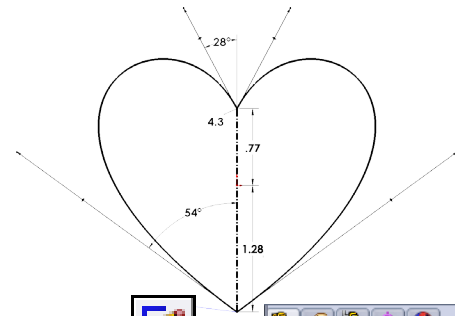## Foot Stool
Heart

A. Sketch Construction Line.

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

Step 2. Click **Top Plane** in the Feature Manager and click **Sketch** from the Context toolbar, **Fig. 1**.
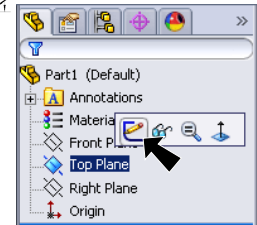
Step 3. Click **Centerline** (**S**) in the **Line flyout** on the Sketch toolbar.

Fig. 1

Step 4. Draw **a vertical construction line away from the**
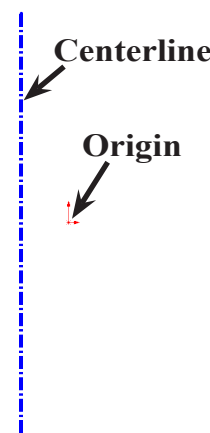
Origin as shown in **Fig. 2**.

Step 5. **Right click drawing and click Select** from menu to unselect Centerline tool.

Step 6. **Ctrl click vertical construction line** and **Ori-**

gin to select both, **Fig. 3**. Release Ctrl key and click **Make Coincident** on the Context menu**.**
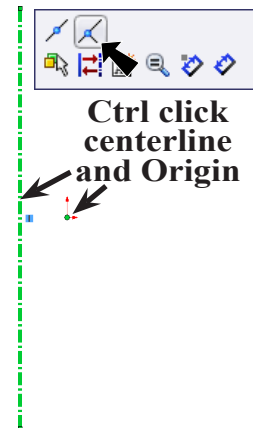
Centerline

Origin

Ctrl click centerline and Origin

Fig. 2

Fig. 3

Step 7. Click **Smart Dimension** Smart Dimension (**S**) on the Sketch toolbar.

Step 8. Dimension from Origin **.77** and **1.28** as shown in **Fig. 4**.

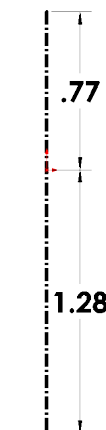Step 9. Click Zoom to Fit (**F**) on the View toolbar.

B. Save as "HEART".

Step 1. Click File Menu > Save As.

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

C. Spline.

Step 1. Click **Spline** (**S**) on the Sketch toolbar.

Step 2. Draw a 2 Point Spline on the centerline, **Fig. 5**. Press Escape to end spline.
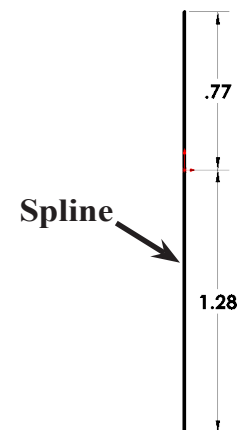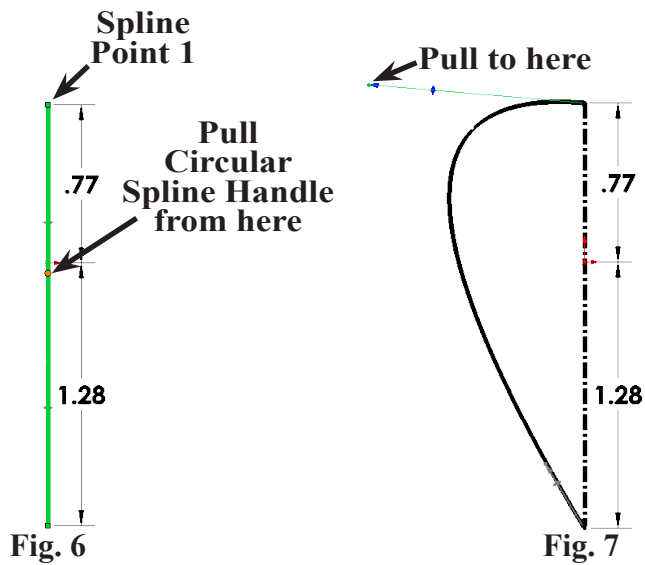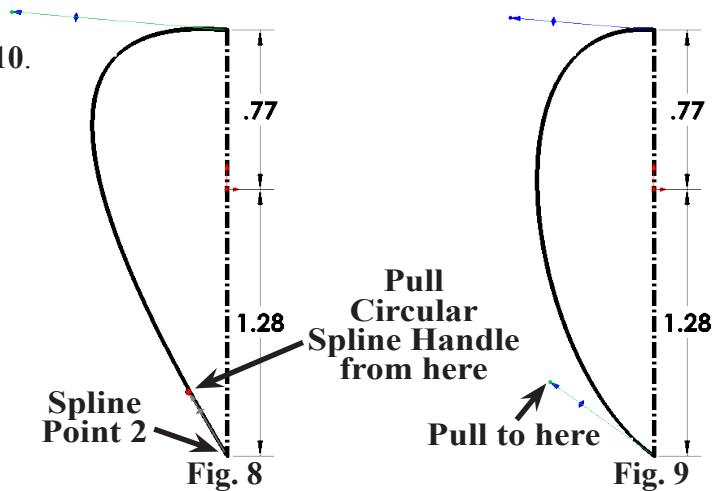
.77

1.28

Fig. 4

.77

Spline

1.28

Fig. 5

Step 3. Click spline to select it. Grab **Circular Spline handle** ● (small gray dot) of **Spline Point 1** and pull handle out to left, **Fig. 6** and **Fig. 7**. To find the Circular spline handle, start your cursor over the Origin and move up along the spline and just above the Origin the Circular spline will highlight as a red circle ●.

