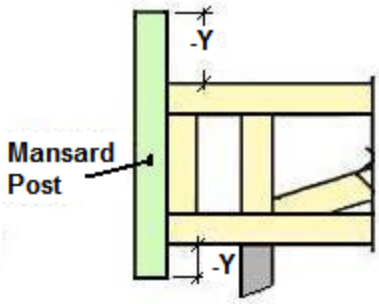
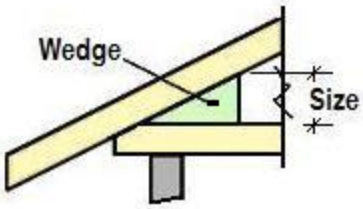
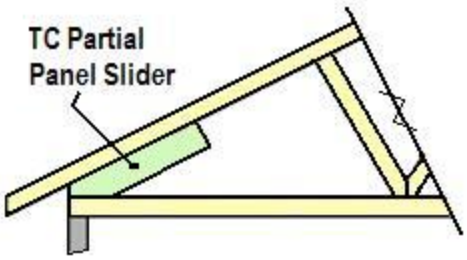
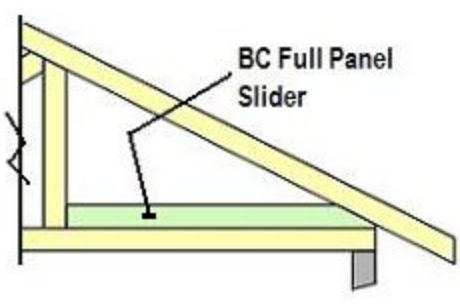


2. Click **OK** to save changes.

End Descriptions

Purpose	Define the end conditions of roof and floor trusses. Sliders, wedges, and various end conditions can be added, modified, or deleted.
Pre-requisites	A truss or layout with trusses
Steps	Watch No Reinforcement video Watch Block and Post video End descriptions can be applied to individual trusses in Design view. They can also be applied to one or more trusses simultaneously in Layout view. To define end conditions: 1. Click **Left End Desc** or **Right End Desc** to open the appropriate window. From Layout view, access these options on the **Truss Modifications** menu or click .  2. Complete the **End Description** options. The Left and Right End Description windows contain the same options. **End Detail Options**

Number	Description	Example
1	Girder Cut	
2	Extra member slider	
3	BC Cutback	
4	Firecut	
5	Bearing Block	
6	Bearing Block with BC Cutback	

7	Ribbon Post	
8	Mansard Post	
9	Wedge	
10	TC Partial Panel Slider	
11	BC Full Panel Slider	

Girder Cut - change a standard heel to a girder cut (See 1)

TC Brg/Gap - change to a Top Chord bearing condition. Also, a gap dimension between the TC bearing and the first vertical can be added. (See 2 & 3). Select the gap dimension from the Dimension drop-down list or enter it manually. The gap dimension is measured horizontally from the inside of the bearing to the outside of the end vertical.

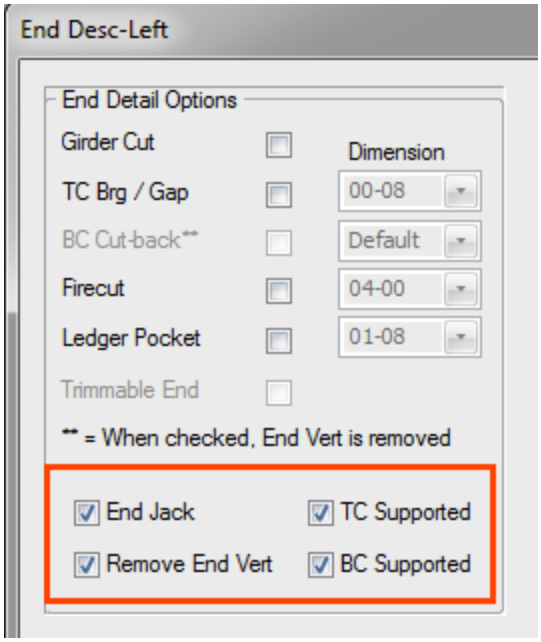
BC Cut-back - hold back the bottom chord. If this option is selected, the end vertical is removed. (See 3). Select the cut-back dimension from the Dimension drop down list, or enter it manually. The cut-back dimension is measured horizontally from the outside of the bearing to the end of the bottom chord.

Firecut - change a standard floor truss end to a firecut end. (See 4). Select the firecut dimension from the Dimension drop down list or enter it manually. The firecut dimension is measured horizontally from the end of the bottom chord to the end of the top chord.

Ledger Pocket - specify the width of the pocket. Note that the pocket height matches the bottom chord size; the bearing is changed to a "beam" bearing to match the specified size of the pocket, and will be moved up into the pocket. Plating routines check for this end condition and move/orient the plate accordingly.

Trimmable End - check this to use trimmable ends for both Trim Fit and EverTrim products, based on licensing and inventory from CS Director.

End Jack - lets you define a truss as an end jack. When this option is enabled, Truss Studio uses the settings in Layout > Hipset > Jack TC/BC Bearing Type to determine the type of new bearings created by the use of the TC/BC Supported check boxes. These check boxes create end bearings for TC, BC, or both, independent of whether the End Vertical is removed.

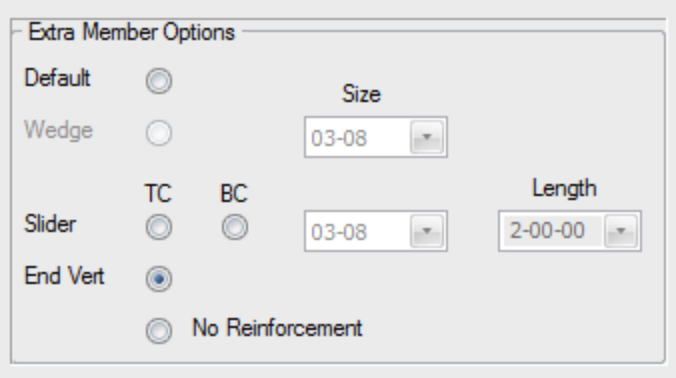


Remove End Vert - if checked, the end vertical is removed.

TC Supported - if checked, a hanger is added to the TC on the high end of the end jack. If the end vertical is removed, the TC should be supported whether or not this is checked.

BC Supported - If checked, the BC has a bearing under it.

Extra Member Options



Default - applies the preferences defined in EnvData > Geometry for either 2xW or Wx2 trusses

Wedge - add a wedge to the heels of trusses that do not have a separation between the TC and BC ends. (See 10)

Size - select the size from the drop down list, or enter it manually.

Slider - add a slider to the heels of trusses that have a separation between the TC and BC ends. (See figure 10 & 11)

TC/BC - select a TC, or BC slider.

Size - select the size of the slider from the drop down list, or enter it manually.

Length - select the length of the slider from the drop-down list, or enter it manually.

End Vert - add an end vertical

No Reinforcement - specify this condition to force the application to not use a wedge or slider.

Block and Post options

None - No block or post is added (default)

Brg Block - add a bearing block to the end of a roof or floor truss. It can be used in combination with TC Brg and BC Cut-back. (See 5 & 6)

Size - select the size of the bearing block from the drop down list, or enter it manually. This setting applies to all the Block and Post options except for “None.”

