The
Staging ToolSet 2
Suite

build 2.4343

manual

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Staging ToolSet 2 is a suite of Vectorworks® Plug-In Objects that enables you to insert Hybrid (2D and 3D) models of stage and riser sections, irregularly-shaped stage pieces, "stage-style" step units, and "stage-style" ramps.

The suite includes...:

- *StageDeck 2* - for creating standard stage and riser sections - both rectangular and round or "pie" pieces.
- *StagePlug 2* - for creating irregularly-shaped stage pieces - both flat-faced and curved.
- *StageSteps 2* - for creating "stage-style" step units.
- *StageRamp 2* - for creating "stage-style" ramps.

Notable features:

- Vectorworks Spotlight® and Designer® are not required. All will work in any 2019 or newer Vectorworks® product.

- Settings like basic structure, dimensions, caster creation, hardware profile, and rail visibility and format are all changeable on-the-fly.

- All 3D model elements are automatically textured. *NEW in Staging ToolSet 2*, 3D colors and textures are now chosen and applied directly through a new "3D Options" dialog, which displays thumbnails of available textures. The tools recognize textures in the current drawing, as well as Vectorworks® and Spotlight® *Stage* defaults.

- *NEW in Staging ToolSet 2*, text display options have been greatly expanded with a new "Text Options" dialog and the ability to show multiple text elements, such as stage height, purpose, area, set cart ID, and note. *NEW in Staging ToolSet 2.2*, dimensions included in the shown text blocks can be presented in units other than the current drawing units - and, in two different units at the same time. As with other Landru Design tools, the resulting text blocks can be dragged to different locations.

- Various data can be tracked for WorkSheets and Reports.

- *NEW in Staging ToolSet 2.1* is the new *StageRamp 2* object. Given a stage height, this tool creates "stage-style" ramps based on ramp floor length, actual ramp length, ramp angle, ramp rise:run ratio, or ramp grade/pitch.

- *NEW in Staging ToolSet 2.1* are several rail improvements to *StageDeck 2* and *StageSteps 2* (some of which are also featured in *StageRamp 2*), including general refinement, rails for round *StageDeck 2* objects, and the ability to add additional horizontal and vertical elements. *NEW in Staging ToolSet 2.2*, different rail types can be defined for each of a *StageDeck 2* objects's faces.

- *NEW in Staging ToolSet 2.1*, leg placement in round *StageDeck 2* and *StagePlug 2* objects is improved.

- *NEW in Staging ToolSet 2.1*, *StageSteps 2* can display the same pitch, grade, and angle information as *StageRamp 2*.

- *NEW in Staging ToolSet 2.1*, *StageDeck 2* can create round decks based on stage radius or diameter (not just diameter).

- *NEW in Staging ToolSet 2*, separate deck/step tops, trim, and frames are now created, allowing more realistic transparent or grated objects to be created.

- A *NEW in Staging ToolSet 2* the *StageSteps 2* type, "Solid Free-Standing," has been added.

- A *NEW in Staging ToolSet 2.204* the *StageSteps 2* type, "Open Free-Standing," has been added.

- The different parts of each staging object can be automatically assigned to Classes, allowing users to control part visibilities and to take advantage of Vectorworks'® by-Class texture assignment. *NEW in Staging ToolSet 2.4*, users can choose which parts are assigned to Classes and can define custom Class names.

- *NEW in Staging ToolSet 2.41*, *StageRamp 2* can have a vertical bottom end and/or extended legs for doing things like placing ramps that bridge from one *StageDeck 2* model to another.

- *NEW in Staging ToolSet 2.43*, the Vectorworks® Resource Selector system is used for choosing custom Textures specified in the "3D Options..." dialog.

- *NEW in Staging ToolSet 2.4302* are data fields for brand, model, vendor, and cost.
- *NEW in Staging ToolSet 2.4302* is the option to display text blocks in 3D.

- *NEW in Staging ToolSet 2.4302* is the option to add blocks under *StageDeck 2* and *StagePlug 2* legs.
- *NEW in Staging ToolSet 2.432* is the option to add additional horizontal bars and uprights for *StageSteps 2* self-adjusting structure railings.

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Starting with version 2.432, the *Staging ToolSet 2* tools require Vectorworks® 2019 or newer.

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Installation

If the tools were installed through the Vectorworks 2021® (or newer) Partner Products system, this section does not apply.

Using the Vectorworks® Plug-in Manager Installer:

1. With Vectorworks® running, open the Plug-in Manager through your Vectorworks® menu ([Tools][Plug-ins][Plug-in Manager...]).
2. Select the "Third-party Plug-ins" tab.
3. Click the "Install..." button.
4. In the dialog that opens, find the Zip file that you downloaded from our server. Select that file and click the "Open" button. Contents of the Zip file will be copied into the appropriate folders in your User Folder structure:
    - Manual ➞ "...Plug-ins\Landru Manuals"
    - *LandruStrings.vwr* ➞ "...Plug-ins"
    - Tools (*.vso files) and Commands (*.vsm files) ➞ "...Plug-ins\Landru Tools"
    - *Texture_Destroyer_20**.vwx* ➞ "...Plug-ins\Landru Utilities" *(This file contains a script for users who are needing to open files created in Vectorworks® versions older than 2014 and are having issues with Textures created by our tools not being generated correctly. If this applies to you, open the file and follow the instructions. If not, simply ignore this folder and file.)*

    The installer will also move pre-existing copies of any Landru Design Tools and Commands to the "...Plug-ins\Landru Tools" folder.
5. In the dialog that opens, click the "Restart" button.
6. After re-opening Vectorworks®, add the newly-installed tools and commands to your Workspace. See below if you're not sure how to do that.

