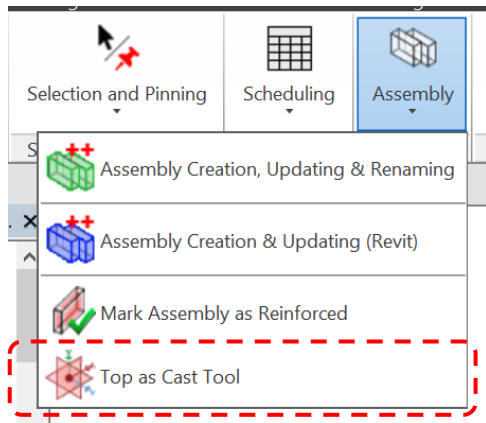


# Assembly Tools: Top as Cast Tool



## **Programmed Result of Tool:**

This tool will automatically align the Revit Assembly Origin relative to the top as cast surface and selected edges. Once aligned, the tool will show a graphic visualization of the orientation of the assembly origin which has been set as well as the selected top as cast face.

## **Steps to Perform tool Operation:**

*The user can preselect an assembly (only one at a time).*

- 1) User clicks the Top As Cast Tool icon.
- 2) If no assemblies have been preselected, the user selects an assembly (multiple selections are **not** allowed) to perform the operation upon.
- 3) User can then decide if they want to isolate the assembly in the view. Isolating an assembly can make it much easier to locate and select the correct top as cast face and edges.
- 4) Next the user is prompted to select the top as cast face. Only faces can be picked during this operation. The user can identify the top as cast face and select it.
- 5) Next the user is prompted to "Select Mark End of DT or Left Edge of Vertical Element". Basically, for any "horizontal" element like a DT or T-Girder the user would pick the mark end of the top as cast face. For "vertical" elements like Columns or Wall Panels you would pick the left edge of the top as cast face.
- 6) Next the user is prompted to "Select Right Edge of DT or Bottom Edge of Vertical Element". The tool expects that the "right edge" of the DT Top as Cast face is roughly perpendicular to the selected left (mark end) edge previously selected. This will be a long edge of a DT or T-Girder or for a vertical element, this would be the bottom edge as you view it in the model.

Please see below for edge selection guidelines.

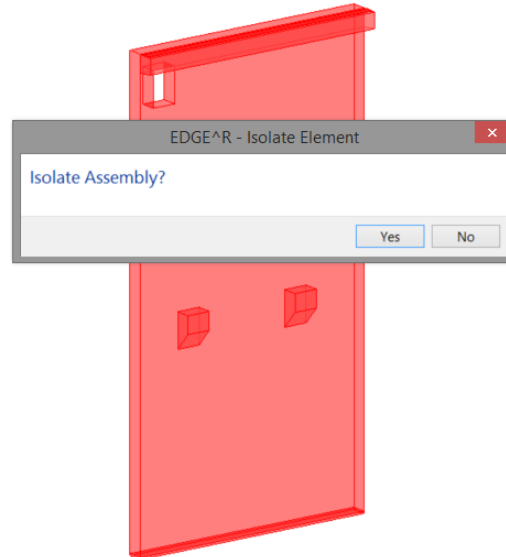
## **Known Limitations:**

- If the user selects to isolate the element in the view, all previous temporary view settings may be lost.

# Assembly Tools: Top as Cast Tool

## Detailed Usage:

On Starting the Top as Cast Tool, you will be presented with a dialog that offers you the option to isolate the assembly.