Ribbon Post/Mansard Post - lets you add a top and/or bottom chord ribbon post or mansard post. Ribbon posts are created using positive y entries and mansard

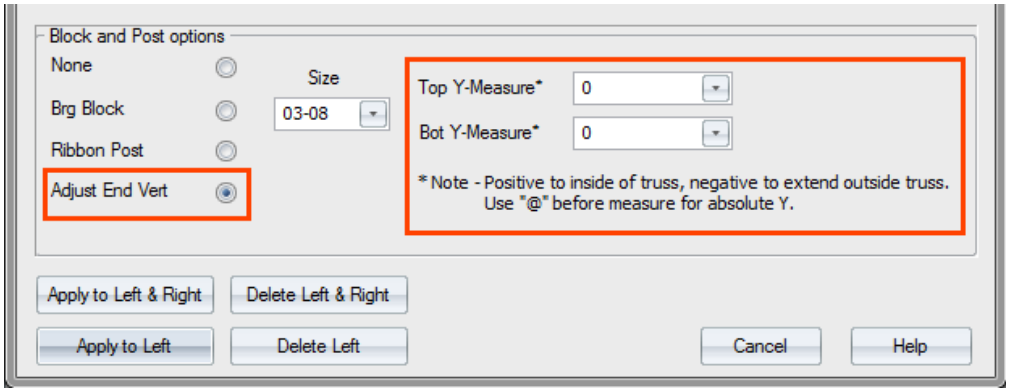
posts are created using negative y entries. (See 7 & 8).

Adjust End Vertical - use this option to create a parapet or drop leg condition. A positive value adjusts the end vertical into the truss while a negative value extends the end vertical outside of the truss based on the user-specified Y-measurements.

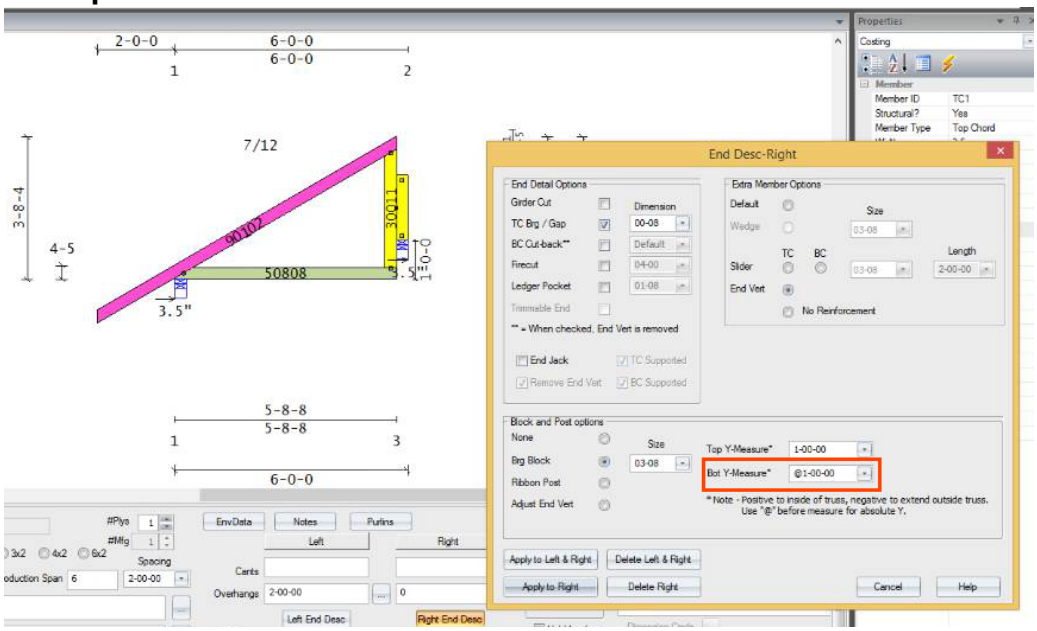
Top Y-Measure (gap) - Gap for Ribbon Post/Mansard Post measured vertically from the top edge of the Top Chord to the top edge of the post. (See 7 & 8).

Bottom Y-Measure (gap) - Gap for Brg Block or Ribbon Post/Mansard Post measured vertically from the bottom edge of the Bottom Chord to the bottom edge of the bearing block or post.

- Use these settings to specify an overall height in the Y-measure for either the TC or BC location of the block; use the @ symbol to signify absolute Y-dimension.

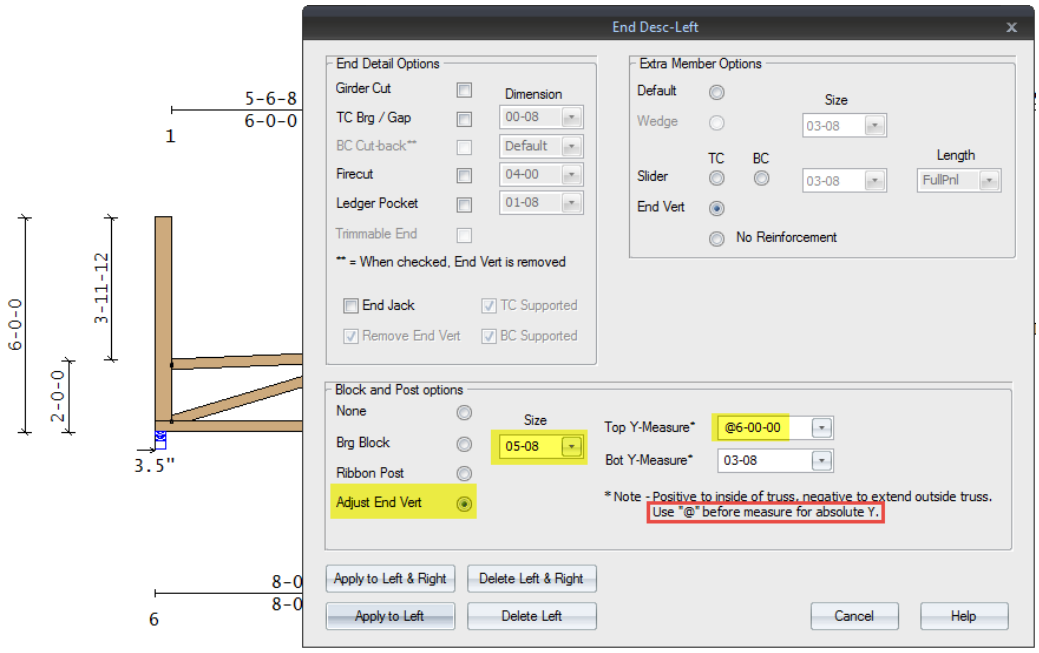


Example



Specify parapet extensions using End Descriptions in Layout and Design.

Example



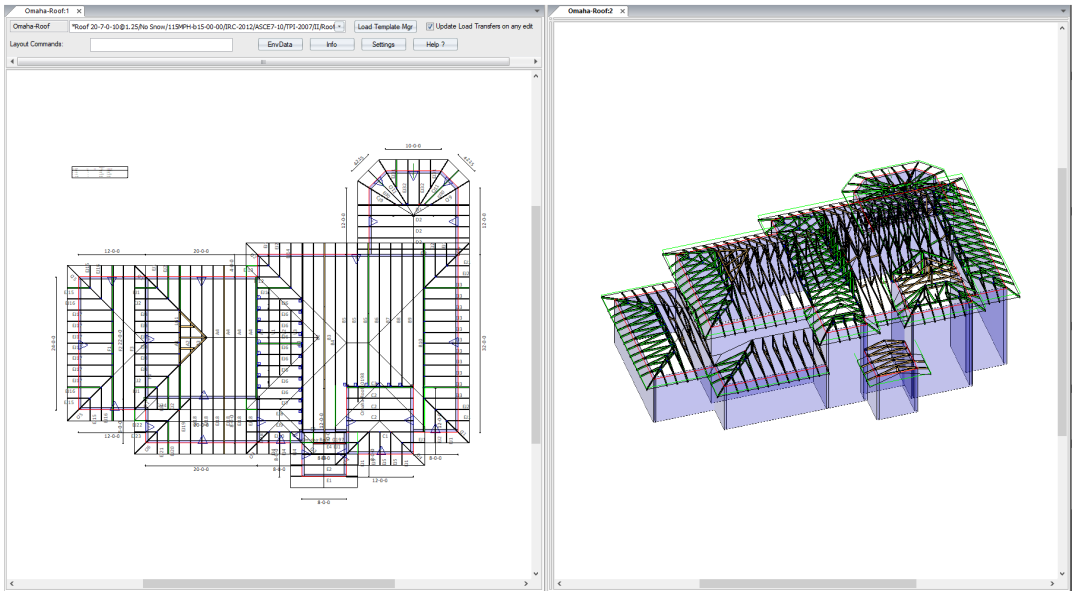
Display 2D and 3D Views in Layout

Purpose	Display and compare 2D and 3D views, side-by-side in Layout
Prerequisites	An existing, open layout
Steps	Watch video

