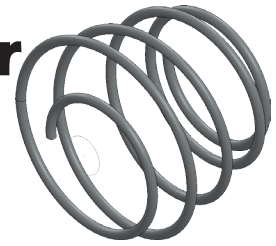




Spring for Battery Holder



A. Sketch for Helix.

Step 1. Click File Menu > New, click **Part Metric** and OK.

Step 2. Click **Front Plane**  in the Feature Manager and click **Sketch**  from the Context toolbar, **Fig. 1**.

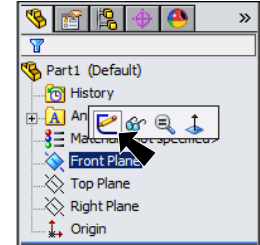



Fig. 1

Step 3. Click **Circle**  (S) on the Sketch toolbar.

Step 4. Draw a circle at Origin , **Fig. 2**.

Step 5. Click **Smart Dimension**  (S) on the Sketch toolbar.

Step 6. Dimension **diameter 4.3**, **Fig. 2**.

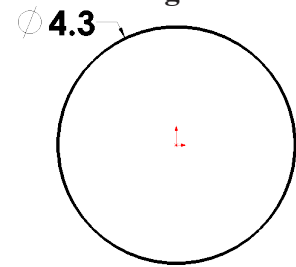


Fig. 2

B. Helix for Sweep Path.

Step 1. Click **Trimetric**  on the Standard Views toolbar.

Step 2. Click Insert Menu > Curve > Helix/Spiral.

Step 3. In the Helix/Spiral Property Manager under Defined By: **Fig. 3** select **Pitch and Revolution** under Parameters select **Variable Pitch** under Region Parameters set:

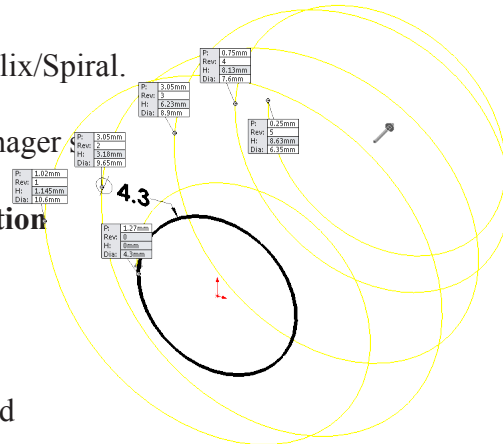


Fig. 4

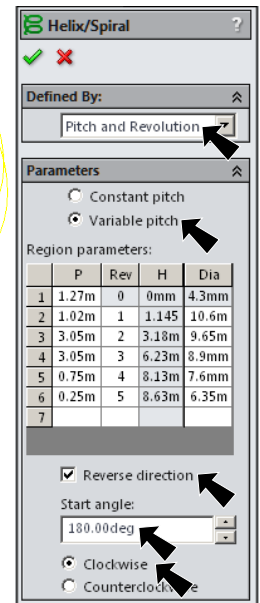


Fig. 3

use **Tab** key to move to next field

	P	Rev	Dia
1	1.27	0	4.3
2	1.02	1	10.6
3	3.05	2	9.65
4	3.05	3	8.9
5	.75	4	7.6
6	.25	5	6.35

use **Tab** key to move to next field

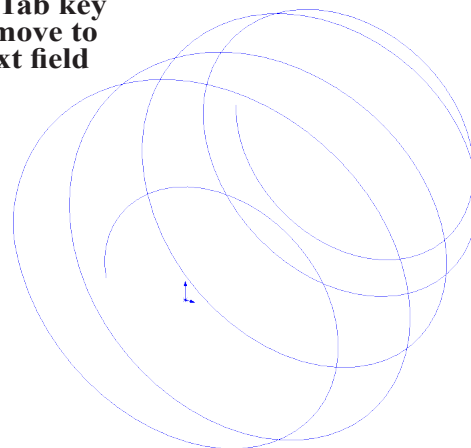


Fig. 5

check **Reverse direction**

Start angle 180

check **Clockwise**

click OK .

C. Save as "SPRING".

Step 1. Click File Menu > Save As.

Step 2. Key-in **SPRING** for the filename and press ENTER.