Manually installing the Tools and Commands:

UnZip the Zip file you downloaded, **keeping the folder structure it contains intact**. You will end up with three folders, the contents of which will need to be copied as-directed, **without Vectorworks® running**:

"Landru Manuals"	**"Landru Utilities"**
This folder contains the PDF manual for *Staging ToolSet 2*. Copy this folder to wherever you'd like on your hard-drive.	This folder contains a file called "Texture_Destroyer_20**.vwx." This file contains a script for users who are needing to open files created in Vectorworks® versions older than 2014 (including Template files) and are having issues with Textures created by our tools not being generated correctly. If this applies to you, copy this folder to wherever you'd like on your hard-drive, open the file, and follow the instructions. If not, simply ignore or delete this folder and file.

"Plug-Ins"

This folder and its sub-folder contain seven files: the actual Plug-In files, 2 Command files, and a resource file.

As the folder name hints, copy the contents of the downloaded "Plug-ins" folder into your Vectorworks® 2024 (or, 2023, 2022, 2021, or 2020) "Plug-ins" folder. The "Plug-ins" folder is found either in your main application folder or in your User folder.

If you have older versions of the supplied files installed, you'll need to delete the old files or move them to another folder before adding the new files.

If you wish, the *.vso and *.vsm files can be placed in a sub-folder of the Plug-ins folder other than "Landru Tools" but *LandruStrings.vwr* **MUST** **be placed in the "Plug-Ins" folder.**

After copying the folders and files and re-opening Vectorworks®, add the newly-installed tool and commands to your Workspace. See below if you're not sure how to do that.

Adding the Tools and Commands to your Workspace:

1. Click...[Tools]...[Workspaces]...[Workspace Editor]. Make sure "Edit current workspace" is selected and click "OK."
2. In the resulting dialog, click the "Tools" tab.
3. Scroll down the "Tool" section (*the left side*) until you see the "Landru" section. Click the "+."
4. Drag the desired Tool icons to an existing Tool Set in the "Palette" section (*the right side*). If desired, drag "New Tool Set" into the "Palette" section to create a new Tool Set.

Optional:
5. Click the "Menus" tab.
6. Scroll down the "Commands" section (*the left side*) until you see the "Landru" section. Click the "+."
7. Drag the desired Command items into the desired positions in the "Menus" section (the right side).
8. Click "OK."

Using *Staging ToolSet 2*

StageDeck 2, *StageSteps 2*, and *StageRamp 2* work the same way. Choose one of the icons from the tool palette into which you added it earlier. A ghost image of a deck, step unit, or ramp will appear. Click in your drawing to place the piece. Rotate the object to the desired angle (like placing Vectorworks® symbols) and click again. With the newly-placed object selected, use the Object Info palette to choose the desired basic shape and structure and to make adjustments.

StagePlug 2 works in a similar fashion to the Vectorworks® 2D Polygon and Polyline tools. Choose the *StagePlug 2* icon from the tool palette to which you added it earlier. Define the corners or vertices of your intended *StagePlug 2* piece by clicking in at least 3 places in your drawing. Either click back on your first point or double-click to finish. You can resize or reshape the *StagePlug 2* model outline by double-clicking the model and dragging control points.

The Check and Add License Keys dialog may appear the first time you use one of these tools. If so, paste/enter the key provided by Landru Design, click the "Add" button, and then the "OK" button. If the key entered is correct, you should not see this dialog again. If you don't have a key, visit the Landru Design Web site for information about purchasing a license. *(The Check or Add Landru Keys command that you may have added to your Workspace will allow you to check which Landru Design license keys are installed and to add additional keys as-needed.)*

Staging ToolSet 2's different tools and settings are detailed in the pages that follow...

> *Please forgive any discrepancies between this manual, its illustrations, and reality. It is often easier*
> *to make software fixes and/or additions than it is to keep a manual current.*

StageDeck 2 (rectangular) parameters
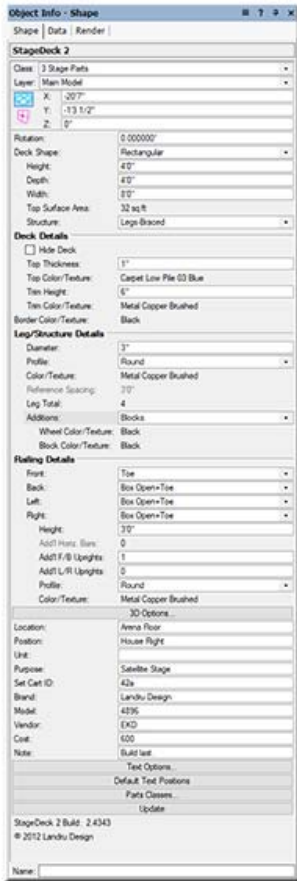
Class, Layer, **X**, **Y**, **Z**, and **Rotation:** Settings similar to other Vectorworks® symbols and objects. *("Z" is the distance from the drawing's ground plane to the bottom of the StageDeck 2 instance.)*

Deck Shape: A popup with choices of basic deck top shapes: "Rectangular" and "Round."