1. From the **Window** menu, select **New Window**.

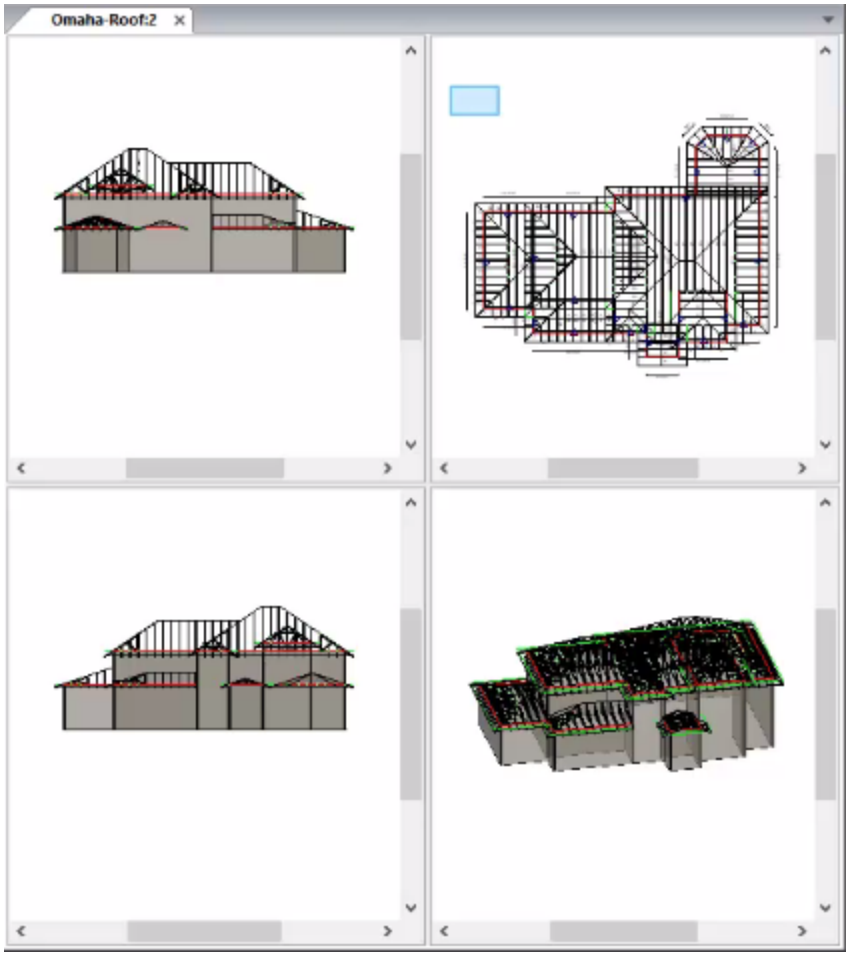
The layout is duplicated on the new window and you can change the view to see it in 2D or 3D.

You can drag the new window/tab so that you can view both the 2D and 3D models, side-by-side.



You can further divide the window into additional panes by dragging a side or corner of the window. Each panel can display a different view. See the video for more information.

Publication Date: 03/13/2019

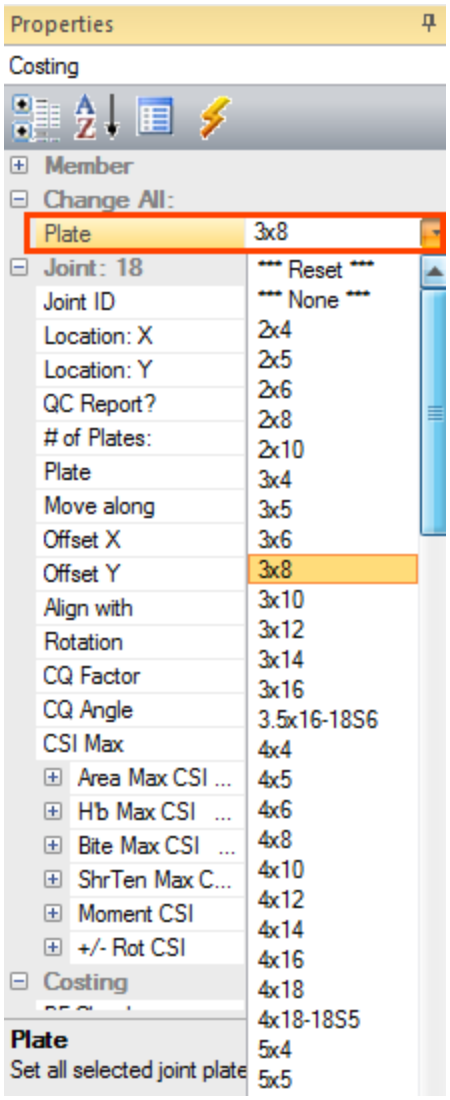


Publication Date: 03/13/2019

Merge & Adjust Plates

Purpose	Occasionally there are situations where two joints are so close together (typically, one is a TC joint and the other is a BC joint, or two nearby hip joints on a short flat TC) that there is no way to avoid the two joint plates from overlapping. This solution lets you easily adjust and resize plates, allowing for a single plate solution. Plate Merging options are defined in EnvData.
Pre-requisites	An existing truss
Steps	Watch video There are two ways to merge and adjust plates that are close to each other or overlapping. **Method 1** 1. Select the plate that is adjacent or overlapping another plate. 2. Resize the plate using the Plate drop down list on the Properties window.

Publication Date: 03/13/2019

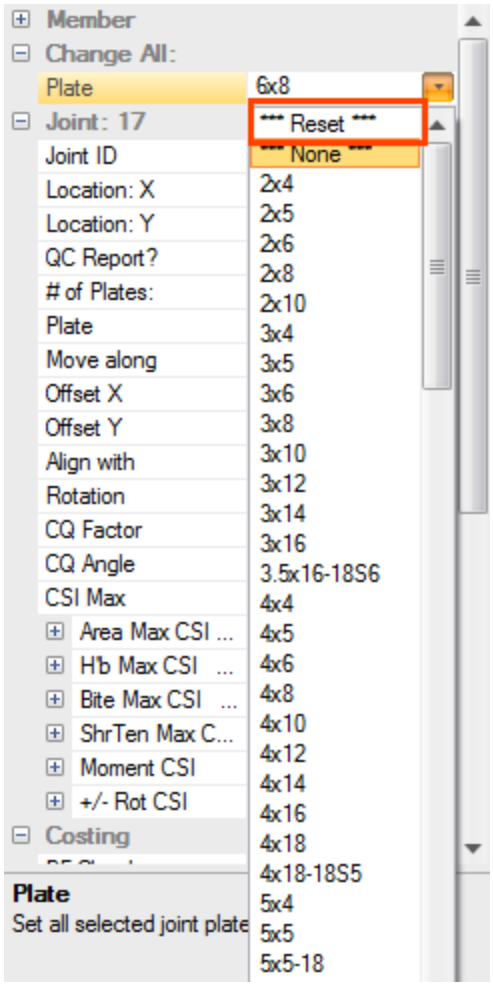


3. Using the **Joint** > **Move Plate** command adjust the plate so that it covers both joints.

4. Analyze the truss.

When the truss is analyzed, the second, redundant plate is discarded.

