# Release Notes for Modo 11.2v3

## Release Date

20 February 2018

## System Requirements

### Officially Supported Operating Systems

• Mac OS 10.10.x, 10.11.x, and 10.12.x (64-bit only)
• Windows 7, Windows 8, and Windows 10 (64-bit only)
• Linux 64-bit operating system (CentOS/RHEL 7+)

### Minimum Hardware Requirements

• Intel processor(s), Core i3 or higher
• 1 GB available hard disk space (for Modo installation).
• 6 GB available hard disk space (for full content).
• At least 4 GB RAM
• Display with 1920 x 1080 pixel resolution
• Internet connection for product activation and online videos access
• The **Advanced** viewport mode requires an NVIDIA or AMD graphics card with at least 1 GB of graphics memory and drivers that support OpenGL 3.2 or higher.

### Recommended System Requirements

> NOTE:  This information is our best recommendation for the average user. Requirements vary by usage, and individual users may have different requirements from those listed here.

• 2.5+ GHz quad-core processor
• 250+ GB disk space available for caching and temporary files, SSD is preferable
• 16 GB RAM with additional virtual memory*
• Display with 1920 x 1080 pixel resolution
• An NVIDIA or AMD graphics card with the latest drivers
• 2+ GB of graphics memory
• OpenGL 4.4 or higher support

*The use of virtual memory improves stability and helps prevent data loss on large projects.

## Tested Workstation Hardware

The configurations listed below are those that Foundry have tested with Modo. Due to the constantly changing nature and wide variety of computer hardware available in the market, Foundry is unable to officially certify hardware. The list below can be used as a recommendation and does not guarantee that it meets your particular needs.

Please download and install the latest graphics driver from the NVIDIA or AMD websites. Make sure that you are using 8.982.8.1 drivers or higher for AMD cards.

If you encounter any issues, please visit the Support Portal at https://support.foundry.com.

| Tested Workstation Hardware | |
| --- | --- |
| Apple | • MacBook Pro 2017<br>• MacBook Pro (Mid 2015)<br>• MacBook Pro 2014<br>• Mac Pro (Late 2013)<br>• MacBook Pro10, 1<br>• MacPro4, 1<br>• MacPro5, 1<br>• iMac13, 2 |
| Dell | • Dell T1700<br>• Dell T3610<br>• Dell T3620<br>• Dell T5810<br>• Dell T7610<br>• Dell T7910<br>• Dell Precision 3520<br>• Dell Precision Rack 7910<br>• Dell Precision 5510<br>• Dell Precision 5520<br>• Dell Precision 7710<br>• Dell Precision 7720<br>• Dell M2800<br>• Dell M6800<br>• Dell XPS 15 9560 |
| HP | • HP Z800<br>• HP Z640 |

| Tested Workstation Hardware |
| --- |
| • HP Z620<br>• HP Z600<br>• HP Z440 |

| Tested GPU Hardware | |
| --- | --- |
| AMD Prosumer Graphics Cards | • Radeon™ HD 1900 XT<br>• Radeon™ HD 2400 XT<br>• Radeon™ HD 2600 Pro<br>• Radeon™ HD 3870 |
| AMD Enterprise Graphics Cards | • FirePro™ D700<br>• FirePro™ W4170<br>• FirePro™ W5000<br>• FirePro™ W8000<br>• FirePro™ W2100<br>• FirePro™ W5100<br>• FirePro™ W4100<br>• FirePro™ W7100<br>• FirePro™ W8100<br>• FirePro™ W9100<br>• Radeon Pro 560<br>• Radeon Pro WX7100<br>• Radeon Pro WX5100<br>• Radeon Pro WX4100<br>• Radeon R9 M370X |
| NVIDIA Prosumer Graphics Cards | • Geforce GT 750M<br>• Geforce GTX 680<br>• Geforce GTX Titan<br>• Geforce GT 650M<br>• Geforce GTX 1080 Ti<br>• Geforce GTX 1080 |
| NVIDIA Enterprise Graphics Cards | • Quadro® K6000<br>• Quadro® K5200 |

