



Altair

---

**HyperWorks**

## HM-3580: Morphing About an Axis 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: Changing the Radius of the Spring Coil

---

In this exercise, you will increase the radius of the spring coil.

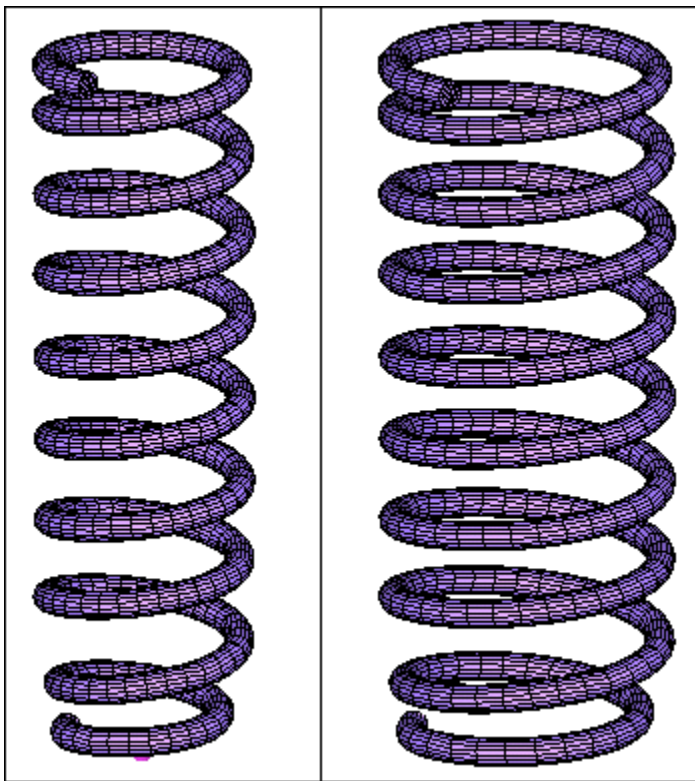


Figure 1: Before and after morphing

#### Step 1: Load and review the model.

Open the HyperMesh file, `spring.hm`.

#### Step 2: Change the coil radius.

1. Click the **Morphing** menu and pick **Create > Domains**.
2. Switch domain type to **2D domains**.
3. Verify that the 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 axis**.
9. Change the axis to the **z-axis**.

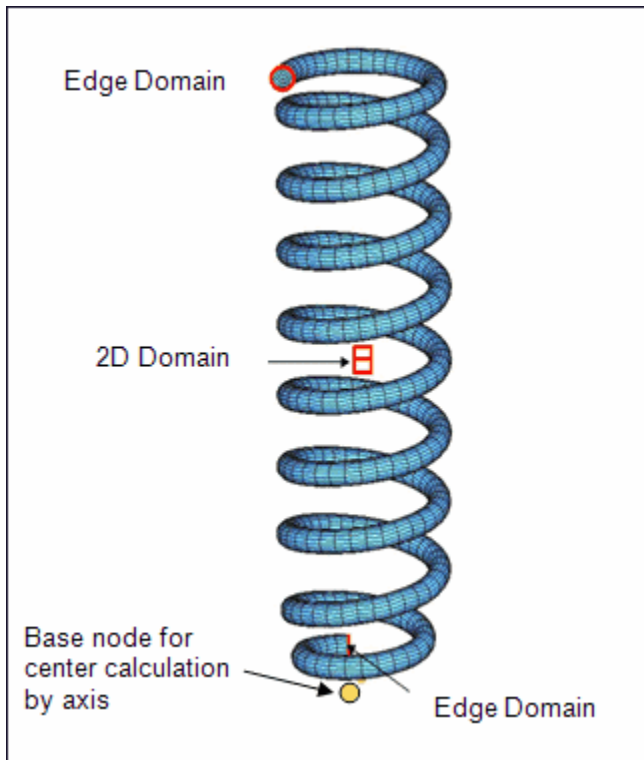


Figure 2: Domains and base node to select for altering the coil radius

10. For **domains** (under **edge and 2D**) select the 2-D domain and the two edge domains.
11. For the base node for the **z-axis** select the node as shown in Figure 2.
12. Keep the default settings for the remaining options.
13. Activate **add to current**.
14. In the **radius** field, type 20.
15. Click **morph**.

## Summary

Twenty units are added to the coil radius.