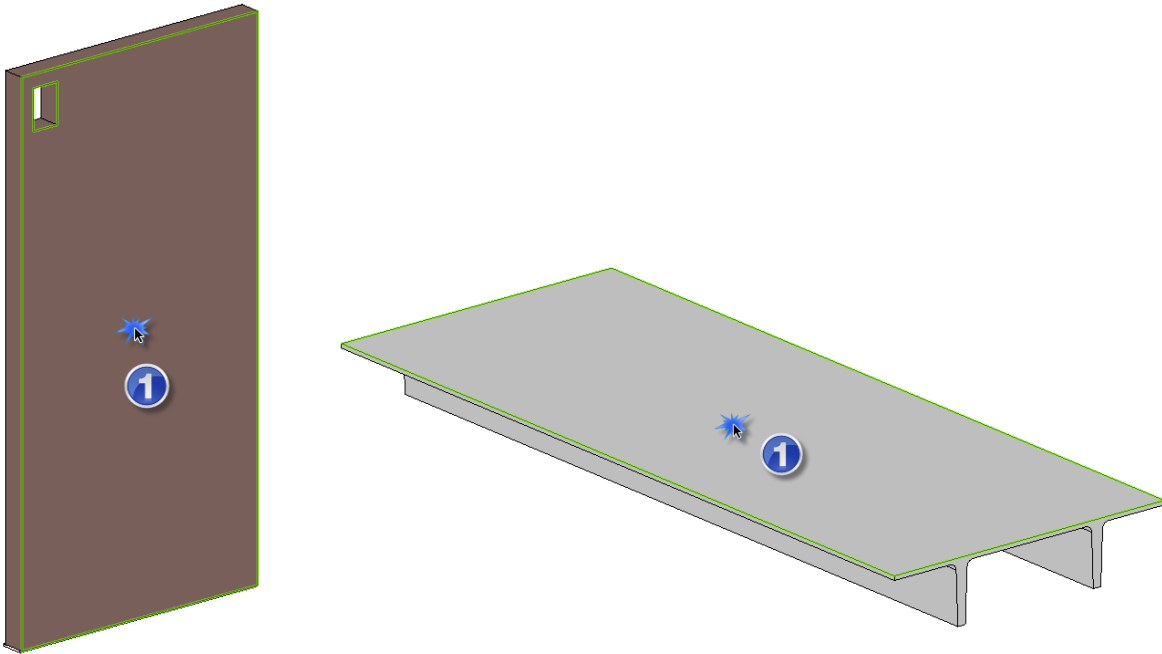


It can often be more effective to remove visual complexity so that you can more easily identify surfaces and edges necessary for tool operation so we recommend isolating the elements as you work on them. One thing to note is that when you isolate the element the tool is overriding the current temporary view settings and due to a limitation of the Revit API, we are unable to return the view to any previous “temporary view” settings. It is recommended that if you will be operating on several assemblies, that you create a new view so that you do not lose any view settings on your working view.

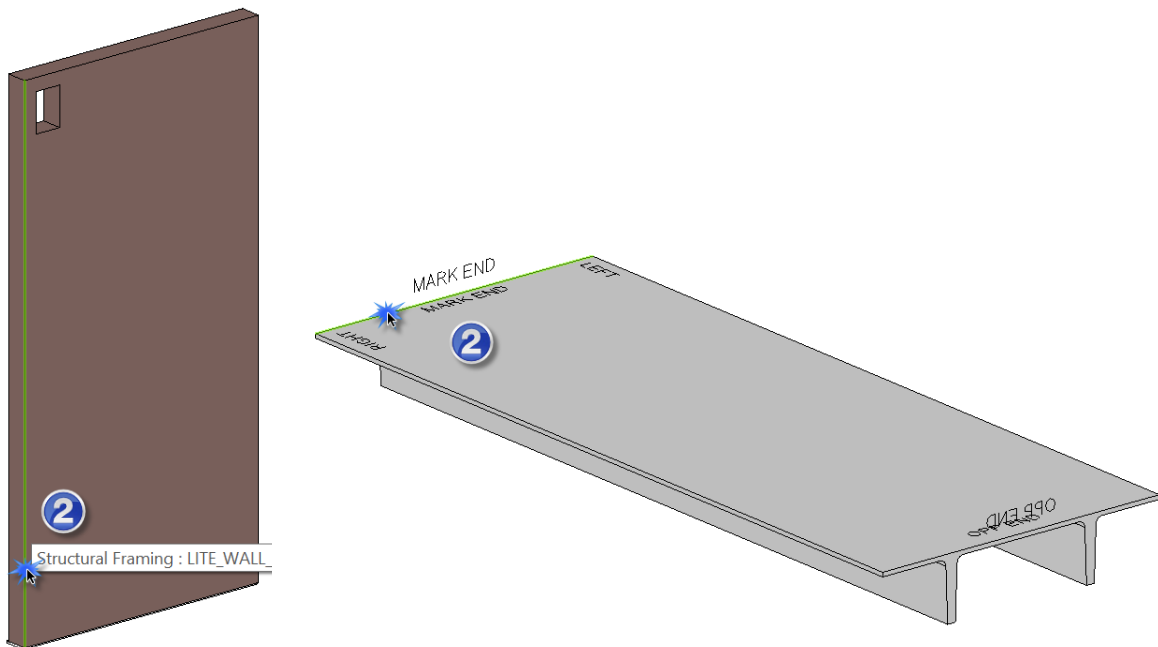
Isolating the assembly will show only the main structural framing element in the assembly. It is the faces and edges of this element which will be used to orient the Revit Assembly Origin.