| Tested GPU Hardware | |
|---|---|
| | • Quadro® K5000 |
| | • Quadro® K4200 |
| | • Quadro® K4000 |
| | • Quadro® K2200 |
| | • Quadro® K2000 |
| | • Quadro® K1200 |
| | • Quadro® K600 |
| | • Quadro® K620 |
| | • Quadro® M5000 |
| | • Quadro® M4000 |
| | • Quadro® P4000 |
| | • Quadro® M620 |
| NVIDIA Quadro Graphics Cards: | • P400 |
| | • P600 |
| | • P1000 |
| | • P4000 |
| | • P5000 |

# New Features

## glTF V2 Shader Model

### glTF V2 Shader

A new **glTF** (GL Transmission Format) shader model has been added in this release, which is a file format for 3D scenes and models using the JSON standard.

### glTF V2 Export and Preferences

Modo now supports exporting **glTF** file format and new File I/O preferences have been added.

## Feature Enhancements

• Windows only - Modo now supports SolidWorks 2018.

## Bug Fixes

• BUG ID 57249 - UV: Showing indices in the UV viewport caused Modo to crash.

• BUG ID 55932 - SDK: RayCast Object reading failed.

## Known Issues and Workarounds Specific to Modo 11.2

This section covers known issues and gives workarounds for them, where appropriate.

### Advanced Viewport

• BUG ID 56706 - Unity and Unreal materials are not displayed correctly when first loaded.

   As a workaround, enable and then disable the visibility of the Shader Tree textures.

• BUG ID 55594 - Wireframe is missing from orthographic views.

   As a workaround, change **Line Antialiasing** from **Full** to either **Off** or **System**.

• BUG ID 50810 - Anisotropic texture filtering is lower quality than in the **Default** viewport.

• BUG ID 46995 - Ambient Occlusion display in the **Advanced** viewport is affected by selected item wireframes.

   You can disable **Show Selection** in the **Visibility** options or disable wireframe drawing on the active mesh layers.

### Animation

• BUG ID 53661 - Selecting actions does not always select the correct one. This is caused by copying actions.

   As a workaround, manually edit the tags on the broken actions by selecting them in the **Groups** tab, then save and reload the scene.

### Assemblies

• BUG ID 36452 - Assemblies exported from the **Item List** context menu result in poor visual layout of nodes on import.

   As a workaround, you can save assemblies from the **Schematic** viewport.

### Baking

• BUG ID 50671 - Baking displacement maps can cause UV seams to be visible, and the baked displacement map to show quilting effects and other render artifacts.

• BUG ID 49437 - The **Bake Channel Swizzling** option can't bake to texture alpha.

## Color Management

- BUG ID 49244 - (Windows only): With **Perform Color Correction** on, setting a default scene to a scene with a mesh that has a position channel crashes Modo at launch.

  As a workaround, use **System** > **Reset Preferences** to reset to defaults or move/remove the default scene.

## Default Viewport

- RGBA textures only draw correctly in the **Advanced** viewport. In the **Default** viewport, any unsupported texture effect on an image map is drawn as diffuse color when the layer is selected in the **Shader Tree**.

## Deformers

- BUG ID 56726 - Deformed Instances that are off-screen are incorrectly drawn at the origin.
- BUG ID 55470 - Freezing a mesh with normalized deformers and a Mesh Op caused Modo to crash.

## File and Image I/O

- Unreported Content - glTF Export: glTF currently only supports a single material per mesh.

  As a workaround, if you wish to have multiple materials, split your mesh into multiple meshes for each material.
- BUG ID 56862 - Modo for SolidWorks Kit: Modo crashes when importing the same **SolidWorks** file twice in one Modo session. This bug only affects import using the kit, not direct imports (**File** > **Import**).