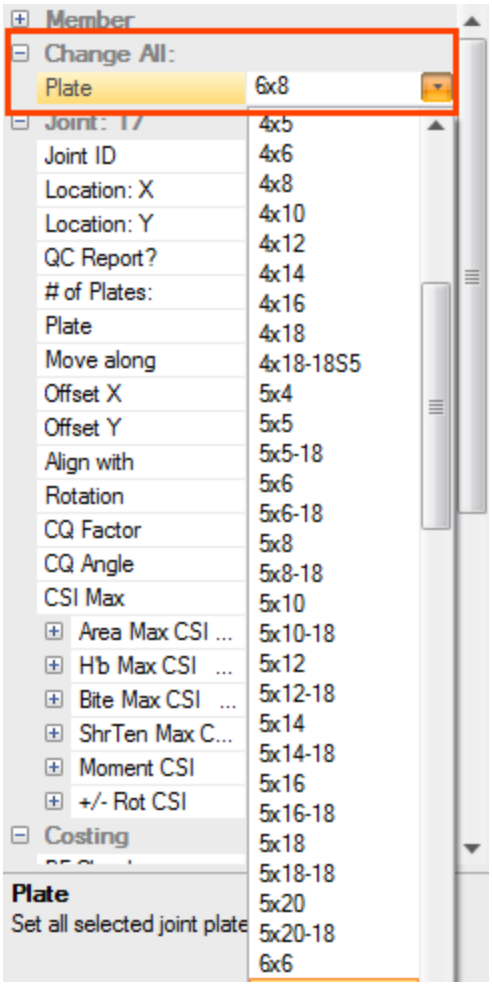
To undo this function, select **Reset** from the Plate drop down list in the Properties window.



Method 2

1. Select both joints.

2. Select the same plate size for both, using the **Change All** option in the Properties window.

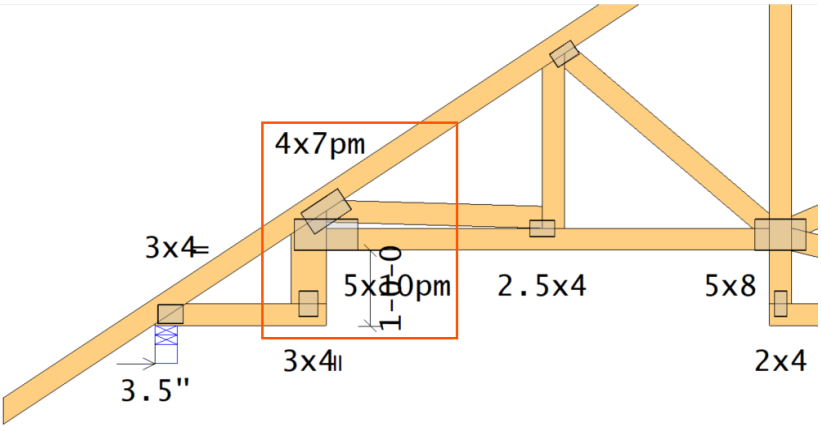


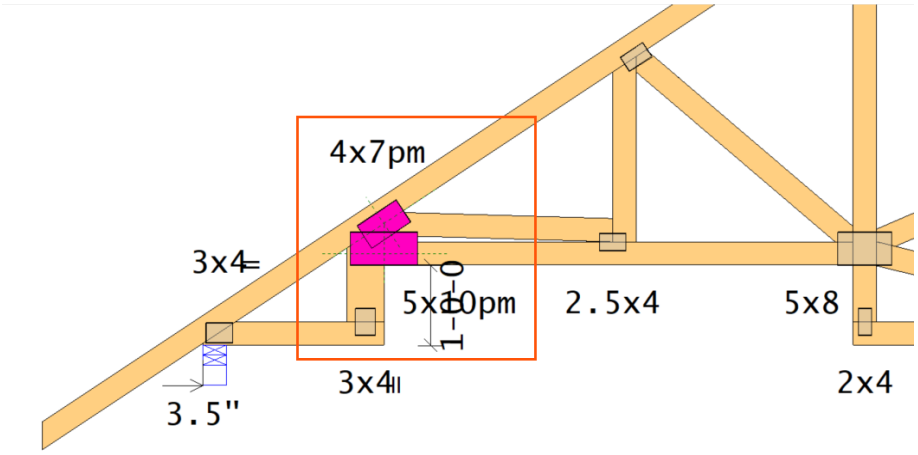
3. Move one plate until it “snaps” to the orientation of the other, and then move the plate until it is positioned such that it works to satisfy both joints.

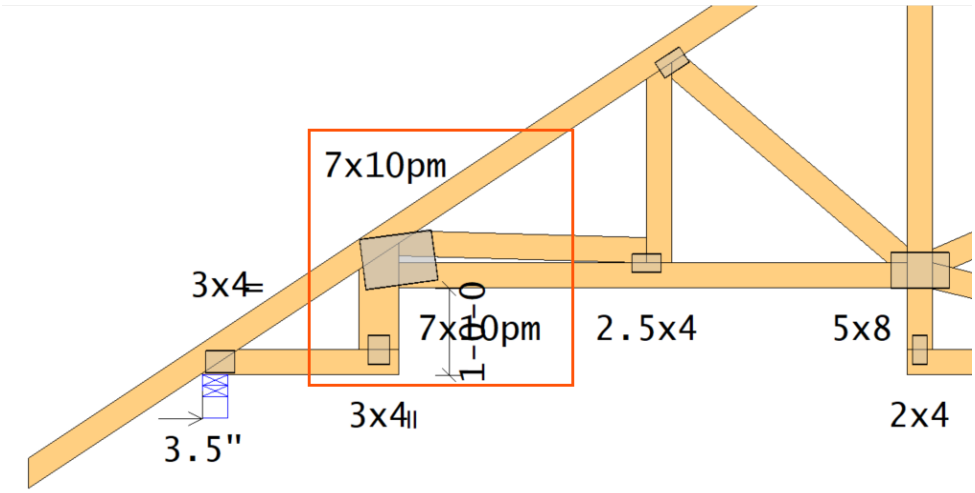
The plates are merged and a single plate is used for the joints.

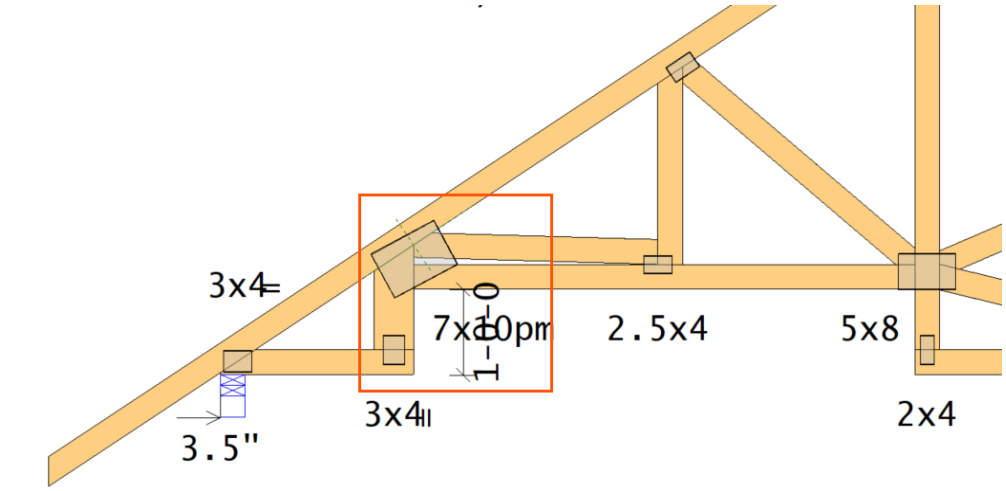
Example 1

4x7 and 5x10 plates are merged (plates to merge are selected)