Height, **Depth**, and **Width:** The overall dimensions of the *StageDeck 2* object. *(Shown are the parameters for "Rectangular" decks. Other parameters are shown for "Round" decks.* See pages 12-12 for information on creating round decks.*)*

Top Surface Area: The overall surface area of the deck top.

Structure: The general structure of the elements supporting the deck top: "Legs-Basic," "Legs-Braced," "Folding," "Deck Only," "Border," and "Simple." For the 3D elements, "Simple" uses settings assigned using the Vectorworks® Attributes palette. The other structures' color and texture attributes are assigned through the "3D Options" dialog, explained further below.

Deck Details:

Hide Deck: Hides the deck portion of the *StageDeck 2* object, creating only the *StageDeck 2* supporting structure. *(Only enabled if the "Legs-Braced" Structure is chosen.)*

Top Thickness: The thickness of the deck top. *(Disabled if the "Border" or "Simple" Structure is chosen.)*

Top Color/Texture: The Color and/or Texture of the deck top as assigned through the "3D Options" dialog.

Trim Height: The height of the trim surrounding the deck top. *(Disabled if the "Border" or "Simple" Structure is chosen.)*

Trim Color/Texture: The Color and/or Texture of the deck trim as assigned through the "3D Options" dialog. *(Disabled if the "Border" or "Simple" Structure is chosen.)*

Border Color/Texture: The Color and/or Texture of the border as assigned through the "3D Options" dialog. *(Only enabled if the "Border" Structure is chosen.)*

Leg/Structure Details:

Diameter: The diameter of each leg or appropriate structure piece. *(Disabled if the "Simple" or "Border" Structure is chosen.)*

Profile: The tube profile of each leg or appropriate structure piece: "Square," "Octagonal," or "Round." . *(Disabled if the "Simple" or "Border" Structure is chosen.)*

Color/Texture: The Color and/or Texture of the legs and/or supporting structure as assigned through the "3D Options" dialog. *(Only enabled if the "Legs-Basic," "Legs-Braced," or "Folding" Structure is chosen.)*

Reference Spacing: The ideal leg-to-leg spacing you wish. *StageDeck 2* will calculate the best actual spacing based on even divisions of the length of a given deck side. *(Only enabled if the "Legs-Basic" Structure is chosen.)*

Leg Total: The total number of legs created by the *StageDeck 2* object.

Additions: Optional additions to include for each leg: "None," "Casters," or "Blocks." *(Only enabled if the "Legs-Basic" or "Legs-Braced" Structure is chosen.)*

Wheel Color/Texture: The Color and/or Texture of the caster wheels as assigned through the "3D Options" dialog. *(Only enabled if the "Folding" Structure or is chosen or the Additions "Casters" option is chosen.)*

Block Color/Texture: The Color and/or Texture of the blocks as assigned through the "3D Options" dialog. *(Only enabled if the Additions "Blocks" option is chosen.)*

Railing Details:

Front, **Back**, **Left**, and **Right:** Choices of deck railing types that can be created for each of the four Rectangular *StageDeck 2* faces: "None," "Straight," "Box Open," "Box Filled," "Toe," "Straight+Toe," "Box Open+Toe," and "Box Filled+Toe."

Height: The height of the top railing(s). *(Only enabled if the "Straight," "Box Open," "Box Filled," "Straight+Toe," "Box Open+Toe," or "Box Filled+Toe" Style is chosen for one of the four faces.)*

Add'l Horiz. Bars: The number of additional horizontal railing bars on a given deck side. *(Only enabled if the "Straight" or "Straight-Toe" Style is chosen for one of the four faces.)*

Add'l F/B Uprights and **Add'l L/R Uprights:** The number of additional vertical pieces on a given deck side (either Front and Back or Left and Right). *(Only enabled if the "Straight," "Box Open," "Box Filled," "Straight+Toe," "Box Open+Toe," or "Box Filled+Toe" Style is chosen for one of the four faces.)*

StageDeck 2 parameters, continued...

Profile: The tube profile of the railing(s): "Square," "Octagonal," or "Round." *(Only enabled if the "Straight," "Box Open," "Box Filled," "Straight+Toe," "Box Open+Toe," or "Box Filled+Toe" Style is chosen for one of the four faces.)*

Color/Texture: The Color and/or Texture of the rail(s) as assigned through the "3D Options" dialog.

3D Options...: Opens the "3D Options" dialog, through which colors and/or textures are assigned to 3D parts. *(See page 18 for more information.)*

Location: The deck's location.

Position: The deck's position.

Unit: The deck's unit number or designator.

Purpose: The deck's purpose.

Set Cart ID: The deck's set cart ID.

