D3PLOT Viewer Documentation

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This document serves as a detailed guide. If you are having trouble using D3PLOT Viewer, or would like to see new features added, please contact us.
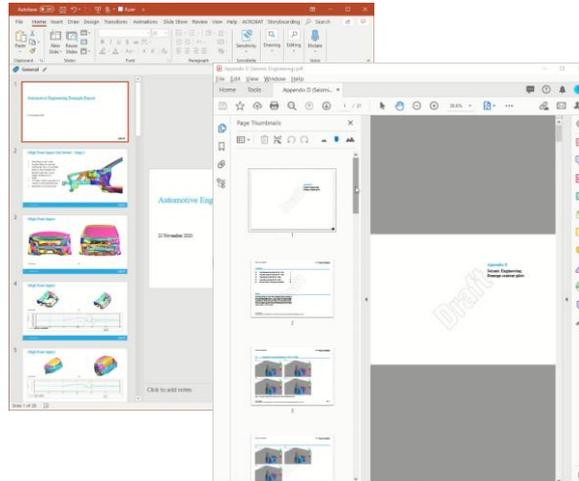
Contents

1 Introduction

D3PLOT Viewer is the 3D web viewer for Oasys LS-DYNA simulations. It has the power to transform the way that you review, communicate, and deliver engineering analysis.

Break free from the 2D confines of traditional reports:

With D3PLOT Viewer, you can:

Explore results together in 3D at design reviews and team meetings…
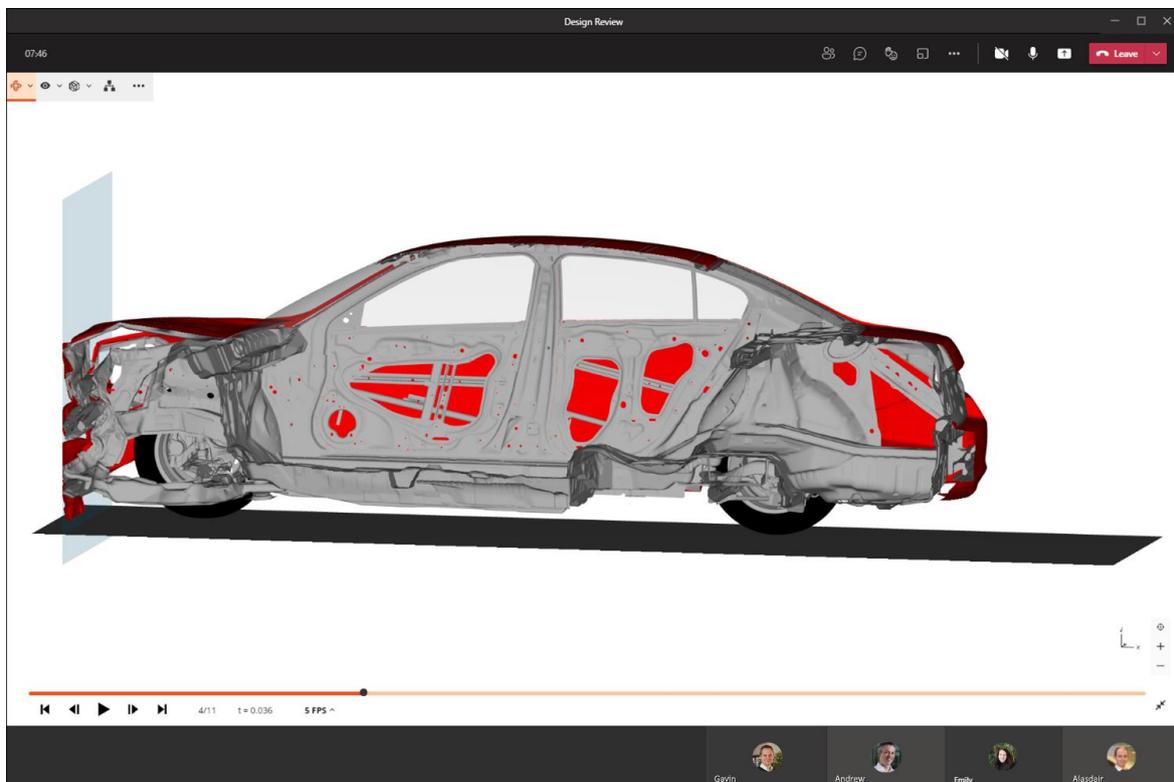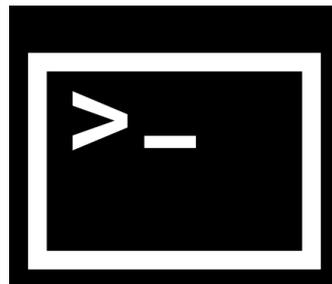

