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Altair HyperView 2019 Tutorials

HV-3070: Creating Derived Loadsteps

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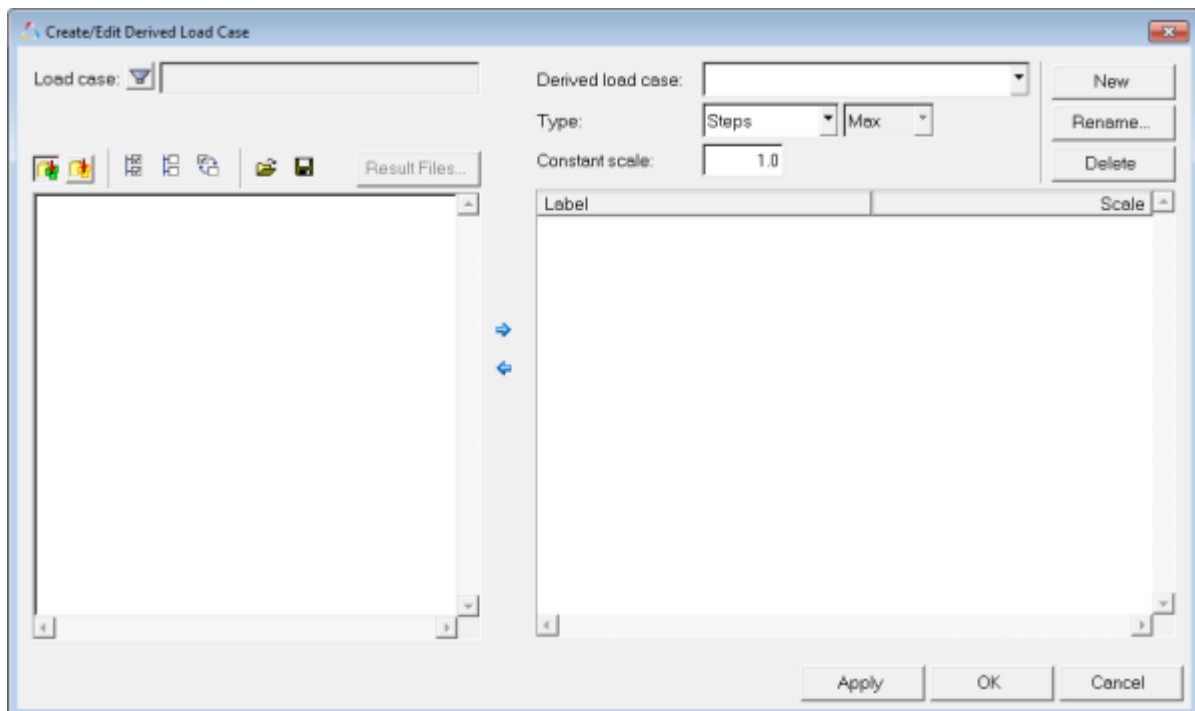
In this tutorial, you will learn how to:

- Create a derived loadstep from existing loadsteps
- Animate a derived loadstep

Tools

To access the derived load case utility, you can use one of the following methods:

- Right-click in the **Results Browser** and select **Create > Derived Load Case > Steps**.
- OR
- Click the **Derived Load Cases** button  on the **Result** toolbar.
- OR
- Select **Results > Create > Derived Load Steps** from the menu bar.



This utility allows you to create new loadsteps, referred to as derived loadsteps, using existing loadsteps and their simulation steps. Derived loadsteps are saved to the session file. Using this utility, you can also create linear superposition and envelope loadsteps.