  As a workaround, before importing a **SolidWorks** file for the second time, exit and restart Modo.
- BUG ID 55439 - Alembic imported convex polygons with at least two close to co-linear edges may not draw correctly in GL (appearing as missing triangles).

  As a workaround, import using the new Alembic Streaming options. Set the **Polymesh streaming options** to **Alembic Streaming Meshes (polys only, force all)**. Alternatively, select the base material in the **Shader Tree** and enable **Surface Normal** > **Double-sided**, then change the **Smoothing** angle to **180**.
- BUG ID 50198 - Alembic scenes don't export some surface items, including static meshes and procedural shatter items.
- BUG ID 49728 - Exporting selected layers (from the **Item List** context menu) to **.fbx** doesn't export instances, unless the original mesh is also exported.

  To resolve this, set the **.fbx** preference to **Export Selection** and use **Export As…**.
- BUG ID 47036 - Color management in **.svg** images is not currently supported. This is a side-effect of a bug fix where the largest allowable image size (64k x 64k) was always used when color correction was enabled.
- BUG ID 46962 - Rendering **.svg** images used as stencil maps for displacement or for layer masking can be very slow.

## Fur

• BUG ID 35731 - Fur length textures can't be edited with the Stretch tool.

   Use different fur length drivers, such as hair guides or vector vertex maps.

## General

• BUG ID 49514 - Mac OS X only: Running **modo_cl** before running the UI Modo application breaks code signing.

   As a workaround, start the UI version of Modo once, before running **modo_cl** on any system where you later intend to use the UI version.

## GL

• BUG ID 55816 - Wireframes are washed out on transparent surfaces in the **Advanced** viewport.

   As a workaround, avoid transparency when modeling or doing work where wireframes are needed. Alternatively, use the **Default** viewport.

• BUG ID 55746 - Moving the mouse over a procedural mesh, when **Animation** > **Enable Deformers** is off, may cause Modo to crash.

• BUG ID 55594 - Wireframe overlay is missing in orthographic views if **Line Antialiasing** is set to **Full** in the **Advanced** viewport.

   As a workaround, use the **Line Antialiasing** > **System** or **Off** option instead.

• BUG ID 55500 - Setting the **Advanced** viewport **Effects** > **Material** option to **Basic** displays Unreal materials as white.

   As a workaround, use **Simple** mode.

• BUG ID 55145 - **Default** viewport lights are not casting shadows in the **Advanced** Viewport.

• BUG ID 54456 - GL count is incorrect in certain circumstances, including when meshes are displayed in wireframe mode or when displaying replicas.

• Windows only: Using Raptr can cause GL driver crashes in Modo.

## Input Devices

• BUG ID 51741 - Mac OS X only: Modo sometimes becomes unresponsive when using the combination of a click-drag in a tree view (for example, when toggling the visibility of two successive items in the **Shader Tree**), followed immediately by a two-finger scroll gesture on some devices, including laptop trackpads and the Magic Mouse.

   As a workaround, change to a 3-button mouse (recommended to fully access all of Modo's features).

- BUG ID 35856 - Linux only: Plugging in a Wacom tablet while Modo is running can cause undesired movement. This cannot be fixed, due to a limitation of the hardware driver.

  To avoid this, plug in the tablet before application startup or restart.

## Item List

- BUG ID 53209 - Group creation (**Ctrl + G**) places the new group folder at a random position in the **Item List**, if the items are not selected in a top down sequence.

  As a workaround, select the items being grouped from top to bottom in the **Item List** before grouping (**Ctrl + G**).

## Mesh Fusion

- BUG ID Bug 56973 - If a Trim Fusion role is assigned to an object and then it is dragged and dropped onto a Primary, the drop menu does not contain the Trim boolean options.

  As a workaround, use either the Fusion Buttons (Tool palette - **Set Mesh Role & Apply** section) or Pie Menu (**Apply SubtractionApply Intersection or** ) when initially adding Trims to each Fusion Item (Trims can contribute to multiple Fusion Items). If initially applied with either of those methods, all subsequent Drag & Drop options will be supported.