Share animated 3D models with designers and suppliers to help them improve the performance of parts and assemblies…
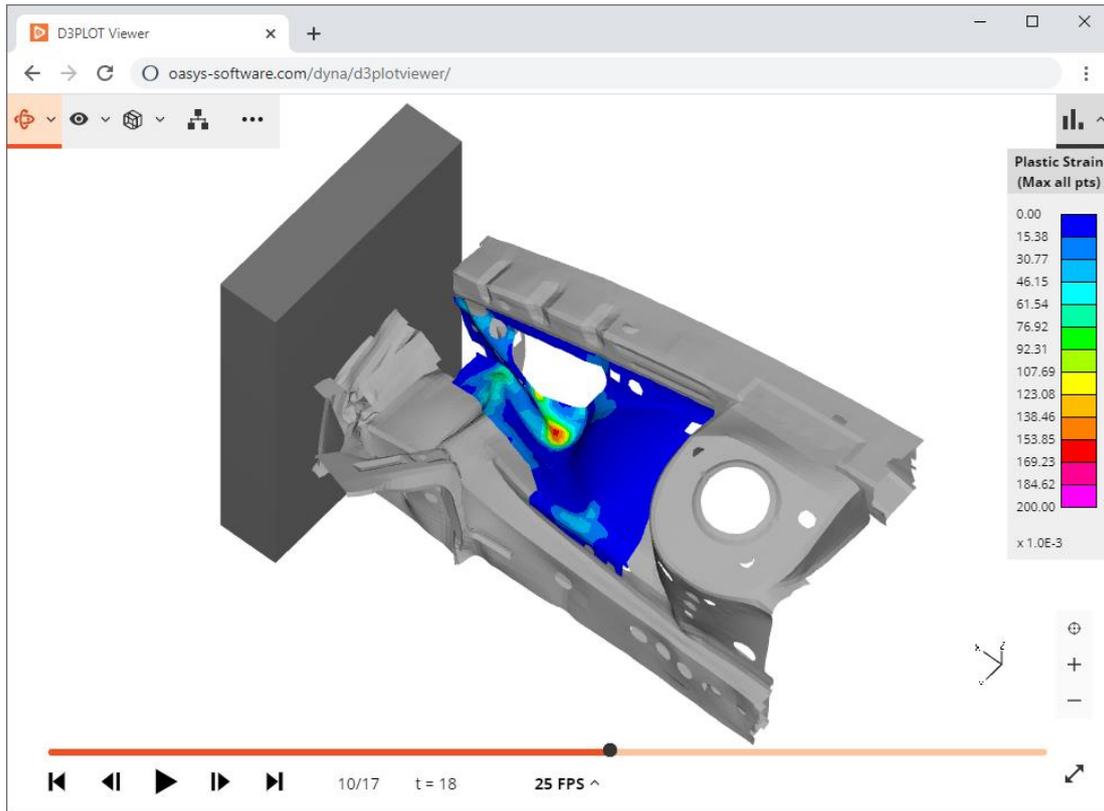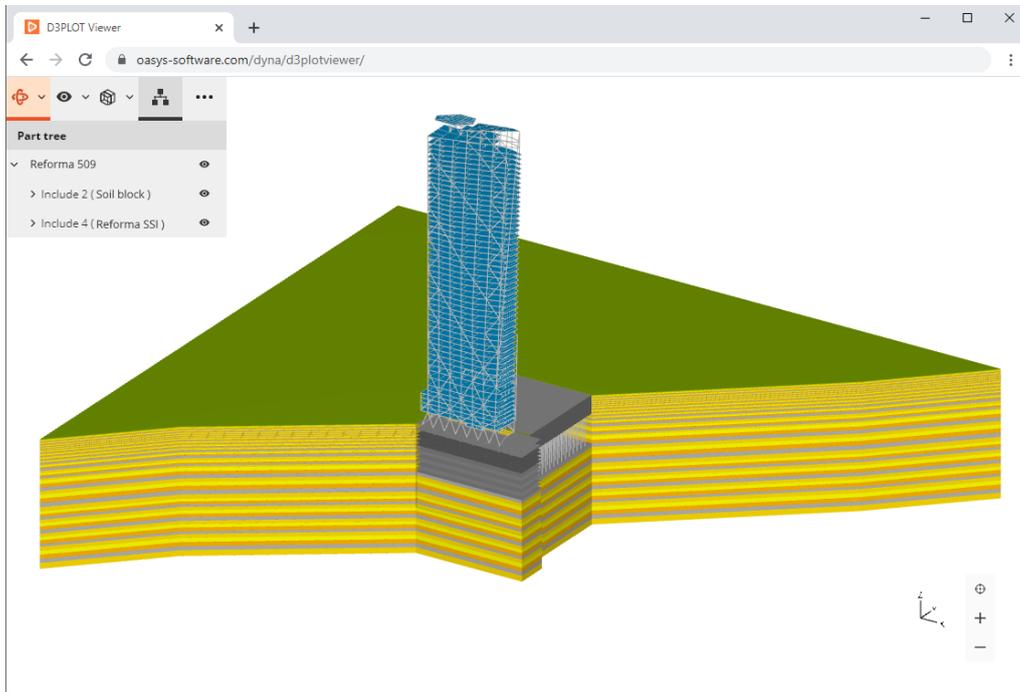
Automatically generate the output files as part of your LS-DYNA job submission – then use D3PLOT Viewer to make a quick check of results as they complete…


```
d3plot18_x64.exe -glb=D3PLOT.glb -states=even -frame_rate=5 d3plot/results.ptf
```

