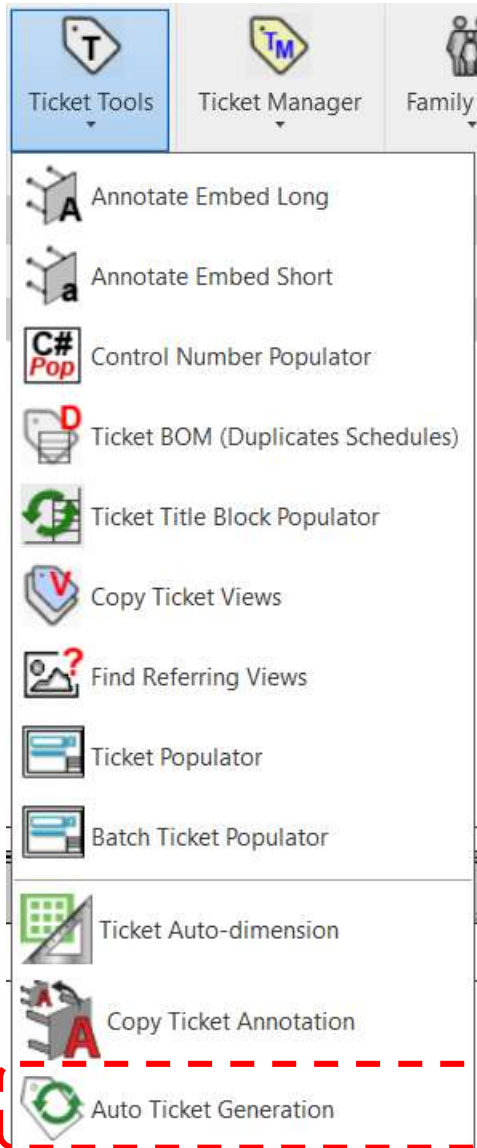


Ticket Tools: Auto Ticket Generation

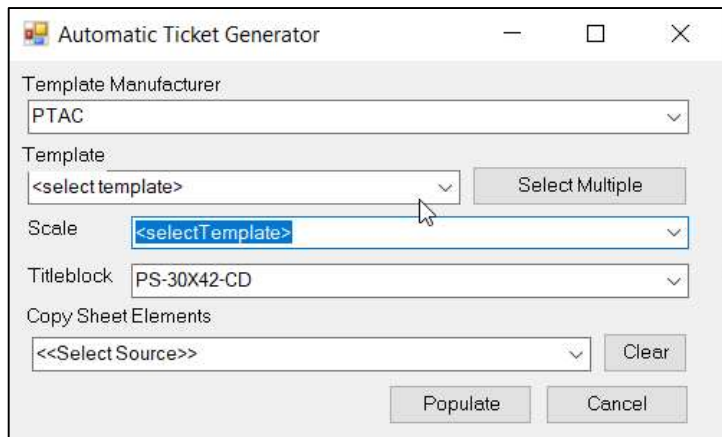


Programmed Result of Tool:

The Auto Ticket Generation tool is meant to provide a “one-step” option for shop ticket creation. The tool will leverage the EDGE ticket populator to generate a ticket for an assembly based on a created template, then generate dimensions and callouts for elements in that assembly.

Steps to Perform Tool Operation:

1. Select the assembly (or assemblies) for which to create shop tickets
2. Select a template or templates to form the ticket from (sheets will be created in the order that the templates are listed for the multi-selection workflow)
3. (OPTIONAL) Select a source assembly sheet from which to copy legends and annotations
4. The created sheets and views will have dimensions and callouts created for all elements in the piece that have EDGE dim lines. Additionally, “Overall” dimensions will be created for concrete extents



Expected Interactions:

- Assembly views will be shifted to the upper-left corner of the sheets to maximize the usable area.
- The “Copy Sheet Elements” options allows you to copy specific views and annotations from other assemblies in the project.
 - Legends and Symbols will be copied from the selected assembly’s sheets over to the corresponding sheets generated by the tool.
 - Text Notes, Detail Items, Detail Components, Filled/Masking Regions, Detail lines, and Symbols will be copied from the selected assembly’s views over to the corresponding assembly views generated by the tool. (View names must match)