Brand: The deck's brand.

Model: The deck's model.

Vendor: Vendor information for the deck.

Cost: The cost of the deck.

Note: A general note (such as a stock number).

Text Options...: Opens the "Text Options" dialog, through which text elements are shown, hidden, and/or modified. *(See page 18 for more information.)*

Default Text Positions: Returns text to its default location. *(Only enabled if one or more text elements have been displayed.)*

Parts Classes...: Opens the "Parts Classes" dialog, used to assign the different elements comprising the *StageDeck 2* model to different Classes. *(See page 19 for more information.)*

Update: Regenerates the *StageDeck 2* object.

StageDeck 2 Build: The build number of the *StageDeck 2* Plug-In Object code.

StageDeck 2 (round) parameters

Class, Layer, X, Y, Z, and Rotation: Settings similar to other Vectorworks® symbols and objects. *("Z" is the distance from the drawing's ground plane to the bottom of the StageDeck 2 instance.)*

Deck Shape: A popup with choices of basic deck top shapes: "Rectangular" and "Round."

Height, Radius, Diameter, and Sweep Angle: The overall dimensions of the *StageDeck 2* object. *(Entering a Radius value will automatically calculate the Diameter value and vice-versa.)* *(Shown are the parameters for "Round" decks. Other parameters are shown for "Rectangular" decks.* See pages 9-10 for more information on creating rectangular decks.*)*

Top Surface Area: The overall surface area of the deck top.

Structure: The general structure of the elements supporting the deck top: "Legs-Basic," "Deck Only," "Border," and "Simple." For the 3D elements, "Simple" uses settings assigned using the Vectorworks® Attributes palette. The other structures' color and texture attributes are assigned through the "3D Options" dialog, explained further below.

Deck Details:

Top Thickness: The thickness of the deck top. *(Disabled if the "Border" or "Simple" Structure is chosen.)*

Top Color/Texture: The Color and/or Texture of the deck top as assigned through the "3D Options" dialog.

Trim Height: The height of the trim surrounding the deck top. *(Disabled if the "Border" or "Simple" Structure is chosen.)*

Trim Color/Texture: The Color and/or Texture of the deck trim as assigned through the "3D Options" dialog. *(Disabled if the "Border" or "Simple" Structure is chosen.)*

Border Color/Texture: The Color and/or Texture of the border as assigned through the "3D Options" dialog. *(Only enabled if the "Border" Structure is chosen.)*

Leg/Structure Details:

Diameter: The diameter of each leg.

Profile: The tube profile of each leg: "Square," "Octagonal," or "Round."

Color/Texture: The Color and/or Texture of the legs as assigned through the "3D Options" dialog. *(Only enabled if the "Legs-Basic" Structure is chosen.)*

Reference Spacing: The ideal leg-to-leg spacing you wish. *StageDeck 2* will calculate the best actual spacing based on even divisions of the length of a given deck side. *(Only enabled if the "Legs-Basic" Structure is chosen.)*

Leg Total: The total number of legs created by the *StageDeck 2* object.

Additions: Optional additions to include for each leg: "None," "Casters," or "Blocks." *(Only enabled if the "Legs-Basic" or "Legs-Braced" Structure is chosen.)*

Wheel Color/Texture: The Color and/or Texture of the caster wheels as assigned through the "3D Options" dialog. *(Only enabled if the "Folding" Structure or is chosen or the Additions "Casters" option is chosen.)*

Block Color/Texture: The Color and/or Texture of the blocks as assigned through the "3D Options" dialog. *(Only enabled if the Additions "Blocks" option is chosen.)*

Railing Details:

Start Radius, **End Radius**, and **Arc:** Choices of deck railing types that can be created for each of the three Round *StageDeck 2* faces: "None," "Straight," "Toe," and "Straight+Toe."

Height: The height of the top railing(s). *(Only enabled if the "Straight" or "Straight+Toe" Style is chosen for one of the three faces.)*

Add'l Horiz. Bars: The number of additional horizontal railings on a given deck side. *(Only enabled if the "Straight" or "Straight+Toe" Style is chosen for one of the three faces.)*

Add'l Radii Uprights and **Add'l Arc Uprights:** The number of additional vertical pieces on a given deck side (each of the radii or the arc). *(Only enabled if the "Straight," or "Straight+Toe" Style is chosen for one of the three faces.)*

Profile: The tube profile of the railing(s): "Square," "Octagonal," or "Round." *(Only enabled if the "Straight" or "Straight+Toe" Style is chosen for one of the three faces.)*

Color/Texture: The Color and/or Texture of the railing(s) as assigned through the "3D Options" dialog.

3D Options...: Opens the "3D Options" dialog, through which colors and/or textures are assigned to 3D parts. *(See page 18 for more information.)*

StageDeck 2 parameters, continued...

Location: The deck's location.

Position: The deck's position.

Unit: The deck's unit number or designator.

Purpose: The deck's purpose.

Set Cart ID: The deck's set cart ID.

Brand: The deck's brand.

Model: The deck's model.

Vendor: Vendor information for the deck.

Cost: The cost of the deck.

Note: A general note (such as a stock number).