D. 3D Sketch Sweep Profile.

Step 1. Click Sketch  on the Command Manager toolbar.

Step 2. Click 3D Sketch  in the Sketch flyout  on the Sketch toolbar. Be sure to click the flyout arrow  to select 3D Sketch.


Step 3. Click Circle  on the Sketch toolbar.

Step 4. Press **Tab** key on keyboard until cursor changes to ZX plane  (ZX is Top Plane)

Step 5. Draw circle starting at the front endpoint of helix, **Fig. 6**.

Step 6. Click Smart Dimension  (S) on the Sketch toolbar.

Step 7. Dimension diameter **.5**, **Fig. 7**.

Step 8. Exit the 3D Sketch. To Exit, click **Exit 3D Sketch**  in top right corner of graphics area.

Step 9. Save. Use **Ctrl-S**.

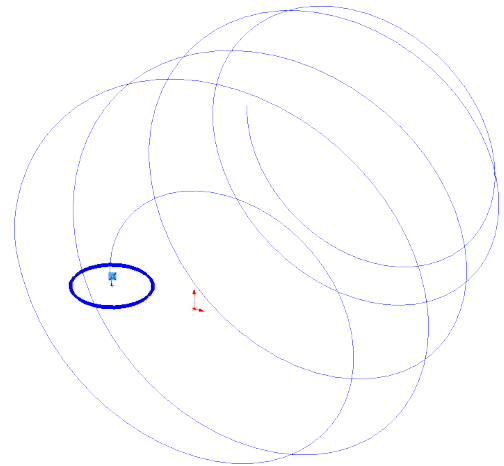


Fig. 6

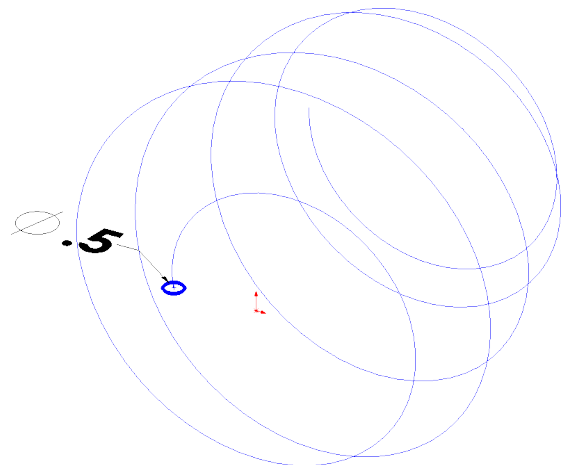
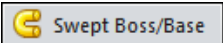


Fig. 7

E. Sweep Helix.

Step 1. Click **Features**  on the Command Manager toolbar.

Step 2. Click **Swept Boss/Base**  on the Features toolbar.

Step 3. In the Swept Boss/Base Property Manager set:
under Profile and Path, **Fig. 8**

Profile 
click **small circle**, **Fig. 9**

Path 
click **helix**
click **OK** 

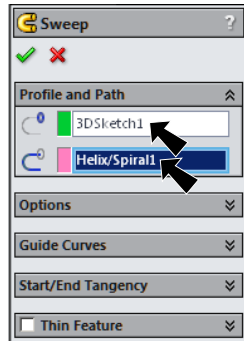


Fig. 8

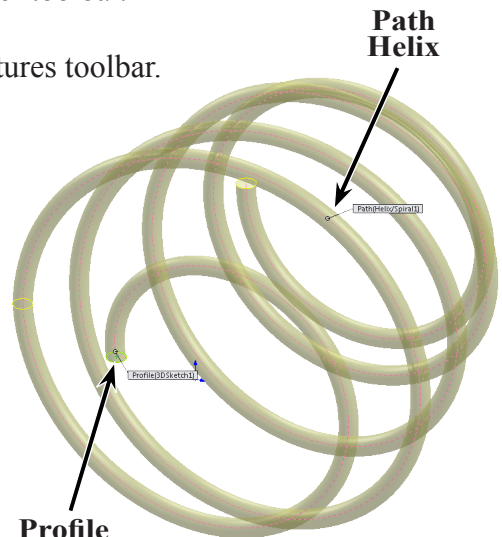




Fig. 9

Step 4. Save. Use **Ctrl-S**.

