



Altair

HyperWorks

HM-3570: Altering Cross-Sections Using Domains

Model Files

This exercise uses the `spring.hm` file, which can be found in the `hm.zip` file. Copy the file(s) from this directory to your working directory.

Exercise: Increasing the Gauge Thickness of the Spring Wire

In this tutorial, you will use domains and handles to increase the gauge thickness.

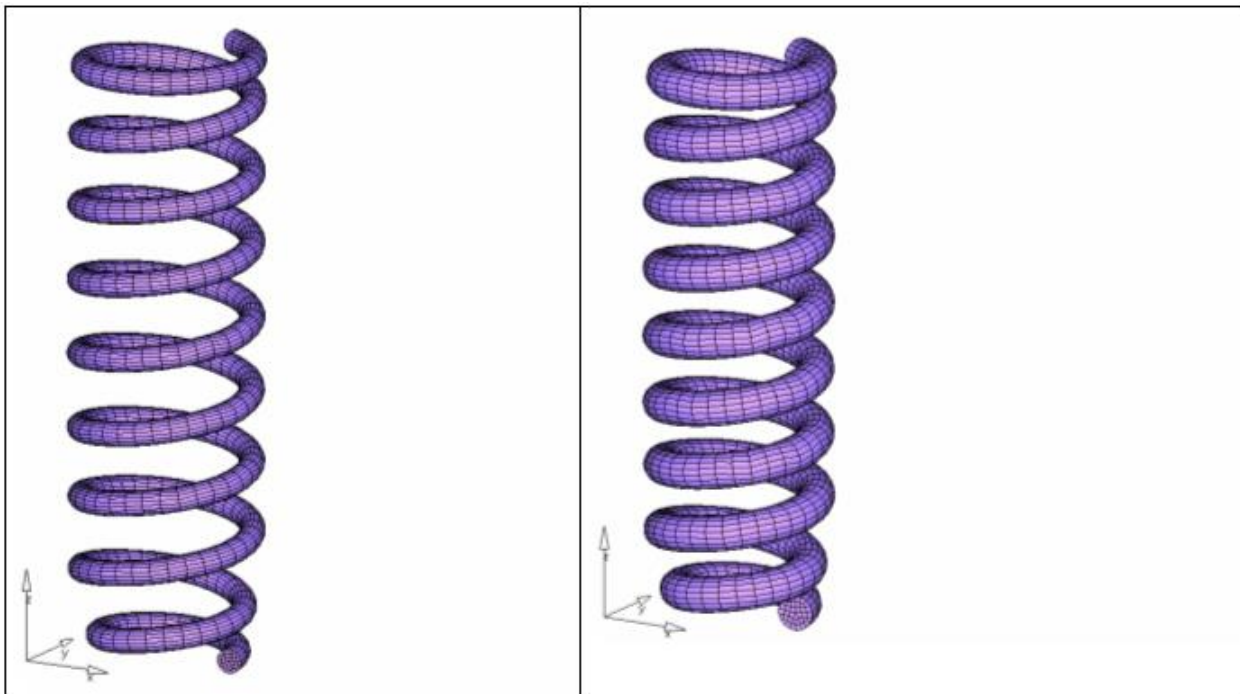


Figure 1: Before and after morphing

Step 1: Load and review the model.

Open the HyperMesh file, `spring.hm`.

Step 2: Change the gauge thickness.

1. Click the **Morphing** menu and pick **Create > Domains**.
2. Switch domain type to **2D domains**.
3. Verify elements toggle is set to **all elements**.
4. Verify that only the **partition 2D domains** option is active.
5. Click **create**.

6. Click the **Morphing** menu and pick **Morph**. Enter the **alter dimensions** subpanel if not already there.
7. Change the morphing method to **radius**.
8. Change the **center calculation** to **by normals**.
9. Keep all the other settings.
10. For **domains** (under **edge and 2D**) select the **2D domain** and the **two edge domains** as shown in Figure 2.

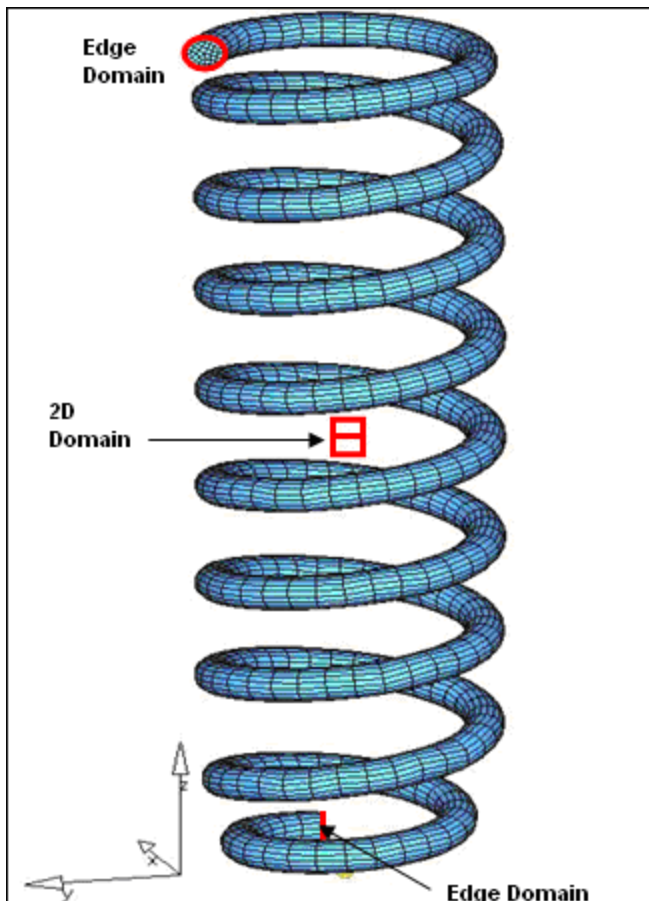


Figure 2: Domains to select for altering the gauge radius

When the circular edge domain is selected, the radius box populates with the current radius value.

11. In the **radius** field, type 12.
12. Click **morph**.

Summary

The gauge thickness of the spring wire is changed from 7.5 to 12.0.