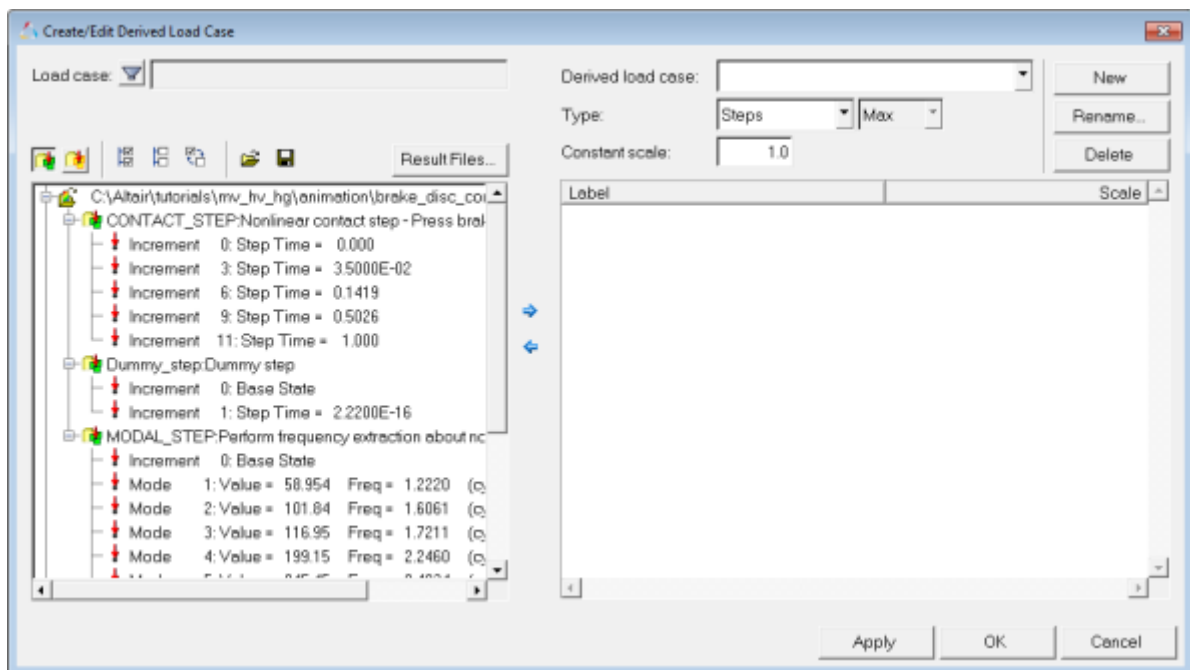
Exercise: Creating Derived Loadsteps

This exercise uses the model file `brake_disc_complete.inp` and the corresponding results file `brake_disc_complete.odb`.


Step 1: Create a derived loadstep.

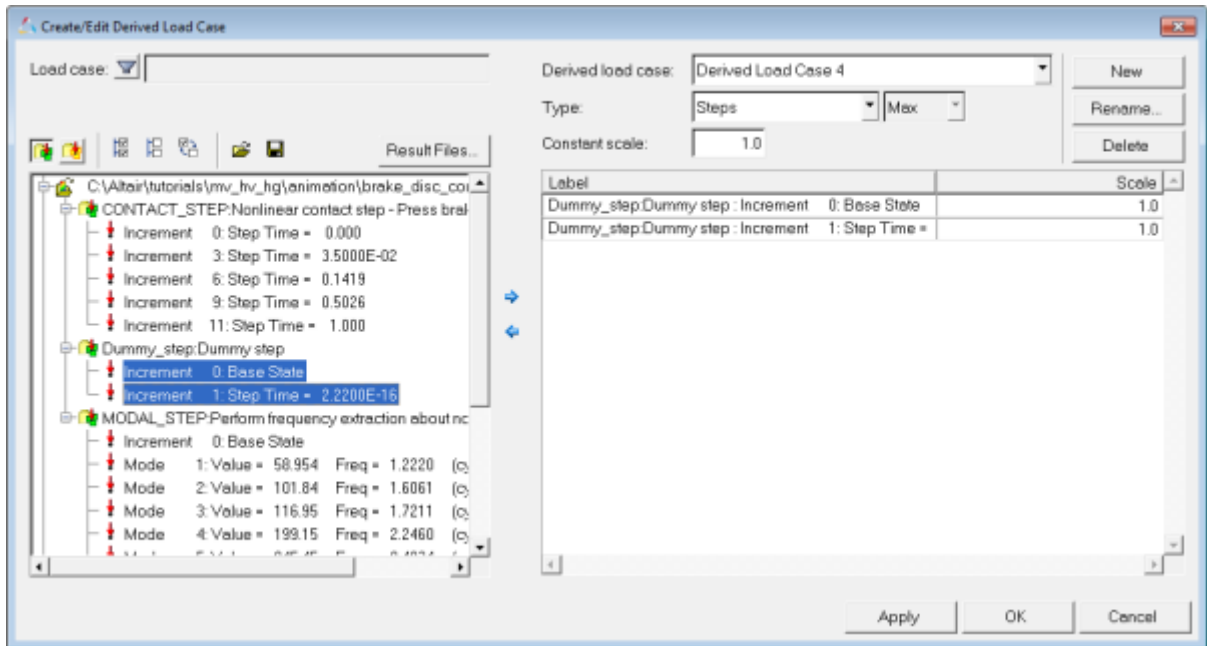
1. Load the model file `brake_disc_complete.inp` and the results file `brake_disc_complete.odb`, located in the `animation` folder.
2. From the **Results Browser**, right-click and select **Create > Derived Load Case > Steps**.




