



Altair

HyperWorks

Altair HyperView 2019 Tutorials

HV-2000: Controlling the Model View

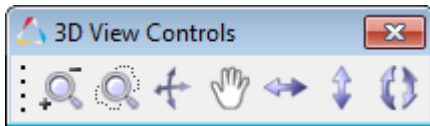
HV-2000: Controlling the Model View

In this tutorial, you will learn how to:

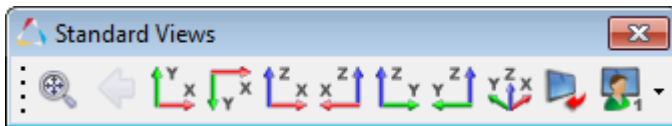
- Use the view controls
- Use the synchronized view utility

Tools

The **3D View Controls** and **Standard Views** toolbars allow you to visually manipulate model graphics, plots, and videos. The toolbars can be docked in the window or they can be undocked and placed anywhere on the screen. The synchronized view option on the **Page Control** toolbar allows you to view the model in multiple windows synchronically.



3D View Controls toolbar



Standard Views toolbar

Exercise: Using View Controls

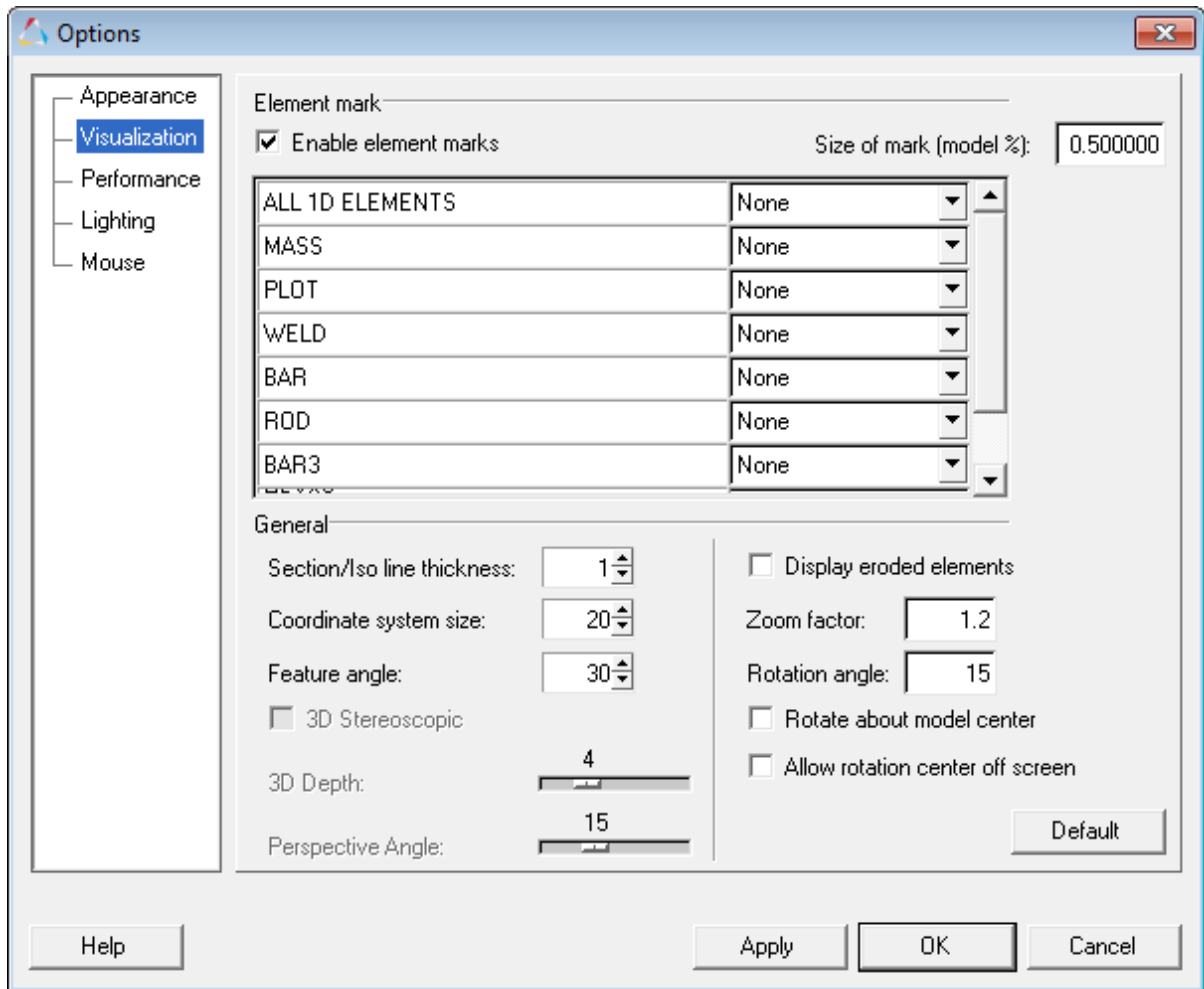
This exercise uses the model file `truck.key` and the corresponding result file, `d3plot`.





Step 1: Use the view controls.

1. Load the `truck.key` model file and the `d3plot` results file, located in the `animation\truck` folder.
2. Change the angle of rotation in the **Standard Views** toolbar by clicking on the **Preferences** menu and selecting **Options**.

The **Options** dialog is displayed.

- Click the **Visualization** option on the tree (located on the left side of the dialog).