Text Options...: Opens the "Text Options" dialog, through which text elements are shown, hidden, and/or modified.

Default Text Positions: *Returns text to its default location. (Only enabled if one or more text elements have been displayed.)*

Parts Classes...: Opens the "Parts Classes" dialog, used to assign the different elements comprising the *StageDeck 2* model to different Classes..

Update: Regenerates the *StageDeck 2* object.

StageDeck 2 Build: The build number of the *StageDeck 2* Plug-In Object code.

StagePlug 2 parameters

Class, Layer, X, Y, Z, and Rotation: Settings similar to other Vectorworks® symbols and objects. *("Z" is the distance from the drawing's ground plane to the bottom of the StagePlug 2 instance.)*

Stage Height: The height of the *StagePlug 2* object.

Top Surface Area: The overall surface area of the deck top.

Structure: The general structure or type of the elements supporting the deck top: "Legs-Basic," "Deck Only," "Border," and "Simple." For the 3D elements, "Simple" uses settings assigned using the Vectorworks® Attributes palette. The other structures' color and texture attributes are assigned through the "3D Options" dialog, explained further below.

Deck Details:

Top Thickness: The thickness of the deck top. *(Disabled if the "Border" or "Simple" Structure is chosen.)*

Top Color/Texture: The Color and/or Texture of the deck top as assigned through the "3D Options" dialog.

Trim Height: The height of the trim surrounding the deck top. *(Disabled if the "Border" Structure is chosen.)*

Trim Color/Texture: The Color and/or Texture of the deck trim as assigned through the "3D Options" dialog. *(Disabled if the "Border" or "Simple" Structure is chosen.)*

Border Color/Texture: The Color and/or Texture of the border as assigned through the "3D Options..." dialog. *(Only enabled if the "Border" Structure is chosen.)*

Leg Details:

Diameter: The diameter of each leg. *(Only enabled if the "Legs-Basic" Structure is chosen.)*

Profile: The tube profile of each leg: "Square," "Octagonal," or "Round." *(Only enabled if the "Legs-Basic" Structure is chosen.)*

Color/Texture: The Color and/or Texture of the legs and/or supporting structure as assigned through the "3D Options" dialog. *(Only enabled if the "Legs-Basic" Structure is chosen.)*

Reference Spacing: The ideal leg-to-leg spacing you wish. *StagePlug 2* will calculate the best actual spacing based on even divisions of the length of a given deck side.

Leg Total: The total number of legs created by the *StagePlug 2* object.

Additions: Optional additions to include for each leg: "None," "Casters," or "Blocks." *(Only enabled if the "Legs-Basic" Structure is chosen.)*

Wheel Color/Texture: The Color and/or Texture of the caster wheels as assigned through the "3D Options" dialog. *(Only enabled if the Additions "Casters" option is chosen.)*

Block Color/Texture: The Color and/or Texture of the blocks as assigned through the "3D Options" dialog. *(Only enabled if the Additions "Blocks" option is chosen.)*

3D Options...: Opens the "3D Options" dialog, through which colors and/or textures are assigned to 3D parts. *(See page 18 for more information.)*

Location: The plug's location.

Position: The plug's position.

Unit: The plug's unit number or designator.

Purpose: The plug's purpose.

Set Cart ID: The plug's set cart ID.

Brand: The plug's brand.

Model: The plug's model.

Vendor: Vendor information for the plug.

Cost: The cost of the plug.

Note: A general note (such as a stock number).

Text Options...: Opens the "Text Options" dialog, through which text elements are shown, hidden, and/or modified. *(See page 17 for more information.)*

Default Text Positions: Returns text to its default location. *(Only enabled if one or more text elements have been displayed.)*

Parts Classes...: Opens the "Parts Classes" dialog, used to assign the different elements comprising the *StagePlug 2* model to different Classes.. *(See page 19 for more information.)*

Update: Regenerates the *StagePlug 2* object.

StagePlug 2 Build: The build number of the *StagePlug 2* Plug-In Object code.

StageSteps 2 parameters

Class, Layer, X, Y, Z, and Rotation: Settings similar to other Vectorworks® symbols and objects. *("Z" is the distance from the drawing's ground plane to the bottom of the StageSteps 2 instance.)*

Structure: A popup with choices of basic step unit structures: "Self-Adjusting," "Frame Free-Standing," "Solid Free-Standing," "Open Free-Standing," and "Simple." For the 3D elements, "Simple" uses settings assigned using the Vectorworks® Attributes palette. The other structures' color and texture attributes are assigned through the "3D Options" dialog, explained further below.

Create Based On: Optional methods of creating non-"Self-Adjusting" StageSteps 2 objects: "Stage Height and Number of Steps" and "Number of Steps and Step Rise." *(Only enabled if a Structure other than "Self-Adjusting" is chosen.)*

Stage Height: The height of stage with which the StageSteps 2 object is intended to work. If the StageSteps 2 object is inserted on the edge of a StageDeck 2, StagePlug 2, or Spotlight® Stage object, the StageSteps 2 object will import the height of that object. *(Only enabled if a Create Based On method other than "Number of Steps and Step Rise" is chosen.)*

Step Unit Width: The overall width of the step unit - including stringers and frames (but not rails).