All loadsteps that exist in the results file are listed.



3. From the list, select both **Increment 0** and **Increment 1** in the **Dummy_step: Dummy step** step.

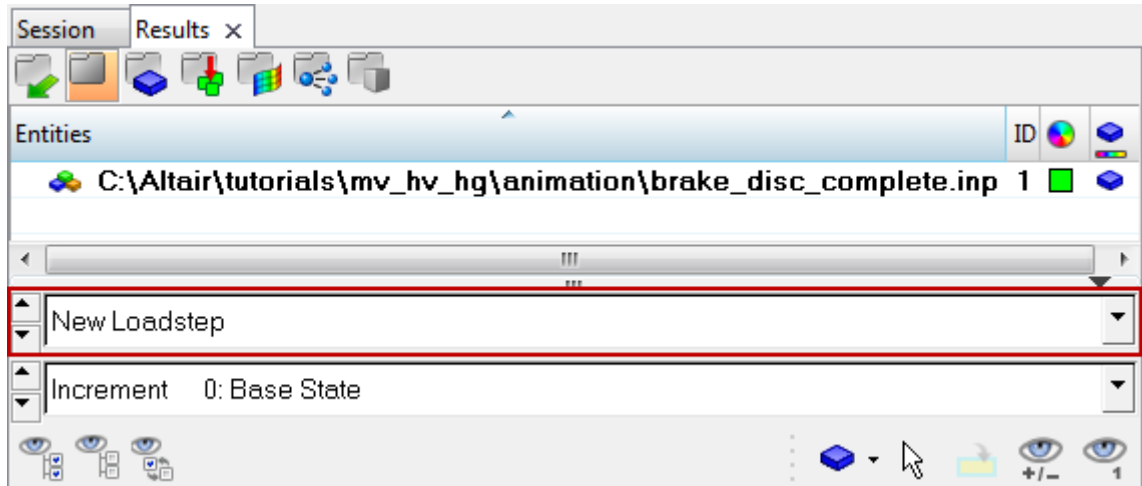
4. Click the right arrow button , to append the increments to the new loadstep.




5. From the list on the left, select all the increments in the **CONTACT_STEP:Nonlinear contact step - Press brake pad against disc** step.
6. Append the increments to the new loadstep using the right arrow button  .
- Alternately, you can select only the name of the **CONTACT_STEP:Nonlinear contact step - Press brake pad against disc** step to select all of its increments when appending.
7. Click on the **Rename** button.
8. Type `New Loadstep` into the **Rename** dialog and click **OK**.
9. Verify that the **Type** field is set to **Steps**.
10. Click **Apply** to create the derived loadstep.
11. Click on the  button, to view the derived loadsteps that are created.
12. Click on the  button, to view the initial loadsteps in the results file.
13. Click **OK**.

Step 2: Animating the derived loadcase.

1. From the **Results Browser**, use the **Change load case** drop-down menu to set the load case to **New Loadstep**.



Note The **Change load case** toolbar visibility can be toggled on/off using the **Configure Browser** option (located in the **Results Browser** context menu).

2. Use the second drop-down menu to set the simulation to **Increment 0: Base State**.
 3. Animate the model .
- The model animates through all of the combined increments in the step **New Loadstep**.
4. Pause the animation.