## Modeling

- BUG ID Bug 55857 - Using the **Model** layout Toolbox **Basic** subtab **Center Selected** option on a polygon selection, with multiple mesh layers selected, doesn't center to the origin.

  As a workaround, select only one mesh layer at a time or put all geometry in one layer.
- BUG ID 55842 - Using the **Tack** tool, with **Align**, **Copy Geometry**, and **Make Bridge** options enabled may cause Modo to crash.
- BUG ID 32728 - Zooming out with a Space Navigator alters the Work Plane position.

## Network Rendering

- BUG ID 48325 - Scenes with image sequences rendered with Full Frames use the wrong image sequence number on slave machines.

  As a workaround, use **File** > **Consolidate Scene**, then render the scene using a shared network folder (**Preferences** option under **Rendering** > **Network Rendering**).
- BUG ID 36986 - Slaves render hidden meshes. Since mesh hide state is not stored in the scene, when that scene is transferred to the slaves, the state is lost. The master respects the hidden state, however.

  As a workaround, if the intent is to avoid rendering, toggle the visibility for the item or render or open **System** > **Preferences** > **Rendering** and disable **Use Network Render Nodes**.
- BUG ID 30318 - Network Rendering doesn't support Realflow particles.

- BUG ID 25636 - Frame passes are not supported.
- Several Bugs - While it apparently worked in Modo 902, in some cases, Network Rendering was not implemented to support baking. Changes to Modo in the 10-series apparently broke what was working for some artists, so the functionality has been disabled.

  As a workaround, Modo 10 implemented the ability to Network Bake using Bake Items and an external render controller. For more information, please see the SDK Wiki.

## Node Shading

- BUG ID 50642 - Nodal shading does not support UDIMs.

## Painting/Sculpting

- BUG ID 41682 - Textures are not always updating in Preview/Render when painting on an image map.

  You can save and reload the image to force the update.

## Particles

- BUG ID 44551 - Surface Particle Generators may not update with changes to a **Density Gradient Input** set to **Slope**.

  As a workaround, choose **Distance to Locator** or any other setting from the **Density Gradient Input** dropdown, then change it back to **Slope**.
- BUG ID 34925 - Re-opening scenes saved with large particle caches can cause problems.

  To avoid such issues, delete the cache before closing Modo, or export the particles to **.csv** cache files or Realflow **.bin** files. You can do this by attaching one of those nodes to the Particle Simulation item in the **Schematic** viewport, and clicking **Cache Simulation**.

## Preset Browser

- BUG ID 55882 - Pinning the **Viewport Textures** preset browser crashes Modo on restart.

  As a workaround, run Modo in **Safe Mode** and select **System** > **Reset Preferences** or manually delete the main config file.

## Presets

- BUG ID Bug 55867 - Dragging and dropping a preset material into a material group places the preset above the **Base Material**, not in the group.

  As a workaround, move the preset material group after dragging and dropping it.

## Preview

- BUG ID 55901 - **Preview** is rendering images with the wrong color space for non **EXR** images.
- BUG ID 55646 - The Camera can't be edited in **Preview** if any of its channels are locked.
- If a high poly mesh is not visible, the Preview baking output will be incorrect.

  As a workaround, reset **Preview** to fix the baking.

## Procedurals

- BUG ID 56908 - **Merge Meshes** can corrupt UVs created in **Mesh Ops**.
- BUG ID 56318 - Procedural duplication of Mesh Ops in a Deform folder creates errant **Mesh Ops** list.
- BUG ID 56317- Duplication of Procedurals does not work with the **Select By Previous Operation** tool.

  As a workaround, manually edit the duplicate's **Select By Previous Operation** Mesh Ops.
- BUG ID 54738 - A duplication of any item that is a Merge Meshes Source (For example, a Mesh Item, Procedural Item, or Fusion Item), any duplicates (duplicate or instance) are added to the Merge Meshes Ops List as a source.