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Expected Interactions:

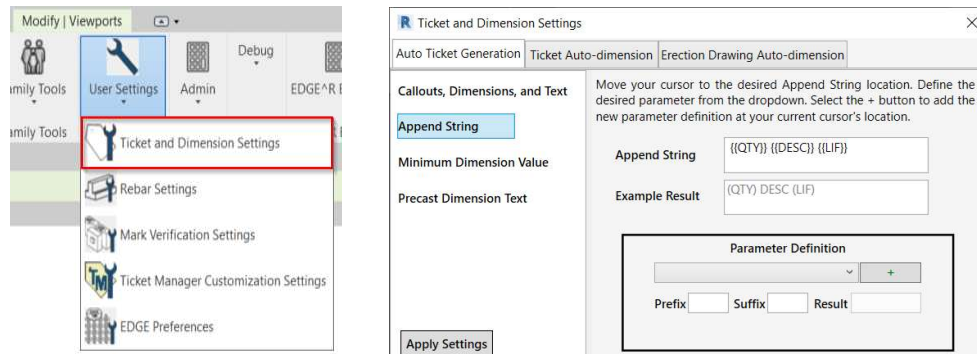
- Dimension alignment and side are based on locations of dimensioned elements/references. In-line references will be dimensioned based on the density of the element on either side of the “center-line” of the piece
- Eligibility for both dimensioning and callouts are based on element category and presence of EDGE Dim lines.
 - Dimensioning and Callouts
 - Must be of Specialty Equipment or Generic Model category
 - Must contain EDGE Dim Lines
 - Must not have a MANUFACTURE_COMPONENT that contains “RAW CONSUMABLE”
 - Callouts
 - Family Name and Manufacture Component must not contain:
 - CORBEL
 - PILASTER
 - LDGE
 - LEDGE
 - CORNICE
 - SOLID_ZONE_RECTANGULAR
 - SOLID_ZONE_TAPERED
 - SOLID_ZONE
 - ADDON
- Dimensioning and Callouts will work with varying success with custom dimension, text, and callout styles, but our workflow is optimized for the following default styles/families:
 - Callout Family:
 - AUTO_TICKET_CALLOUT.rfa (provided with other EDGE content)
 - Dimension Styles:
 - “PTAC - TICKET (FIXED TO DIM. LINE)” for general dimensions
 - “PTAC - TICKET (GAP TO ELEMENT)” for OVERALL dimensions
 - Text Style:
 - “PTAC - TICKET TEXT”
- Contour/Blockout dimensions will only go to prismatic vertices in the view direction
- Contour/Blockout dimensions will only be placed in the first instance of each view for the assembly. Duplicate views will not include these dimensions.
- Contour dimensions will include vertices that make up the outer shape of the piece
- Blockout dimensions will include vertices of cutouts that are contained inside the piece.
- Dimension values will only be upset if the width of the text is greater than 90% of the overall width of the segment.
- Equality formula will be used in dimension strings with equivalent segments only if there are no upset-eligible dimension segments when the use equality formula setting is applied.
- Text will be placed beside each dimension string indicating the quantity of elements dimensioned to, their mark, and their location in form for elements with a MANUFACTURE_COMPONENT containing EMBED. This will be placed using the last used text style in the project if the default text style does not exist.
- Callouts will include “(TYP)” at the end if all the elements with that control mark are dimensioned together in the same dimension string and have the same LOCATION_IN_FORM.



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Customization:

The result of the Auto Ticket Generation tool can be customized using the Ticket and Dimension Settings under the User Settings tab.