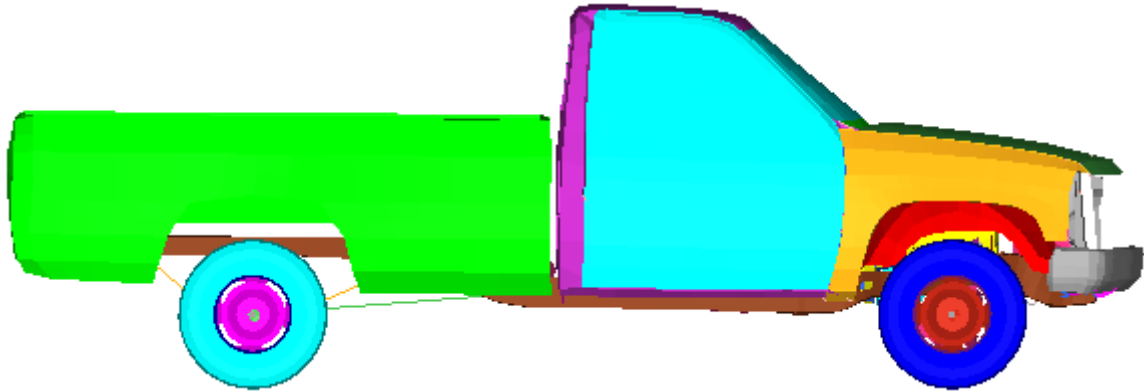


- Change the **Rotation angle** from its default value of 15 degrees to 30 degrees by changing the value in the text box.
- Click **OK** to close the dialog.
- Click the **Rotate Left/Right**  and **Rotate Up/Down**  icons on the **3D View Controls** toolbar, to rotate the model about the horizontal and vertical axis, respectively. The left and right mouse buttons are used to control the direction. Each mouse-click now rotates the model by 30 degrees.
- Click the **Rotate Clockwise/Counter Clockwise**  icon, to rotate the model about the axis perpendicular to the plane of the screen. Clicking the left mouse button rotates the model clockwise, while clicking the right mouse button rotates the model counter-clockwise.
- Click the **Zoom In/Out**  icon, to zoom in and out. Clicking the left mouse button zooms in and clicking the right mouse button zooms out.

9. Use the **Fit Model/All Frames** button  on the **Standard Views** toolbar to fit the model to the window.

Note You can also use the [keyboard shortcut](#) (press the 'F' key on the keyboard) to fit the model to the window.

10. Click the **XZ Left Plane View** icon  to view the model in the **Left** view




11. Click the **Start/Pause Animation** button  on the **Animation** toolbar to animate the model.


Note that some parts/components of the animation are outside the window graphics area.

12. Right-click on the **Fit Model/All Frames** icon  to place all the animation frames within the window frame.



13. Click the **Start/Pause Animation** button  to stop the animation.

14. Right-click in the **Results Browser** and click **Create > View** to save the current view.

15. Click the **Isometric View** icon  on the **Standard Views** toolbar to change the view to **Iso**.

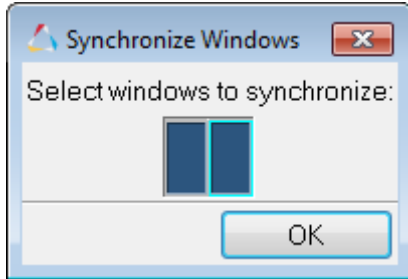
16. Click the icon  next to **View 1** in the **Results Browser** to retrieve/view the saved view.

Step 2: Change the Window Layout and load files.





1. Click the arrow next to the **Page Window Layout** button  on the **Page Controls** toolbar, and select the two window layout .
2. Activate the new window.
3. Load the `truck.key` and `d3plot` files in the new window.

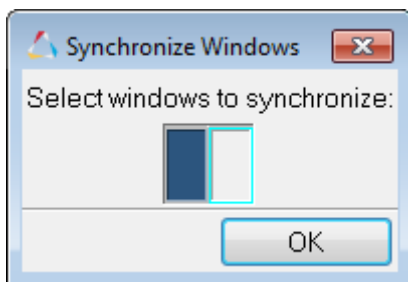
Step 3: Change the view in multiple windows simultaneously using Synchronize View.


1. Click the **Synchronize Windows** icon  on the **Page Controls** toolbar to open the **Synchronize Windows** dialog.



The two windows have the same background color as the windows in the graphic area, indicating that they are synchronized.

2. Click **OK** to close the dialog.
3. Click the **YZ Front Plane View** icon  to display the front view for the two windows.
4. Click the **Isometric View** icon  and change the view by using the left and right mouse buttons to click the **Zoom In/Out**  icon.
5. You can also use the mouse graphic controls to rotate, zoom, and pan both models while in the synchronized view mode:
 - Press the **Ctrl** key on the keyboard and click and move the left mouse button to rotate the model.
 - Press the **Ctrl** key on the keyboard and click and move the middle mouse button/scroll wheel to zoom into an area of the model.
 - Press the **Ctrl** key on the keyboard and click and move the right mouse button to pan/move the model.
6. Stop the synchronization of the windows by clicking on the active **Synchronize Windows** icon .
7. Click the **Synchronize Windows** icon again to open the **Synchronize Windows** dialog.
8. Click the second window in the dialog to exclude window 2 from synchronization.



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9. Click **OK** to close the dialog and activate the view synchronization option.
 10. Click the various rotate icons to rotate the models.
Only the model in window 1 in the graphics area rotates.
 11. Click the **Synchronize Windows** icon  to stop the view synchronization.