# Assembly Tools: Top as Cast Tool

The next step is to select the top as cast face. Below are examples of selecting a wall and double tee top as cast face:

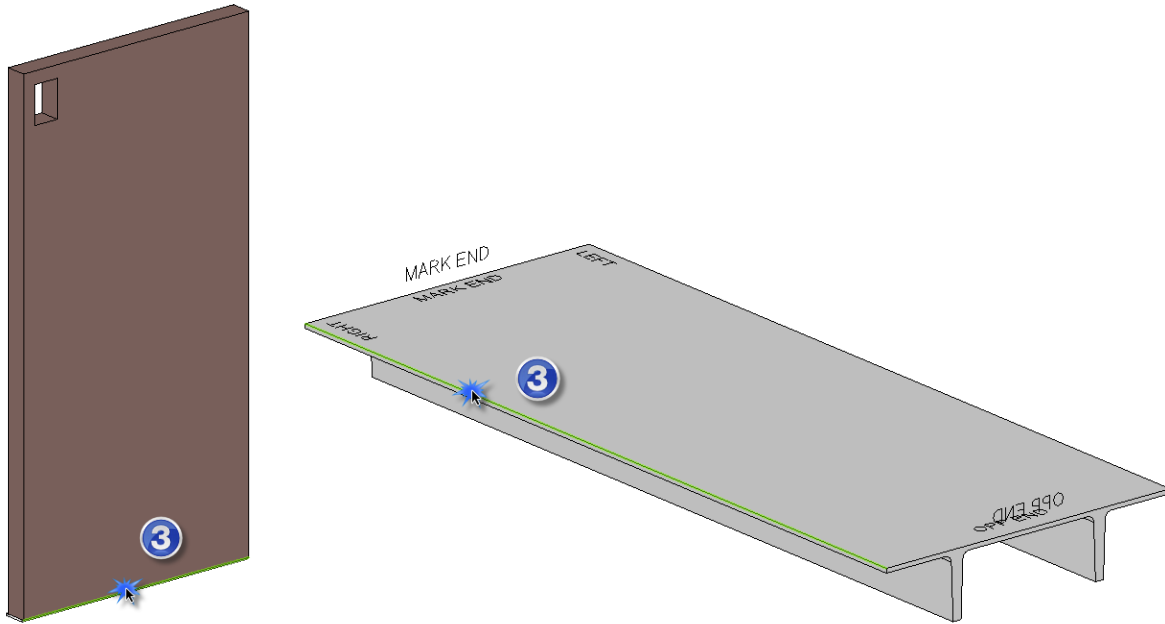


You can see the faint glow around the outline of the face you are about to select. Once you have selected this face, the next prompt is to select the mark end or left edge of the top as cast face. Here are examples of making this selection for the pieces above:



# Assembly Tools: Top as Cast Tool

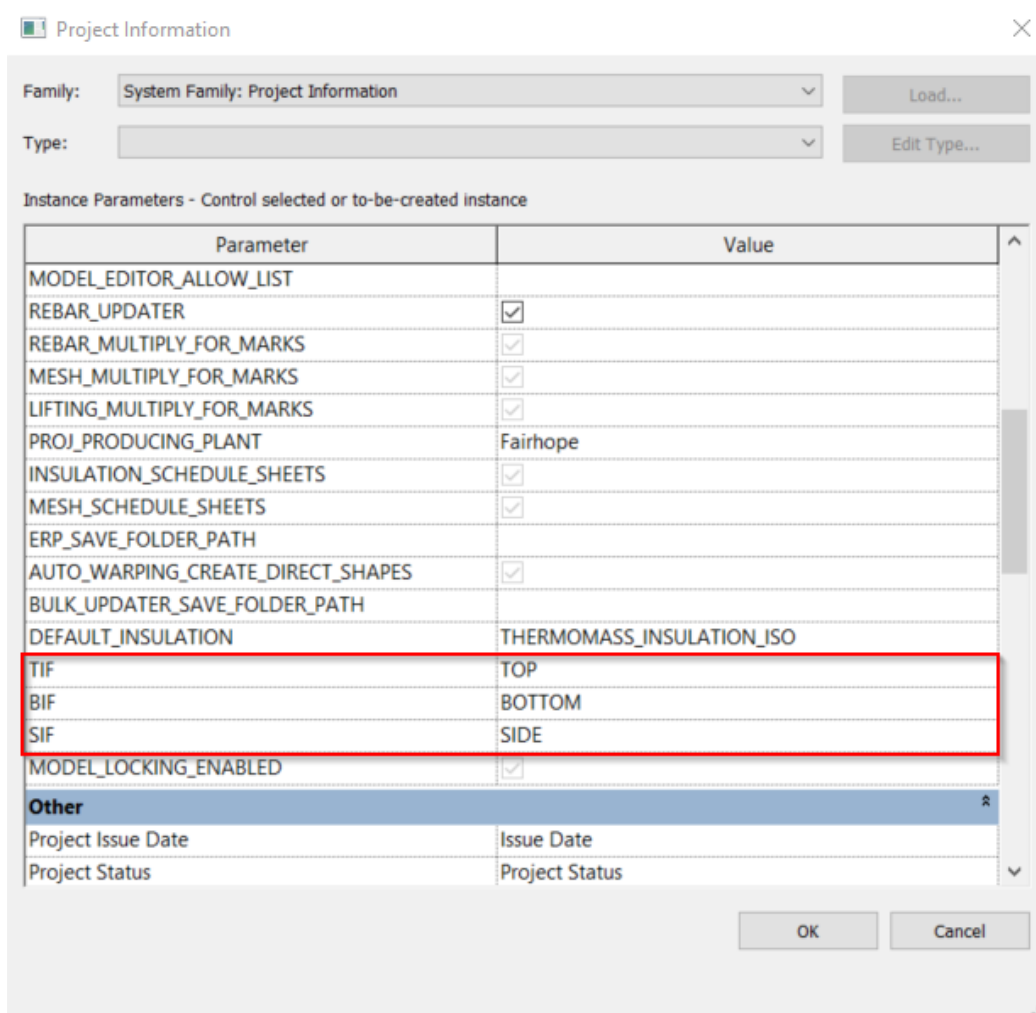
Once you have made this selection, the next edge is the right neighbor of this last pick. For vertical elements it should be the bottom edge of the Top as Cast face and for horizontal elements it should be the right edge as related to the mark end as shown below:



After selecting the final edge, you will see a graphic representation of your selected top as cast face and the orientation of the X (red), Y (green), and Z (blue) axes of the assembly's origin relative to the sheet on which the views will be placed. The "X" direction of the view will be aligned with the horizontal edge of the drawing sheet. While it may be tempting to re-orient this to produce a different orientation on the sheet the user is encouraged to maintain a standard method of setting the assembly origin such that the process of setting the origin is consistent. Rotations of views on the sheets can be affected through a properly configured template with the EDGE^R Template Creator Tool and automatically incorporated in ticket views.

# Assembly Tools: Top as Cast Tool

Additionally, Top as Cast will assign a Top in Form, Bottom in Form, or Side in Form value to the LOCATION\_IN\_FORM parameter for embeds within the assembly being processed. The default values assigned for these designations are TIF, BIF, and SIF, respectively. Using the TIF, BIF, and SIF parameters within Project Information, users can be assigned custom values for these rather than utilizing the default values. If TIF, BIF, and SIF do not exist in the Project Information window as options, run the Project Shared Parameters tool located under the Admin tab to add them.