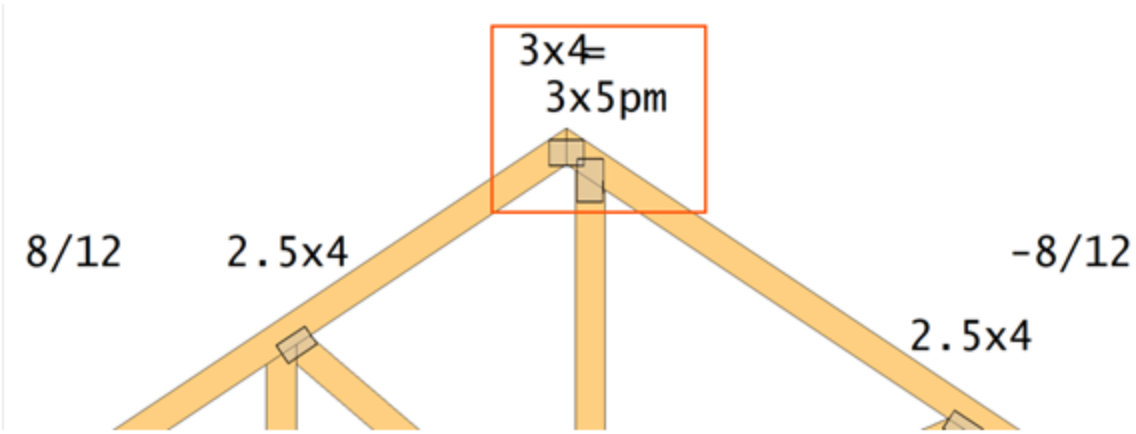


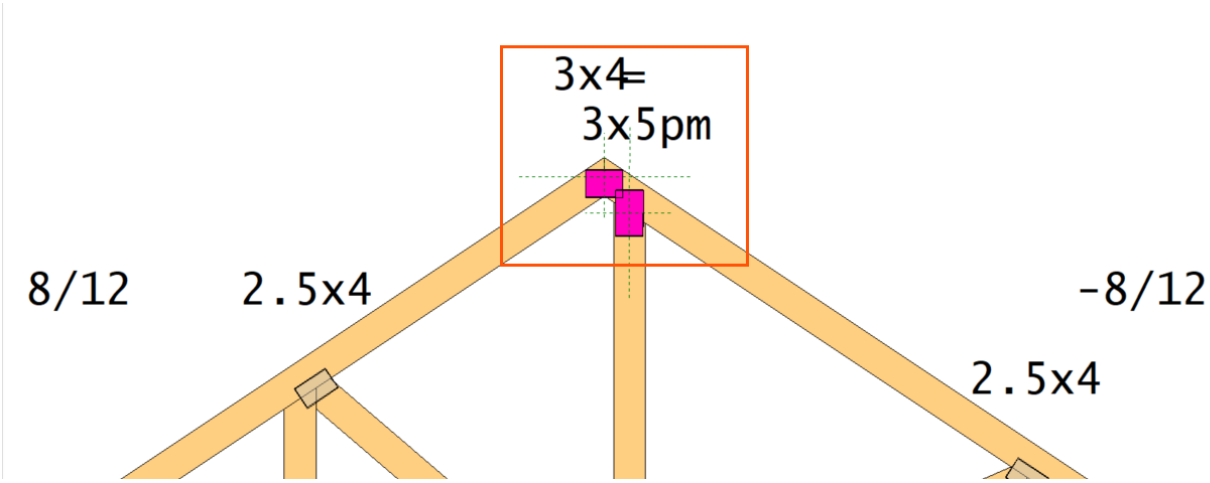




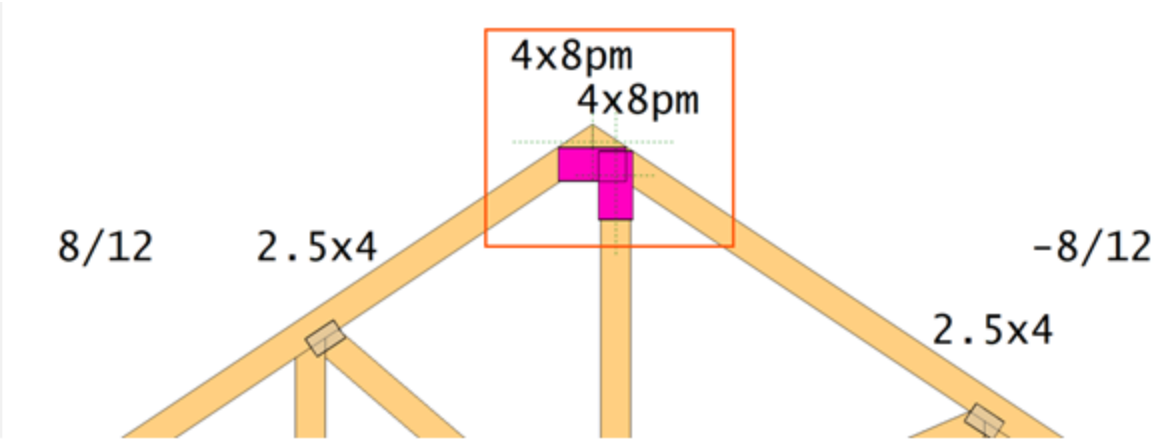
Publication Date: 03/13/2019

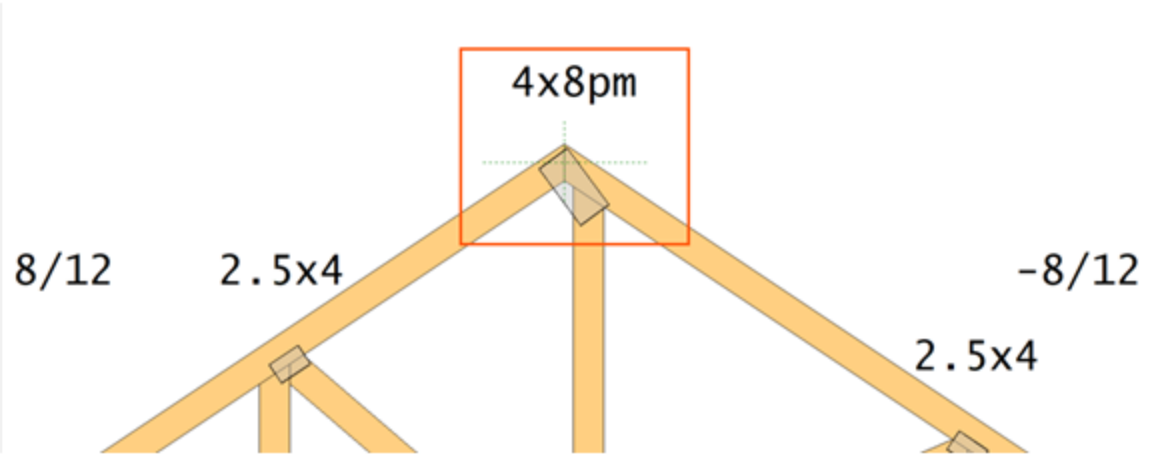
Example 2





Publication Date: 03/13/2019





Publication Date: 03/13/2019

Display Truss Status in Layout

Purpose	To display a list of trusses in the layout, along with their status
Prerequisites	An existing layout with trusses
Steps	Watch video

To display and use the truss list:

1. From the **Application** menu, select **Truss List.**

A sample Truss List is shown below.

Truss passed design:

Truss failed design:

Truss has plating issue(s):

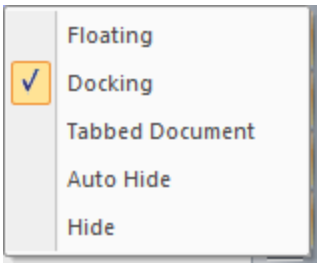
Truss has not been designed/analyzed:

You can perform the following functions on the project truss list:

- Double-click a truss listed in the Truss List to open it in Design view
- Change the order of columns by dragging and dropping
- To perform other operations on the list, right-click a column header

Publication Date: 03/13/2019

to display a pop-up menu.