Give your clients added value with 3D project deliverables…

1.1 How it works

- D3PLOT Viewer is free to use – free for your team, your partners, and your clients
- No installation, no registration, no setup required – simply load models and start exploring in 3D
- D3PLOT Viewer reads GLB files, which are generated by Oasys D3PLOT
- When you open a model in D3PLOT Viewer, all of your model data stays in your browser – it doesn't get uploaded anywhere
- If you need to work offline, you can download the HTML bundle

1.2 Further Advantages

D3PLOT Viewer includes features that are not available in other viewers:

- Animated 3D models
- The ability to blank parts of the model
- Cut sections
- Contoured results data
- Access to the Part Tree

2 Export from D3PLOT

In Oasys D3PLOT, export of GLB files is controlled from the **3D Viewer Export** tab on the Images / Media Export panel (**Images → 3D Viewer Export**). To learn more, take a look at the D3PLOT manual.

Once you have exported a GLB file, viewing it in D3PLOT Viewer will give you access to the most features (see Further Advantages). However, if you export *uncompressed* GLB files from D3PLOT, they are also compatible with many other web viewers, as well as several Microsoft applications, including PowerPoint for Microsoft 365 and PowerPoint 2019 or later.

3 Accessing D3PLOT Viewer

D3PLOT Viewer is free to use – free for your team, your partners, and your clients. There is no installation, no registration and no setup required. Simply open your web browser and get started.

3.1 Online Version

We recommend that you use the online version of D3PLOT Viewer because:

- It is kept up to date with the latest bug fixes and enhancements

The online version of D3PLOT Viewer can be found at:

oasys-software.com/dyna/d3plotviewer

We have also provided an easy-to-remember address, d3plotviewer.com, which redirects to the Oasys software domain.

3.2 Offline HTML Bundle

If you need to work offline, you can download the offline HTML bundle from the link provided on the landing page. The download link will always provide a copy of the latest version of D3PLOT Viewer. All D3PLOT Viewer features are available in the offline version.