F. Sketch for Mates.


Step 1. Click **Front Plane**  in the Feature Manager and click **Sketch**  from the Context toolbar, **Fig. 10**.

Step 2. Click **Circle**  (S) on the Sketch toolbar.

Step 3. Draw a circle at Origin , **Fig. 11**.

Step 4. Click **Smart Dimension**  (S) on the Sketch toolbar.

Step 5. Dimension **diameter 2**, **Fig. 11**.

Step 6. Click **Exit Sketch**  on the Sketch toolbar.

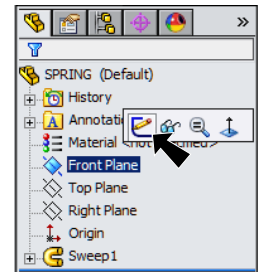


Fig. 10

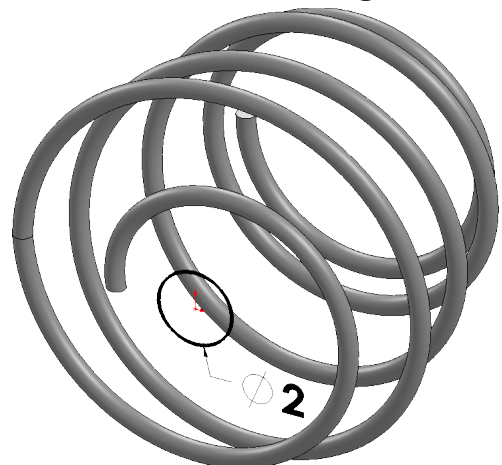





Fig. 11

G. Appearance.

Step 1. Click holder to select the part, click **Appearance**

Callout  on the Context toolbar and click **SPRING** , Fig. 12.

Step 2. In the Appearances Task pane, expand **Metal**, click **Chrome** and in the lower pane select **chromium plate**, Fig. 13. Click OK  in the Property Manager.

Step 3. Save. Use **Ctrl-S**.

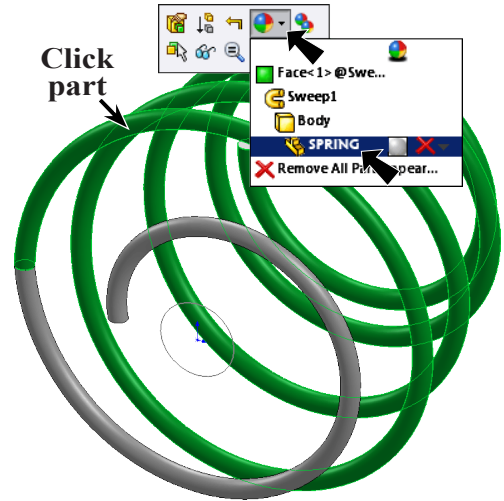


Fig. 12

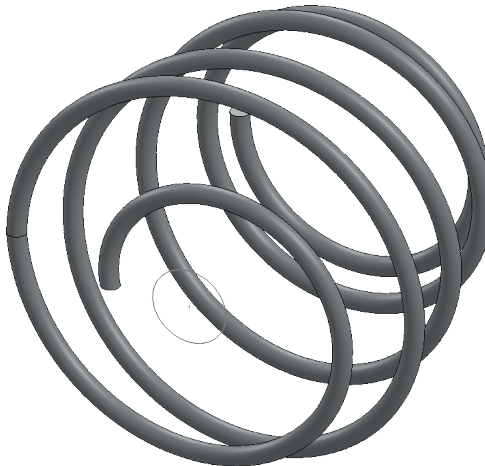


Fig. 14

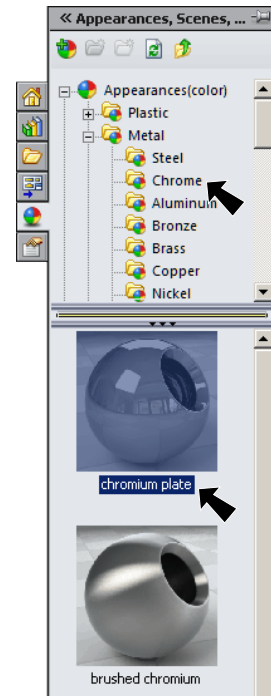


Fig. 13