  As a workaround, remove the unwanted additional Merge Mesh Sources (regardless of the type of source) in the **Mesh Ops** List using the **X** icon in that list next to each Merge Meshes source.
- BUG ID 52149 - Curve Extrude mesh operation: The Path Segment Generator's **Align to Normal** option doesn't work when using a Bezier with zero-length tangents.

  As a workaround, rotate the polygons to point toward the +Z before extruding or make sure there are no zero-length tangents.
- BUG ID 49767 - Scenes, which contain a UV constraint modifier driving texture properties, may fail to load after saving, due to a modifier dependency loop.
- BUG ID 46512 - When rigged, Rock items and other procedurals do not display correctly in GL. This is a limitation of the feature and will not be fixed.

  You can use Preview or RayGL to visualize the variations from rigging.

## Projections

- BUG ID 49473 - Projections are incorrect if the projecting camera is set to **Vertical** film fit mode and the width is less than the height.
- BUG ID 43771 - Camera projections from non-render cameras show distortion in GL and baking.

  To avoid this, make sure that the projection camera has a film width-to-height ratio that matches the main render camera.

## References

• BUG ID 44492 - If a scene that already contains references is referenced, the shading of the original references may not persist.

 As a workaround, limit scenes with shading to one level of reference.

• BUG ID 41119 - Reloading a reference after replacing it with the same file can cause Modo to crash.

## Rendering

• BUG ID 56620 - Modo crashes when closing a scene containing a referenced scene after attempting to revert a reference override.

 As a workaround, first close and reopen the scene before attempting to revert the reference.

• BUG ID 56585 - The **Render Current View** command, with **Preview** running, may cause an error.

 As a workaround, pause **Preview** before rendering.

• BUG ID Bug 55787 - The **Scratches** procedural texture may produce NaNs in the **Preview viewport** and **Render Display**.

• BUG ID Bug 55663 - **Motion Blur** applied on a curve in a Mesh Operation no longer works.

• BUG ID Bug 55262 - Displacement combined with normal maps renders incorrectly.

 As a workaround, enable the **Displacement as Bump** option in the **Render Item Settings** or render using **Preview**.

• BUG ID 53411 - Mesh lights or any direct light too close to a surface can produce fireflies (hot pixels) in some cases.

 As a workaround, use a **Maximum Radiance** higher than 1 W/srm$^2$ to reduce the bias.

• BUG ID 53793 - Rendering using a Dual CPU with 72 threads was significantly slower than expected.

 As a workaround, any machine that has more than 32 cores, performance will be better if you limit rendering to half the number of cores you have.

• BUG ID 53184 - Value presets created for material Subsurface Scattering samples in Modo 10.1 or earlier now show on the render item instead.

• BUG ID 52730 - The Vertex Illumination Bake command doesn't work as expected, when the mesh has transform channels.

 As a workaround, freeze the transforms in the mesh properties.

• BUG ID 52011 - Tangent Basis handles Mirror UVs incorrectly.

 As a workaround, apply Mikk or any other tangent space basis to the mesh before baking.

## Rigging

• BUG ID 55059 - Binding can't be used multiple times in **Setup** mode.

As a workaround, exit and re-enter **Setup** mode.

• BUG ID 27244 - Duplicating joints in a bound mesh retains influences from the original joint chain.

## Schematic

• BUG ID 55859 - Dragging and dropping a **Texture Locator**, **Camera**, or **Light** from the **Shader Tree** into **Schematic** viewport doesn't work.

As a workaround, with the item selected, click the **Add Selected** button in the **Schematic** viewport.

## Scripting

• BUG ID 53458 - Right-clicking or running a script in the Script Editor can lock up input to Modo.

As a workaround, click in the top window of the Script Editor, use the main menus, or change to another application, then switch back to Modo.

• BUG ID 55138 - Modo crashes when undoing a script which uses **removeItems**.