Project Information

Family: System Family: Project Information Load...

Type: Edit Type...

Instance Parameters - Control selected or to-be-created instance

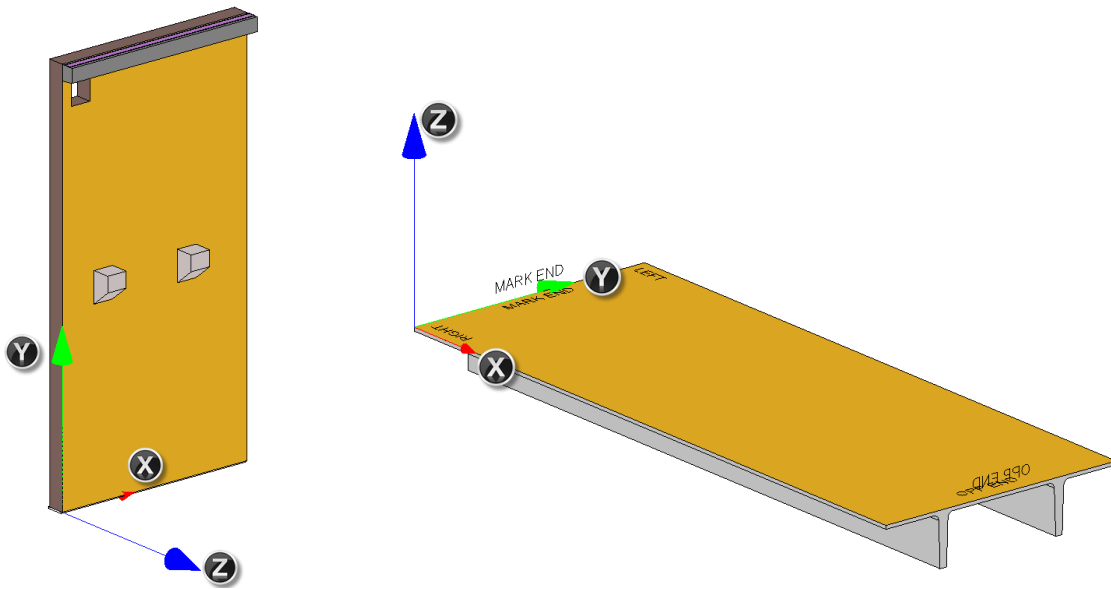
Parameter	Value
MODEL_EDITOR_ALLOW_LIST	
REBAR_UPDATER	<input checked="" type="checkbox"/>
REBAR_MULTIPLY_FOR_MARKS	<input checked="" type="checkbox"/>
MESH_MULTIPLY_FOR_MARKS	<input checked="" type="checkbox"/>
LIFTING_MULTIPLY_FOR_MARKS	<input checked="" type="checkbox"/>
PROJ_PRODUCING_PLANT	Fairhope
INSULATION_SCHEDULE_SHEETS	<input checked="" type="checkbox"/>
MESH_SCHEDULE_SHEETS	<input checked="" type="checkbox"/>
ERP_SAVE_FOLDER_PATH	
AUTO_WARPING_CREATE_DIRECT_SHAPES	<input checked="" type="checkbox"/>
BULK_UPDATER_SAVE_FOLDER_PATH	
DEFAULT_INSULATION	THERMOMASS_INSULATION_ISO
TIF	TOP
BIF	BOTTOM
SIF	SIDE
MODEL_LOCKING_ENABLED	<input checked="" type="checkbox"/>
<b>Other</b>	
Project Issue Date	Issue Date
Project Status	Project Status

OK Cancel



# Assembly Tools: Top as Cast Tool

Graphic Visualization:



The graphic is temporary visualization drawn on top of the view. It, the visualization (arrows and face), is an element in the Revit system and can be selected and deleted if desired. The visualization will go away on its own after a few seconds. The visualization leverages the Autodesk Analysis Visualization Framework and you can read more about it in the Autodesk Revit help. Note the axis labels will not be shown on the visualization, they are only for annotation on the above images.

Once the Top As Cast Tool has been run, the assembly is now ready for shop ticket creation.