Stringer Length: The length of the main side braces or stringers for a "Self-Adjusting" step unit. *(Only enabled if the "Self-Adjusting" Structure is chosen.)*

Stringer Width: The width of stringers (or the main side braces "Self-Adjusting" step units). *(Only enabled if the "Self-Adjusting" or "Open Free-Standing" Structure is chosen.)*

Stringer Type: The type of side stringer for "Open Free-Standing" Structures - "Inside" or "Outside." *(Only enabled if the "Open Free-Standing" Structure is chosen.)*

Add'l Stringers: The number of additional stringers created in-between the two side stringers for "Open Free-Standing" step units. *(Only enabled if the "Open Free-Standing" Structure is chosen.)*

Side Stringer Indent: The distance the "Open Free-Standing" step unit side stringers will be inset relative to the step ends. *(Only enabled if the "Open Free-Standing" Structure and the "Inside" Stringer Type are chosen.)*

Draw Arrow: A pop-up of options to add a direction arrow: "None," "Up," or "Down." *("Up" or "Down" text visibility and attributes are controlled via the "Text Options..." dialog. See page 18 for more information.)*

Arrow Size: The size (in drawing units) for the direction arrow head. *(Only enabled if a "Draw Arrow" option other than "None" is chosen.)*

Step Details:

Number of Steps: The number of steps to be created, not including one at stage height.

Add Top Step at Stage Height: Adds a step at stage height. . *(Only enabled if a Structure other than "Self-Adjusting" is chosen.)*

Top Step Height: The calculated height of the top step.

Single Step Rise: The vertical step-to-step rise distance. If any of the non-"Self-Adjusting" Structures and the "Number of Steps and Step Rise" Create Based On option are chosen, this is an editable value. Otherwise, it is feedback-only.

Step Thickness: The thickness of an individual step. *(Only enabled if a Structure other than "Simple" or "Solid Free-Standing" is chosen.)*

Single Step Depth: The depth of an individual step.

Nosing Depth: The depth of the nosing added to individual "Open Free-Standing" step unit steps. *(Only enabled if the "Open Free-Standing" Structure is chosen.)*

Top Color/Texture: The Color and/or Texture of the step tops as assigned through the "3D Options" dialog.

Trim Color/Texture: The Color and/or Texture of the step trims as assigned through the "3D Options" dialog.

Pitch (calculated):

Angle: Calculated step unit pitch in terms of angle (degrees).

Ratio (rise:run): Calculated step unit pitch in terms of rise: run ratio (1:xx).

Percent (Grade): Calculated step unit pitch in terms of percent or grade.

Leg/Structure Details:

Profile: The tube profile of each leg or appropriate structure piece: "Square," "Octagonal," or "Round."

Color/Texture: The Color and/or Texture of the legs and/or supporting structure as assigned through the "3D Options" dialog.

StageSteps 2 parameters, continued...

Railing Details:

Show Left and **Show Right:** Displays step unit railings.

Height: The height of the railing(s).

Add'l Whole Railings: The number of whole railing assembliess created in-between the two side railings. *(Only enabled if both "Show Left" and "Show Right" are chosen and the "Simple," "Solid Free-Standing," or "Open Free-Standing" Structure is chosen.)*

Add'l Horiz. Bars: The number of additional horizontal railing bars on a given step unit side. *(Only enabled if a Structure other than "Self-Adjusting" is chosen.)*

Add'l Uprights: The number of additional vertical railing supports on a given step unit side railing assembly. *(Only enabled if a Structure other than "Self-Adjusting" is chosen.)*

Profile: The tube profile of the railings(s): "Square," "Octagonal," or "Round."

Color/Texture: The Color and/or Texture of the railing(s) as assigned through the *"3D Options" dialog*.

3D Options...: Opens the "3D Options" dialog, through which colors and/or textures are assigned to 3D parts. *(See page 18 for more information.)*

Location: The step unit's location.

Position: The step unit's position.

Unit: The step unit's unit number or designator.

Purpose: The step unit's purpose.

Set Cart ID: The step unit's set cart ID.

Brand: The step unit's brand.

Model: The step unit's model.

Vendor: Vendor information for the step unit.

Cost: The cost of the step unit.

Note: A general note (such as a stock number).

Text Options...: Opens the "Text Options" dialog, through which text elements are shown, hidden, and/or modified. *(See page 18 for more information.)*

Default Text Positions: Returns text to its default location. *(Only enabled if one or more text elements have been displayed.)*

Parts Classes...: Opens the "Parts Classes" dialog, used to assign the different elements comprising the *StageSteps 2* model to different Classes.. *(See page 19 for more information.)*

Update: Regenerates the *StageSteps 2* object.

StageSteps 2 Build: The build number of the *StageSteps 2* Plug-In Object code.

StageRamp 2 parameters

Class, Layer, **X**, **Y**, **Z**, and **Rotation:** Settings similar to other Vectorworks® symbols and objects.   ("Z" is the distance from the drawing's ground plane to the bottom of the *StageRamp 2* instance.)