Display Multiple Web Calendars

Purpose

The Web Calendar feature lets you keep multiple web calendars open at once on different browser tabs. Calendars can remain open, even when Director is closed. You can also drag and drop calendars to other monitors.

Prerequisites

Note that you must have the following installed in order for Web Calendars to work.

- IIS
- DotNetCore
- Hosting Bundle

Steps

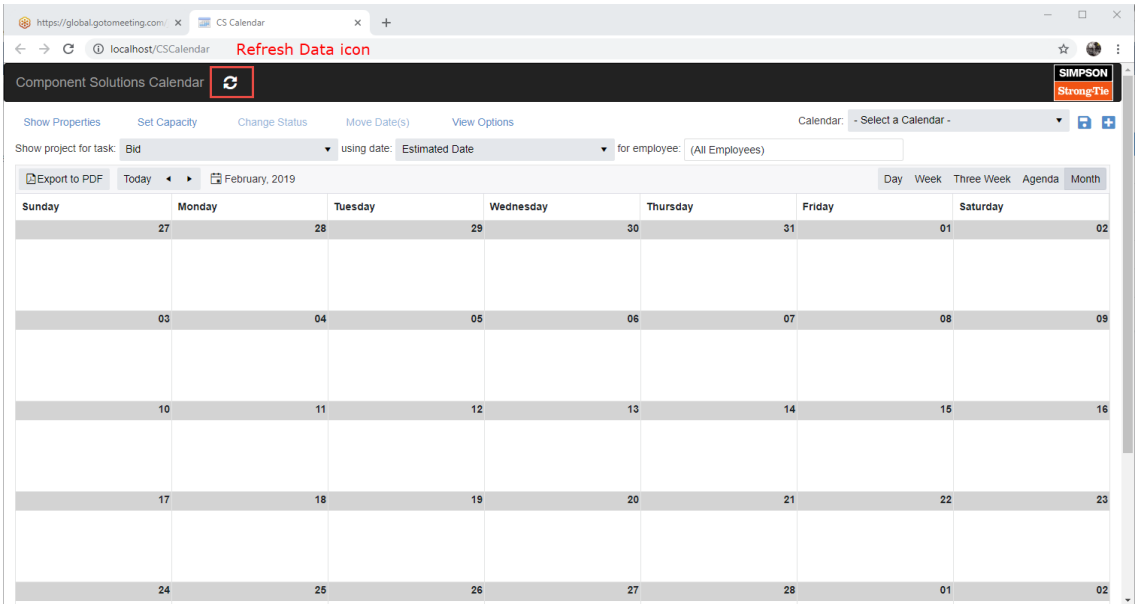
1. Click **Web Calendar** to open a calendar.

You can have multiple calendars open while working in Director. You can open Web Calendars when Director is closed, by accessing the proper web address.

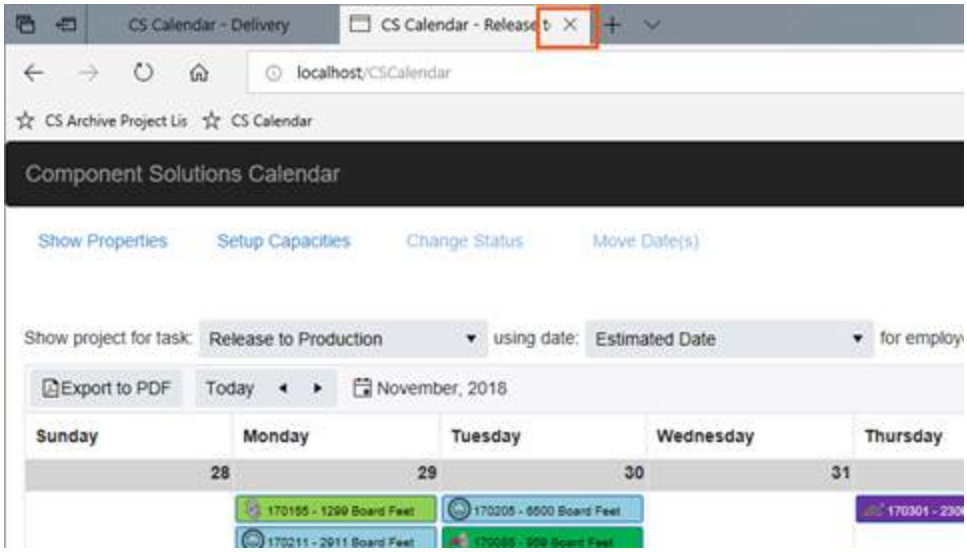
General Calendar Functionality

Click **Refresh Data** to see calendar updates (rather than using your browser's refresh button which will reset all settings).

- **Refresh Data** keeps existing filter and date settings and only refreshes data

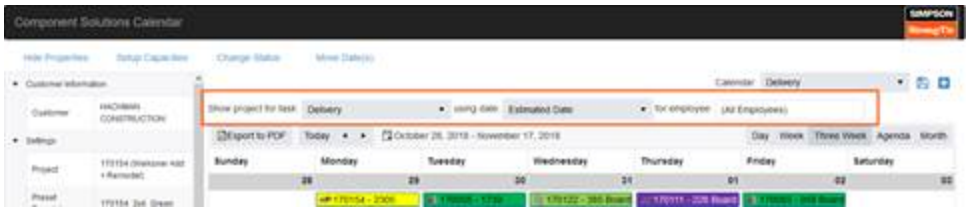


Keep multiple calendars open on different browser tabs. Close a calendar by clicking the **X** to close the browser tab.



Filter Functionality

Use filters to specify which task/date/employee information display on the calendar.

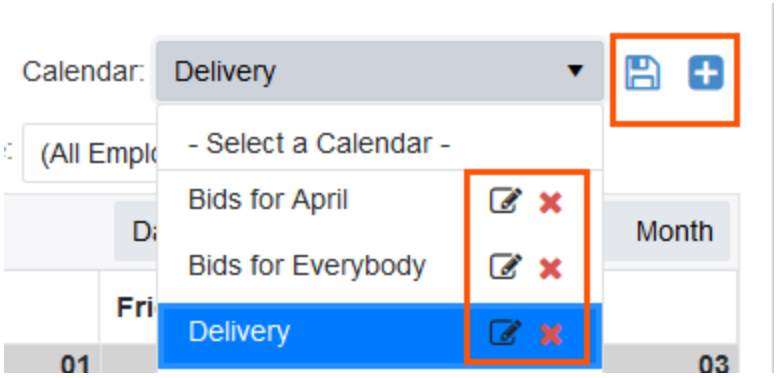


You can filter by the following criteria:

- Task - filters the calendar for the selected task
- Date - filters the calendar for the selected date type (Estimated, Started Complete)
- Employee - filters the calendar for the selected assigned employee(s)

Named Calendars

Save and name filters to quickly switch between frequently used filters.



- Save - save the current filter to the current name.

- Save As - save the current filter with a new name.
- Rename - rename the selected named filter
- Delete - delete the selected named filter

Views

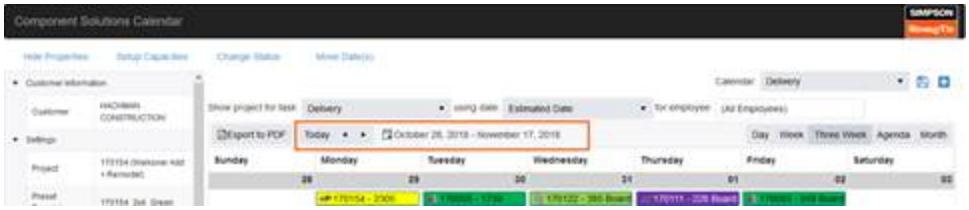
Day view

Specify the range of days that display on the calendar.