4 Opening a Model

When you access D3PLOT Viewer, you are greeted with a landing page:
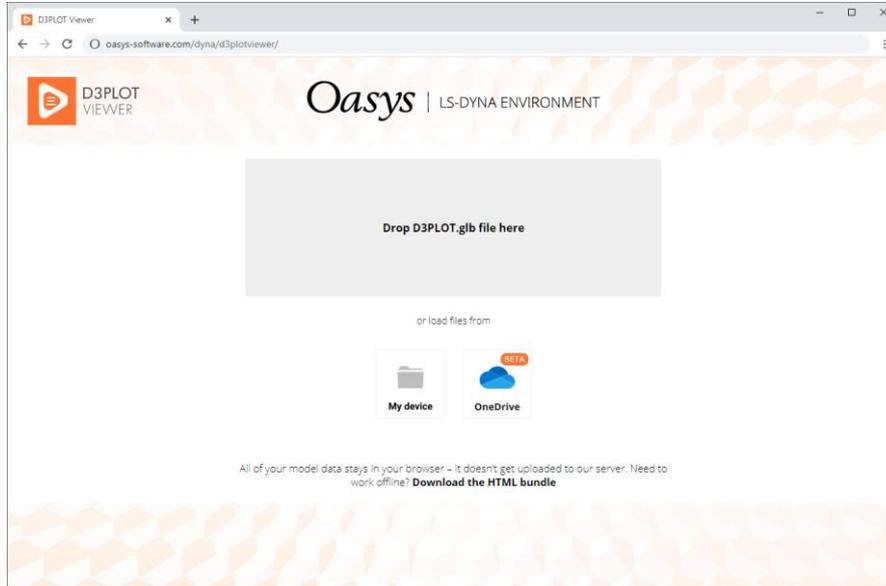
Landing page

3D models are [exported from Oasys D3PLOT](#) as GLB files. You can drag and drop a GLB file into the drop region on the landing page, or load files from your device.

4.1 Load Files from My Device

A file selector will appear, allowing you to select a GLB file from your local disk or any mapped network drive. If you have cloud storage (e.g. OneDrive) mapped to your local file explorer, you can load files from there too.
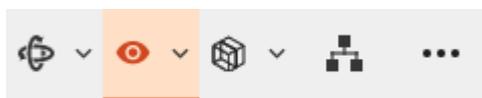
The file is loaded into your browser – it does not get uploaded anywhere.

5 Main Controls

D3PLOT Viewer has three modes:

  Navigation mode

  Blanking mode

Cut Section mode

Each mode allows you to interact with the 3D model in a different way. Switch between modes and expand the mode menus to explore their capability.

5.1 Navigation Mode
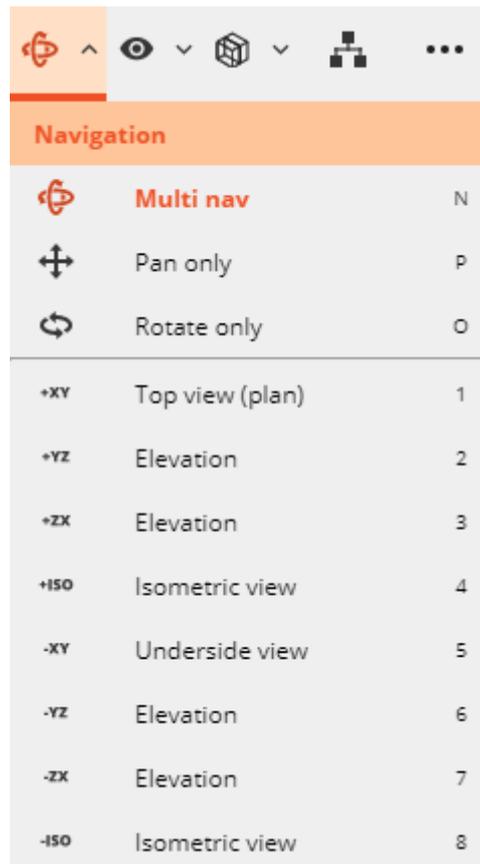
Navigation mode menu

In Navigation mode, you can rotate, pan, and zoom around your model. By default, navigation is in **Multi nav**:

Mouse	Touch	Action
Left-click	One finger	Rotates the model
Middle-click	Two fingers	Pans the model
Right-click or scroll wheel	Pinch	Zooms the model

From the Navigation mode menu, you can also switch to **Pan only** or **Rotate only**. In these modes, any mouse button or touch gesture will result in the same action. This

could be useful if your mouse/trackpad lacks a middle button, or if multi-touch is not enabled on your device.

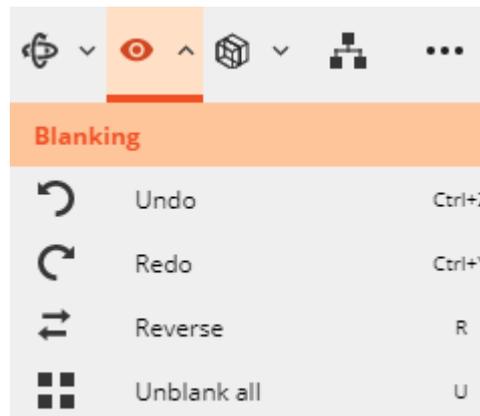⊕   The auto fit button centres and fits your model within the window.