Structure: A popup with choices of basic ramp structures: "Legs," "Ramp-Only," "Solid," "Truck Ramp," and "Simple." For the 3D elements, "Simple" uses settings assigned using the Vectorworks® Attributes palette. The other structures' color and texture attributes are assigned through the "3D Options" dialog, explained further below.

Height: The height of the ramp - or the stage with which the *StageRamp 2* object is intended to work. If the *StageRamp 2* object is inserted on the edge of a *StageDeck 2*, *StagePlug 2*, or Spotlight® *Stage* object, the *StageRamp 2* object will import the height of that object.

Extend Legs/Structure: The distance to extend the ramp's legs or structure below the *StageRamp 2* instance's "Z" measurement. *(Only enabled if the "Legs," "Solid," or "Simple" "Structure" is chosen.)*

Width: The overall width of the ramp, not including rails.

Create Based On: A pop-up containing optional methods of creating ramp geometry: "Ramp Length," "Floor Length," "Pitch Angle," "Pitch Ratio," or "Pitch Percent." *(When one option is chosen, the appropriate parameter [of the next 5] is made editable. The other 4 become calculated values.)*

Ramp Length: The length of the actual ramp deck.

Floor Length: The length of the ramp, relative to its "floor run."

Make Bottom End Vertical: A toggle to make the bottom end of the ramp vertical for mating with other model geometry, such as *StageDeck 2* objects. *(Only enabled if the "Legs" or "Ramp Only" "Structure" is chosen.)*

Draw Arrow: A pop-up of options to add a direction arrow: "None," "Up," or "Down". *("Up" or "Down" text visibility and attributes are controlled via the "Text Options..." dialog. See page 18 for more information.)*

Arrow Size: The size (in drawing units) for the direction arrow head. *(Only enabled if a "Draw Arrow" option other than "None" is chosen.)*

Pitch (calculated):

Angle: The ramp pitch or grade in terms of angle degrees.

Ratio (rise:run): The ramp pitch or grade in terms of rise: run ratio (1:xx).

Percent (Grade): The ramp pitch or grade in terms of percent.

Ramp Deck Details:

Top Thickness: The thickness of the ramp's deck top.

Top Color/Texture: The Color and/or Texture of the ramp's deck top as assigned through the "3D Options" dialog.

Trim Height: The height of the trim surrounding the ramp's deck top. *(Disabled if the "Solid" or "Simple" Structure is chosen.)*

Trim Color/Texture: The Color and/or Texture of the deck trim as assigned through the "3D Options" dialog. *(Disabled if the "Solid" or "Simple" Structure is chosen.)*

Leg/Structure Details:

Diameter: The diameter of each leg. *(Only enabled if the "Legs" Structure is chosen.)*

Profile: The tube profile of each leg: "Square," "Octagonal," or "Round." *(Only enabled if the "Legs" Structure is chosen.)*

Color/Texture: The Color and/or Texture of the legs and/or supporting structure as assigned through the "3D Options" dialog.

Reference Spacing: The ideal leg-to-leg spacing you wish. *StageRamp2* will calculate the best actual spacing based on even divisions of the length of a given deck side. *(Only enabled if the "Legs" Structure is chosen.)*

Leg Total: The total number of legs created by the *StageRamp 2* object.

Railing Details:

Show Left and **Show Right:** Displays ramp railings.

Height: The height of the railing(s).

Add'l Whole Railings: The number of whole railing assemblies created in-between the two side railings. *(Only enabled if both "Show Left" and "Show Right" are chosen.)*

Add'l Horiz. Bars: The number of additional horizontal railing bars on a given ramp side.

Add'l Uprights: The number of additional vertical railing supports on a given ramp railing assembly.

StageRamp 2 parameters, continued...

Profile: The tube profile of the rail(s): "Square," "Octagonal," or "Round."

Color/Texture: The Color and/or Texture of the railing(s) as assigned through the "3D Options" dialog.

3D Options...: Opens the "3D Options" dialog, through which colors and/or textures are assigned to 3D parts. *(See page 18 for more information.)*

Location: The ramp's location.

Position: The ramp's position.

Unit: The ramp's unit number or designator.

Purpose: The ramp's purpose.

Set Cart ID: The ramp's set cart ID.

Brand: The ramp's brand.

Model: The ramp's model.

Vendor: Vendor information for the ramp.

Cost: The cost of the ramp.

Note: A general note (such as a stock number).

Text Options...: Opens the "Text Options" dialog, through which text elements are shown, hidden, and/or modified. *(See page 18 for more information.)*

Default Text Positions: Returns text to its default location. (Only enabled if one or more text elements have been displayed.)

Parts Classes...: Opens the "Parts Classes" dialog, used to assign the different elements comprising the *StageRamp 2* model to different Classes.. *(See page 19 for more information.)*

Update: Regenerates the *StageRamp 2* object.

StageRamp 2 Build: The build number of the *StageRamp 2* Plug-In Object code.