- Callouts, Dimensions, and Text
 - From the dropdowns, select which families to use for callouts, the dimension style for overall dimensions, the dimension style for general dimensions, and the append string text style. Check whether to apply Equality Formula to dimensions if appropriate.
- Append String
 - This tab allows you to build what the append string should look like for dimension strings placed by this tool.
 - Place your cursor at the desired location in the Append String field.
 - From the dropdown, select which parameter to add to the append string.
 - You can add prefixes and suffixes for the quantity, description, and location in form parameters in an append string.
 - The Result field will display what the selected parameter with its prefixes/suffixes looks like.
 - Selecting the + button will add the current parameter with its prefixes/suffixes to the current cursor's location in the Append String field.
 - The Example Result field displays what the append string would look like next to a dimension string.
 - If an element doesn't have a location in form parameter, then the LIF Parameter Definition does not apply and will not be included in the real append string.
- Minimum Dimension Value
 - Set the minimum spacing in feet and/or inches between like elements in a single dimension string. Any elements with spacing less than the defined minimum will be omitted from inclusion in the dimension string. These elements would still count toward the assigned Quantity value in the append string if Quantity was included.
- Prestcast Dimension Text
 - Using these fields, the following default append string values can be customized
 - OVERALL – defines the maximum extents of the precast member
 - CONTOUR – defines changes in the geometry along the perimeter of the precast piece
 - BLOCKOUT – defines openings completely within the precast member

Ticket Tools: Auto Ticket Generation

Controlling which view elements get dimensioned and called out:

- Within your material type families, build in the following shared parameters (these are available in the Shared_Params_2015_v01.txt file):
 - DIM_T_B – If this is checked for an instance, then that element will be dimensioned to in the Top Elevation and Bottom Elevation views (if the family has EdgeDimLines)
 - DIM_F_B – If this is checked for an instance, then that element will be dimensioned to in the Front Elevation and Back Elevation views (if the family has EdgeDimLines)
 - DIM_L_R – If this is checked for an instance, then that element will be dimensioned to in the Left Elevation and Right Elevation views (if the family has EdgeDimLines)
 - CALLOUT_ALWAYS – If this is checked for an instance, then that element will be called out in all views
 - CALLOUT_DIM – If this is checked for an instance, then that element will only be called out in the views that it is dimensioned in
- Whether you build these parameters into your families or not, you will still have the option to define or modify what elements should be called out and dimensioned per view when you run the Auto Ticket Generation tool
 - To do so, check the box for “Dimension and Callout Customization” in the Auto Ticket Generation window (as shown in the left image below)
 - The “Dimension and Callout Customization” window (as shown in the right image below) will appear
 - Use the Assembly dropdown to choose which assembly instance you are customizing
 - The table will display a row for each material type element within the assembly
 - Each row is based on the CONTROL_MARK parameter
 - Use the checkboxes to define which views the element should be dimensioned and called out in
 - Modifying the checkbox values within this window will not modify the actual parameter values on the model element
 - Below defines the checkbox color coding:
 - Black checkmark – all instances for that mark grouping within the assembly have that parameter value toggled on
 - Gray checkmark – all instances for that mark grouping within the assembly have a null value for that parameter (either the parameter does not exist in the family, or a value has not been assigned)
 - No checkmark – all instances for that mark grouping within the assembly have that parameter value toggled off
 - Box is gray – instances of that mark grouping within the assembly do not all have the same value assigned to that parameter

Automatic Ticket Generator

Template Manufacturer: PTAC

Template: PTAC - T GIRDER TEMPLATE (3 VIEWS) [Select Multiple]

Scale: 3/8" = 1'-0"

Titleblock: TB_TICKET_MC_24-36

Copy Sheet Elements: <<Select Source>> [Clear]

Dimension and Callout Customization [Populate] [Cancel]

Dimension and Callout Customization

Assembly: TG01

CONTROL_MARK	DIM_T_B	DIM_F_B	DIM_L_R	CALLOUT_ALWAYS	CALLOUT_DIM
GP365	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
MK401	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
MK402	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
S9397	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
SL3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

[OK] [Cancel]



Ticket Tools: Auto Ticket Generation

Known Limitations:

- Rounded edges in concrete will not dimension correctly
- View placement on sheets can be incorrect due to sizing and shape of the views (usually due to annotations and section cuts)
- Dimension alignment and side are based on locations of dimensioned elements/references. In-line references will be dimensioned based on the density of the element on either side of the “center-line” of the piece
- If the default dimension styles or callout family does not exist in the project, then the last used dimension style and/or callout family will be utilized by Auto Ticket Generation
- Dimensioning will not support running dimensions
- Overall dimensions will not be inclusive of any add-on concrete. It will only account for the structural framing piece alone.