- Day
- Week
- Three Week
- Month

Date view

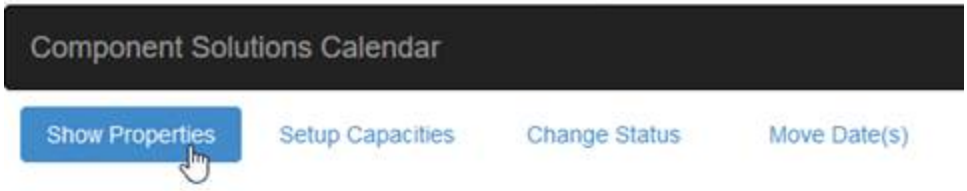
Specify the dates that display on the calendar.



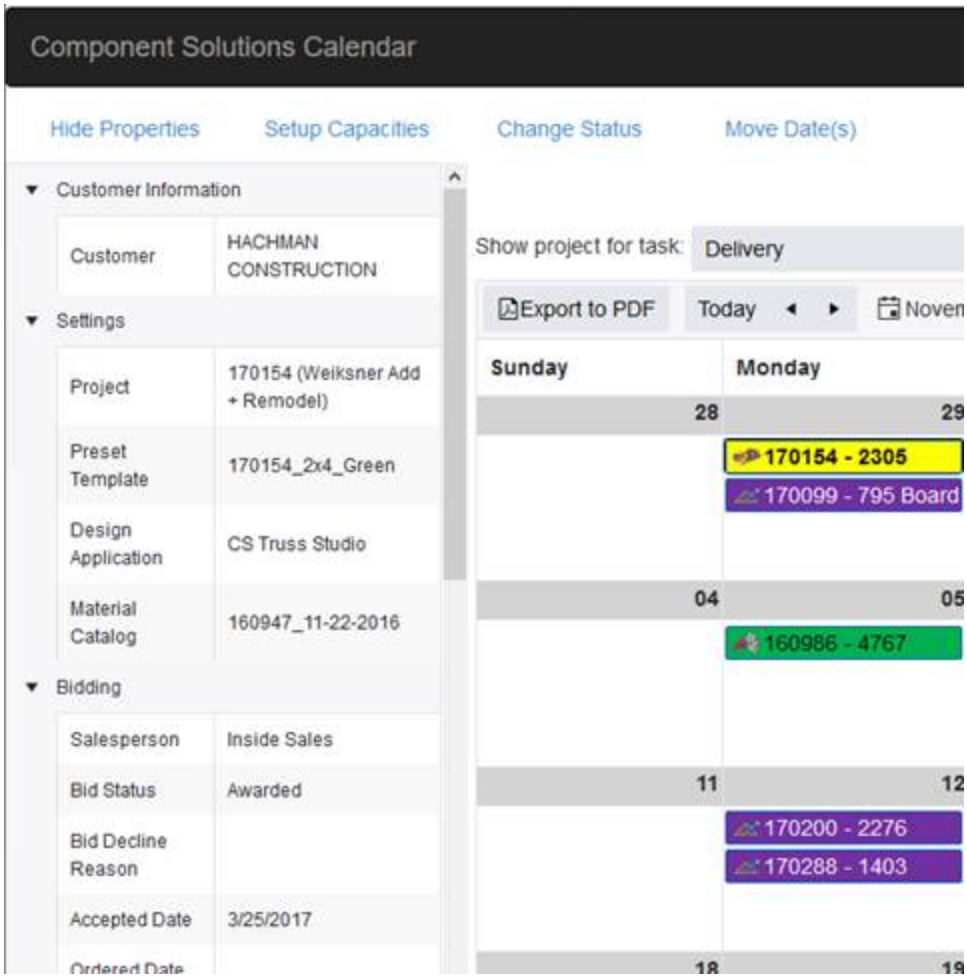
- Today - displays the current day
- Previous/Next - moves the calendar forward/backward one day/week/-month based on the current view timeframe.
- Date - moves the calendar to the specified date

Show/Hide Properties

Toggles the display of the properties for the selected project

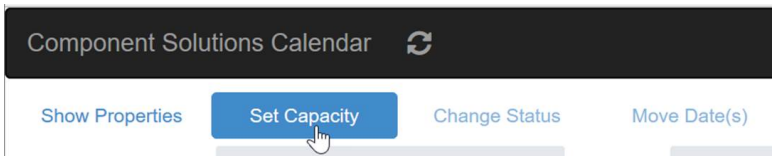


The properties for the selected project show on the left pane



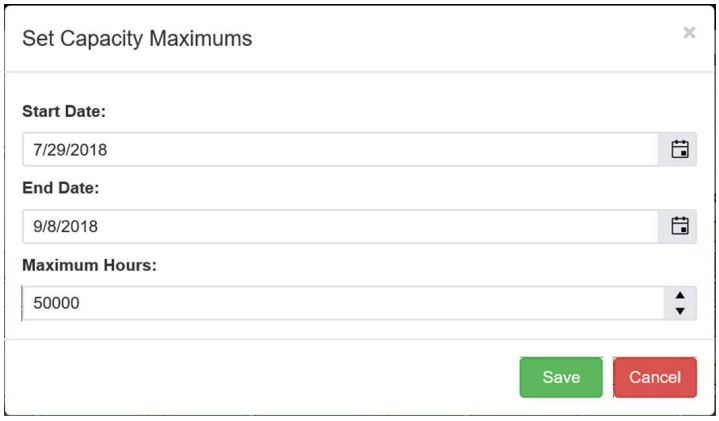
Capacities

Click Set Capacity to define date ranges and hours.



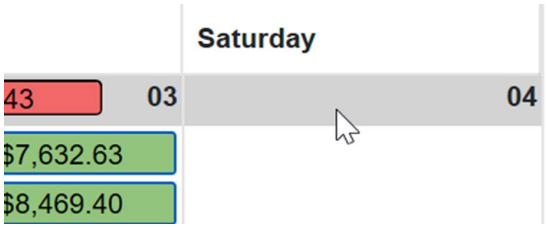
The **Set Capacity Maximums** dialog displays.

- Enter Start and End Dates
- Enter Maximum Hours for the selected date range

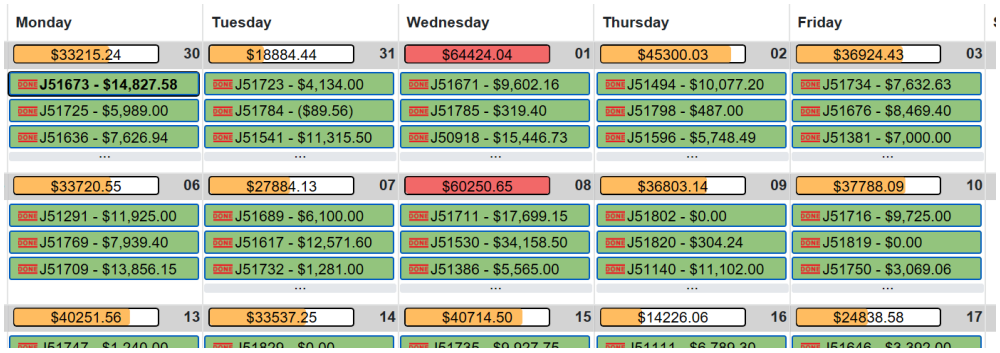


Set hours for day

Double-clicking on a header for a specific day/date will set the dates in the dialog to the selected day. This can be used to apply capacities to any day, including weekends.