3D Options dialog
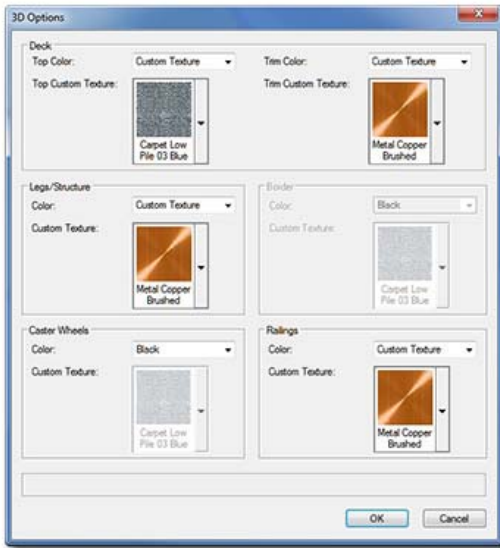
Color: Possible attributes for the 3D portions of the *Staging ToolSet 2* objects. Included here are basic colors, "Class Textures" *(only present if the given part is assigned to a Class in the "Class Options..." dialog)*, and "Custom Texture," which assigns the texture picked in the "Custom Texture" pop-up.

Custom Texture: Renderworks® textures available to the selected *Staging ToolSet 2* object. This list is populated with textures contained in the current document, in files in the default Renderworks® and Spotlight® Stage texture folders, and in the on-line Service Select library. *(Only enabled if the "Custom Texture" color is chosen.)*

To Assign Textures By-Class:
1) The given part MUST be assigned to a Class in the "Class Options..." dialog. *(See below.)*
2) The Class for the given part MUST be set to assign textures. *(Both boxes checked in the "Other" tab at the bottom of the Vectorworks® "Edit Class(es)" dialog.)*
3) "Class Textures" MUST be chosen in the Color pop-up.

Text Options dialog

This dialog opens when you click the "Text Options..." button in the Object Info Palette. Below is the dialog for *StageDeck 2*. The dialogs for the other tools are similar, but contain different items appropriate for each.
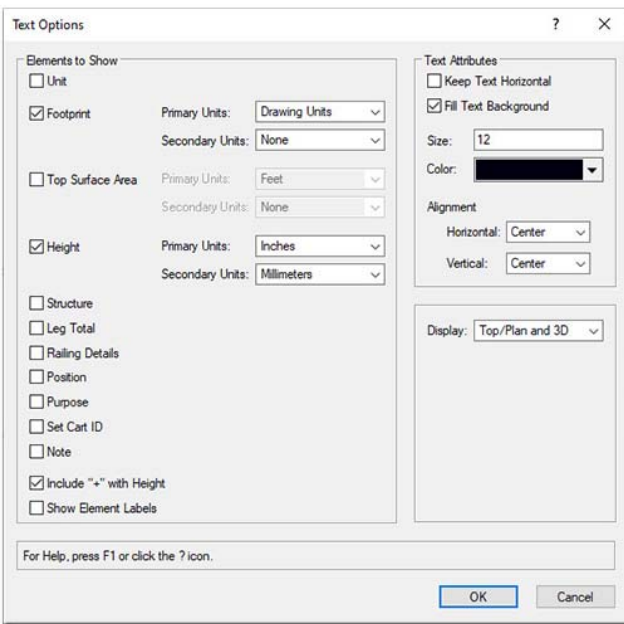
Elements to Show:
A list of potential text elements that can be shown as part of the given *Staging ToolSet 2* model. Only items appropriate for a given *Staging ToolSet 2* object's settings will be enabled.

Primary Units and **Secondary Units:** Options of units used when displaying text elements that include dimensions. "Drawing Units" uses the current drawing's default units settings. Other options are select commonly-used Imperial and Metric units.

Include "+" with Height: Includes the "+" symbol with Height text.

Show Element Labels: Shows labels for each of the individual text elements.

Text Attributes:
Keep Text Horizontal: Keeps text horizontal, regardless of the *Staging ToolSet 2* object's rotation angle.
Fill Text Background: Makes text background opaque.
Size: The size of the text element, in points.
Color: The color of the text element using the Vectorworks® Color Picker.
Horizontal and **Vertical Alignment:** Options for setting text alignment and justification.

Display: Choices of view(s) in which to display text: "Top/Plan Only" or "Top/Plan and 3D." *(The same text and positioning is used for all views.)*

Parts Classes dialog

Class Prefix: The prefix that will be applied to each suggested Class generated if the "Assign Default Classes With Prefix" button is clicked.

Assign Default Classes With Prefix: Populates each of the Class Pop-Ups with suggested Class names, each (except for "Loci") with the prefix as entered in the "Class Prefix" box.

Tops and Treads, **Trim**, **Borders**, **etc.:** The Class to which the given part is assigned. Existing Classes can be chosen or new Classes can be created on-the-fly. "<StageDeck 2 Class>" signifies that the individual part is simply using the given object's overall Class. By-default, "Loci" are assigned to the "NonPlot-Loci" Class and all other parts are assigned to the object's overall Class.

In the example to the left...

Borders and **Legs and Structures** are using the *StageDeck 2* object's overall Class.

Tops and Treads, **Trim**, and **Loci** are all assigning the given parts to Classes generated by clicking the "Assign Default Classes With Prefix" button.

Railings, **Wheels**, **and Text** are assigning elements to custom Classes.