+   As well as using mouse/touch to zoom, you can use the +/- zoom buttons.
−

Eight preset views are available in the Navigation mode menu and via keyboard shortcuts 1-8.

5.2 Blanking Mode

In Blanking mode, click/tap parts on the model to blank them. The Blanking mode menu allows you to:

Blanking mode menu

You can also blank and unblank parts and assemblies (include files) from the Part Tree menu.

If you wish to rotate or pan your model while blanking parts, you can hold the **Shift** key to temporarily switch back to Navigation mode. Alternatively, you can switch to Navigation mode, move the model, and then switch back to Blanking mode to continue blanking.

5.3 Cut Section Mode

In Cut Section mode, you can apply a cut section to your model to understand what is happening inside. While in Cut Section mode, you can drag the clipping plane's interactive handles to move and rotate the cut relative to your model. You can continue to rotate or pan your model while manipulating the cut section.

You can use the 1-point cut tool to create or translate a cut at a target point. Or use the 3-point cut tool to select three points in model space to set the normal and target of a new cut plane. While the 3-point cut selection is active, hold the **Shift** key to temporarily switch back to Navigation mode to reorient the model.

Update the global cut plane origin coordinates and plane normal vector by inputting new values in the x, y, and z-axis input fields.

Click/tap the Show/Hide plane menu option to change the visibility of the cut plane and interactive handles.

Click/tap the Reflect cut menu option to reflect the local z-axis normal polarity of the cut plane.

Cut section menu

6 Animation

If your model contains animation data, the animation bar will appear:

The animation controls are:

▶ ❚❚	Play/pause
◀❙ ❙▶	Increment backward/forward one frame
❙◀ ▶❙	Skip to first/last frame
25 FPS ^	Frames per second (FPS) – adjust the playback speed

The animation bar also displays the current plot state (frame) number (e.g. *11/17*) and the LS-DYNA simulation time (e.g. *t = 20*).

7 Part Tree

Use the Part Tree to understand the structure of the model, and to focus on individual subassemblies.
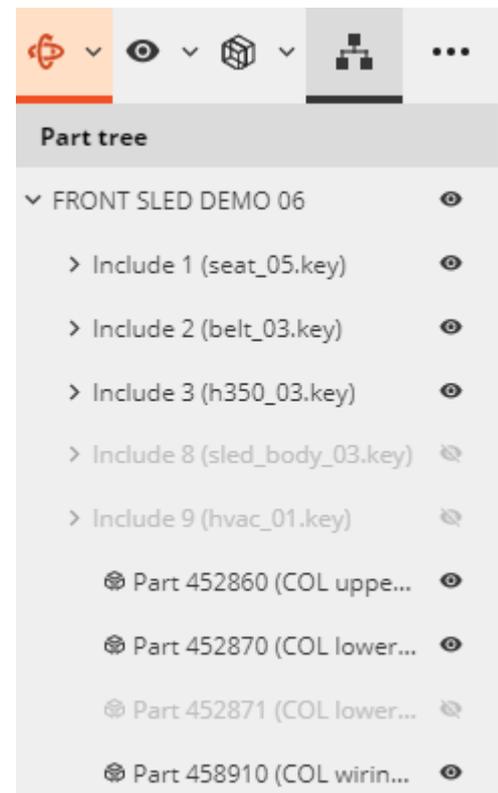
Click/tap the Part Tree elements to expand or collapse the tree, revealing lists of Includes and Parts.

Click/tap the 👁 icon to blank and unblank an Include or a Part.

👁 Part/Include is visible

⌑ Part/Include is hidden (blanked)

If a part title is too long to be visible, hover over it (mouse) or long-press it (touch) to display the entire part title.

8 Contour Bar

If your model contains contour data, the contour bar will appear, containing the contour colours, values and data component name as exported from Oasys D3PLOT. Unlike in Oasys D3PLOT, the contour bar values do not update when you change frame or blank parts. The value range will either be an automatic max/min envelope across all frames (if "Auto all frames" or "Auto each frame" was selected during GLB file export) or a user-specified range (if "Max + Min" or "User def" was selected).
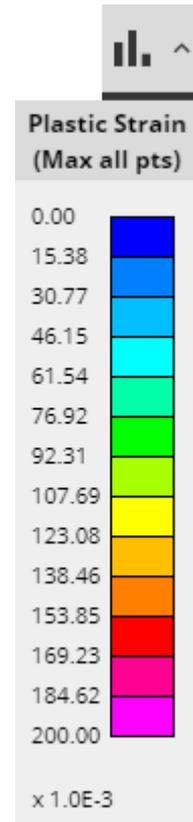
9 Full Screen

 D3PLOT Viewer can be viewed in full screen. This is useful when presenting at a meeting, or when you want to maximise the screen area for your model – especially when D3PLOT Viewer is embedded into another web page.