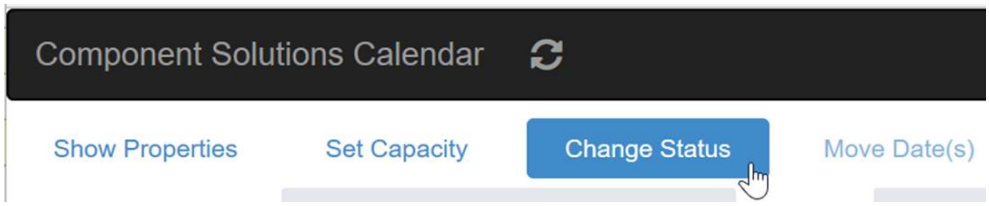


Days in which hours are under capacity display the assigned portion of the progress bar in orange; days in which hours are over capacity will display the progress bar in red.



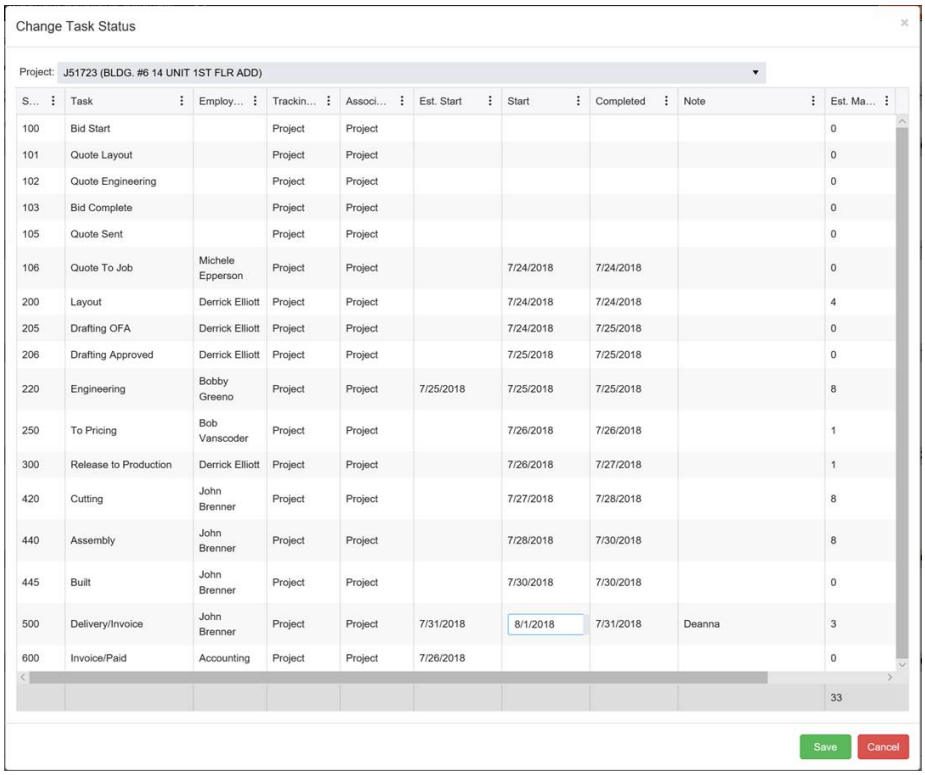
Change Status

A project must be selected in the calendar to enable the button.



When you click **Change Status**, the Task tab for the selected project displays,

allowing dates to be quickly updated.



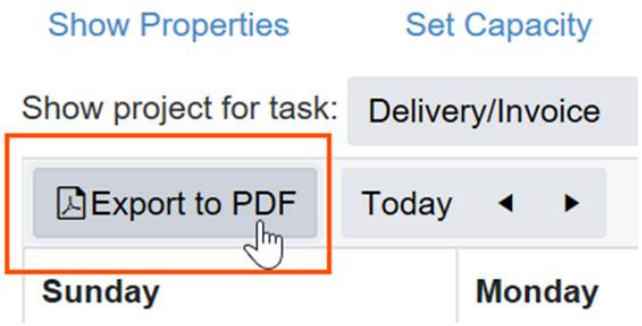
S...	Task	Employ...	Trackin...	Associ...	Est. Start	Start	Completed	Note	Est. Ma...
100	Bid Start		Project	Project					0
101	Quote Layout		Project	Project					0
102	Quote Engineering		Project	Project					0
103	Bid Complete		Project	Project					0
105	Quote Sent		Project	Project					0
106	Quote To Job	Michele Epperson	Project	Project		7/24/2018	7/24/2018		0
200	Layout	Derrick Elliott	Project	Project		7/24/2018	7/24/2018		4
205	Drafting OFA	Derrick Elliott	Project	Project		7/24/2018	7/25/2018		0
206	Drafting Approved	Derrick Elliott	Project	Project		7/25/2018	7/25/2018		0
220	Engineering	Bobby Greeno	Project	Project	7/25/2018	7/25/2018	7/25/2018		8
250	To Pricing	Bob Vanscoder	Project	Project		7/26/2018	7/26/2018		1
300	Release to Production	Derrick Elliott	Project	Project		7/26/2018	7/27/2018		1
420	Cutting	John Brenner	Project	Project		7/27/2018	7/28/2018		8
440	Assembly	John Brenner	Project	Project		7/28/2018	7/30/2018		8
445	Built	John Brenner	Project	Project		7/30/2018	7/30/2018		0
500	Delivery/Invoice	John Brenner	Project	Project	7/31/2018	8/1/2018	7/31/2018	Deanna	3
600	Invoice/Paid	Accounting	Project	Project	7/26/2018				0
									33

Note that you cannot move dates if a task has started.

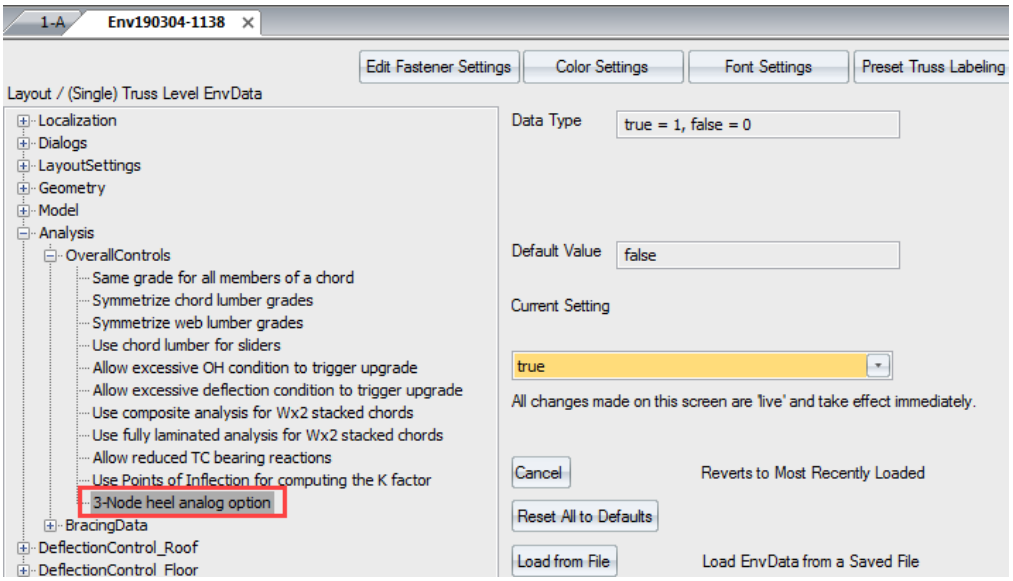
Export to PDF

This feature lets you create a PDF, which is a printable copy of the current view.

Note that different browsers may operate slightly differently for this function.



3-Node Heel Analog

Purpose	This analog can be used as an alternative to the standard heel network analog
Prerequisites	Any truss that does not analyze correctly using the standard analog
Steps	1. From **EnvData > Analysis > Overall Controls**, select **3-Node heel analog option**. 2. To enable this analog, set the value to **True**. 

Publication Date: 03/13/2019