## Sculpt

• BUG ID 55897 - Specular and shadows in the **Default** viewport stops showing when sculpting on a displacement image.

As a workaround, use another viewport mode such as **Advanced** or **Reflection**, or apply a **Matcap** shader to the **Shader Tree**.

## Shader Tree

• BUG ID 37858 - In the **Shader Tree**, choosing a group from **Add Layer** > **Image Map** > **(use clip browser)** fails.

To work around this issue, in the **Clip Browser**, choose a single image instead of the group, and then change to the image group using the Texture Layer's **Properties** tab.

• BUG ID 30947 - Layer masking displacement does not work unless you drag and drop the masking layer onto the displacement layer.

## Topology

• BUG ID 55887 - In Remove mode, the **Topology Pen** doesn't remove edges created by the **Split** mode but instead removes the underlying polygon.

## Unreal and Unity Materials

• BUG ID 50701 - Unreal material Ambient Occlusion does not bake correctly in Modo.

- BUG ID 50700 - There is no way to visualize the Unreal SubSurface Color effect in Modo.
- BUG ID 50451 - On some graphics cards, Unity material may cause flickering in the **Advanced** viewport when used with bump maps and shadows.

## UI

- BUG ID 55759 - Transforming objects can cause the **Items Properties** panel to flicker.
- BUG ID 55702 - Mac OS X only: Saving layouts on certain multi-display configurations caused Modo to crash.

  As a workaround, having your primary display as the left-most, may prevent this.
- BUG ID 55571 - Resizing the dopesheet in Zen crashes Modo 11.1, but not in Modo 11.0.
- BUG ID 55185 - Text in the viewport icon buttons is not visible in the **Advanced** viewport on some Mac OS/AMD configurations.

  As a workaround, upgrade Mac OS to 10.12 or 10.13.
- BUG ID 44496 - Mac OS X only: Disabling **Affect System Color Dialog** in **Preferences** > **Rendering** > **Color Management**, and using the system color picker caused colors to darken with each use of the color picker.

  This is due to an OS X issue, which requires the color profile in both the monitor settings and color picker to be set to sRGB IEC61966-2.1.
- BUG ID 44896 - Dragging and dropping an image from disk into the **Clips** list doesn't work.

  If the **Clips** list is empty, drop the image onto the bar at the top, otherwise drop it above or below other images in the list.
- BUG ID 43162 (Windows only) -Setting a custom text size affects Modo's text drawing.

  As a workaround, go to the compatibility settings by right-clicking the Modo shortcut or executable, and turn off font-scaling for the application.

## UV

- BUG ID 56967 - If UV distortion is enabled in both the UV and 3D viewport, editing the mesh in the 3D view causes the UVs to turn black.

  As a workaround, toggle the UV texture visibility or avoid enabling Show Distortion on in both views.
- BUG ID 55891 - Show UDIM does not display the UDIM number in the **UV** viewport.

  As a workaround, enable the **Auto Spans** option.
- BUG ID 55582 - The Tear-off modifier keys (**Shift**+ **Ctrl**) are live in the **UV Transform** tool, meaning the Tear-off state changes during the drag if the keys aren't held down.
- BUG ID 55564 - The UV Distortion and UV Vertex maps are no longer accessible. This is due to bugs and crashes with these 'internal' maps being visible to users. Modo 11.2 will introduce features to replace prior uses of these maps.

## Developer Notes

- BUG ID 53988 - SDK: The **item.channel** query didn't read evaluated strings correctly.
- BUG ID 55473 - SDK: A reference scene loaded twice did not return geometry in **CLxSurfaceVisitor.Sample ()**.
- BUG ID 55749 - SDK: Viewing graph for a plugin's alpha channel, if no keys were set, caused Modo to crash.
- BUG ID 56467 - SDK: Reading an item graphs in a command's enable function sometimes caused Modo to crash if the scene changed.
- BUG ID 56697 - SDK: **Rendercache** crashed Modo when closing the scene.