10 Dark Theme

D3PLOT Viewer can be viewed in either light or dark themes. The Viewer theme automatically inherits from your browser – or choose to switch between themes to suit your preference.
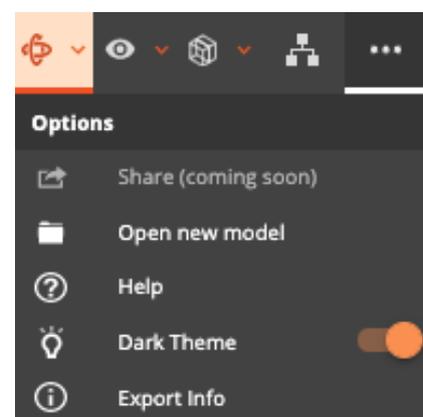
Options menu

11 Keyboard Shortcuts

D3PLOT Viewer can be controlled with a comprehensive set of keyboard shortcuts, which are listed in a separate document for convenient reference:

[D3PLOT Viewer Keyboard Shortcuts](#)

12 Embed D3PLOT Viewer

You can now embed the D3PLOT Viewer application into your website using the URL https://embed.d3plotviewer.com/.

Implement the embedded viewer endpoint into an iframe, with the source pointing to the available endpoint:

```
<iframe src="https://embed.d3plotviewer.com/" title="D3PLOT
Viewer"></iframe>
```

If you would like to provide the facility for users to use scrollable mouse controls such as zoom within the iframe, include the over scroll behaviour contain style tag. In addition, to support full screen mode, include the following tags:

```
<iframe src="https://embed.d3plotviewer.com/" title="D3PLOT Viewer"
allowFullScreen="true" webkitallowfullscreen="true"
mozallowfullscreen="true" style="overscroll-behavior: contain"
></iframe>
```

13 Troubleshooting

This section covers some common problems encountered when using D3PLOT Viewer. If you have trouble using D3PLOT Viewer, we would like to hear from you. [Contact us](#).

13.1 Browser Compatibility

D3PLOT Viewer will alert you if you try to use an unsupported browser, and there is some additional advice below. If you find that model behaviour or user interface don't work as expected in your browser, please [let us know](#).

Google Chrome

D3PLOT Viewer should work on Chrome version 80 or later.

Microsoft Edge

D3PLOT Viewer should work on Edge version 80 or later.

Mozilla Firefox

D3PLOT Viewer should work on Firefox version 80 or later.

Apple Safari

D3PLOT Viewer should work on Safari version 11 or later.

Microsoft Internet Explorer

D3PLOT Viewer doesn't work on Internet Explorer, and we don't intend to try to make it work. We recommend you use one of the other browsers instead.

13.2 GLB File Loading Errors

If you encounter an error when attempting to open a GLB in D3PLOT Viewer, there are various possible reasons:

13.2.1 File Size

The maximum size of model you can open in D3PLOT Viewer is limited by web browser constraints. At the time of D3PLOT 18.0 release, D3PLOT Viewer has the following limits:

File Format	Maximum file size
GLB (compressed)	Approx. 4 GB uncompressed data – typically results in a GLB file of < 1 GB
GLB uncompressed	2 GB

We will continue to work on ways of increasing these limits.

What does this mean?

You might not be able to view 50+ plot states of a full vehicle crash simulation. But you will probably be able to view 10-20 plot states of a full vehicle, or more plot states of a subset of the model. It all depends on the model size, and whether you include contour data. We encourage you to explore what is possible for you – and send us feedback!

Are file size limitations causing you problems with D3PLOT Viewer? Let us know.

13.2.2 Incompatible GLB File

D3PLOT Viewer can only load files created by Oasys D3PLOT. If you try to load a GLB file created elsewhere, you will receive an error message.

Would you like to use D3PLOT Viewer for other GLB files? Contact us.