Step 4. Grab **Circular Spline handle** ● (small gray dot) of **Spline Point 2** and pull handle out to left, **Fig. 8** and **Fig. 9**.
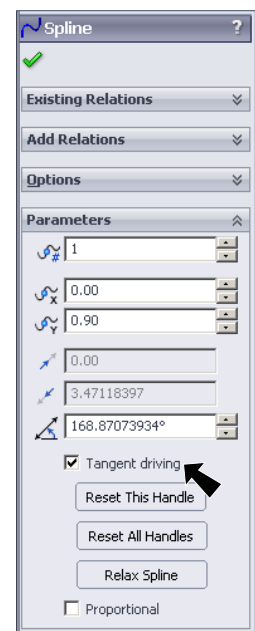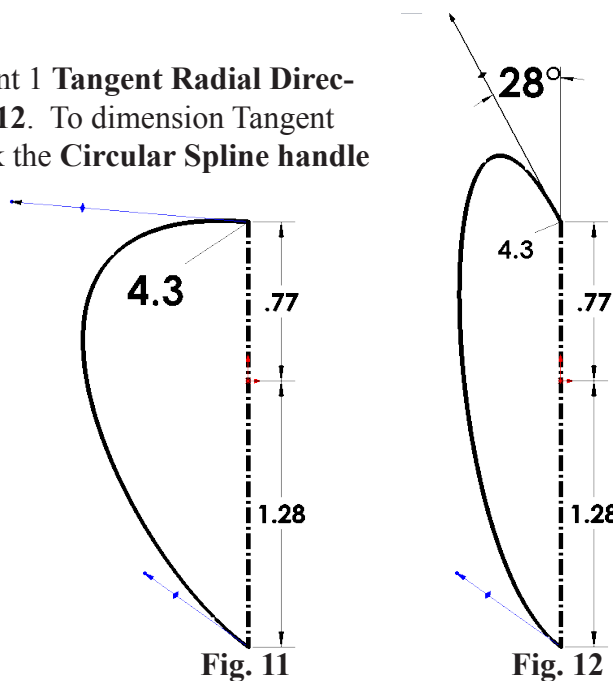
Step 5. In the Spline Property Manager:
under Parameters
check **Tangent driving**, **Fig. 10**.

Step 6. Click **Smart Dimension**

Smart Dimension (**S**) on the Sketch toolbar.

Step 7. Dimension Spline Point 1 **Tangent Weighting2 4.3**, **Fig. 11**. To dimension Tangent Weighting, click the **Circular Spline handle** ●, then move the cursor out away from spline and click. Key-in 4.3 and press ENTER.

Step 8. Dimension Spline Point 1 **Tangent Radial Direction 28 degrees**, **Fig. 12**. To dimension Tangent Radial Direction, click the **Circular Spline handle** ● **and centerline**, then move cursor up and to left of centerline and click. Key-in 28 and press ENTER.

Spline Point 1

Pull Circular Spline Handle from here

.77

1.28

Fig. 6

Pull to here

.77

1.28

Fig. 7

.77

1.28

Spline Point 2

Pull Circular Spline Handle from here

Fig. 8

.77

1.28

Pull to here

Fig. 9

4.3

.77

1.28

Fig. 11

28°

4.3

.77

1.28

Fig. 12

Spline ?

Existing Relations
Add Relations
Options
Parameters

1
X 0.00
Y 0.90

0.00
3.47118397
168.87073934°

☑ Tangent driving
Reset This Handle
Reset All Handles
Relax Spline
☐ Proportional

Fig. 10

Step 9. Dimension Spline Point 2 **Tangent Weighting1 10.3**, **Fig. 13**. To dimension Tangent Weighting, click the **Circular Spline handle ●,** then move the cursor out away from spline and click. Key-in 10.3 and press ENTER.
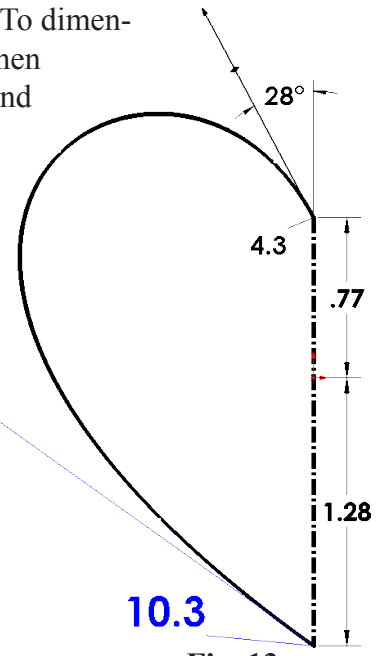
Step 10. Dimension Spline Point 2 **Tangent Radial Direction 54 degrees**, **Fig. 14**. To dimension Tangent Radial Direction, click the **Circular Spline handle ● and centerline**, then move cursor between and click. Key-in 54 and press ENTER.
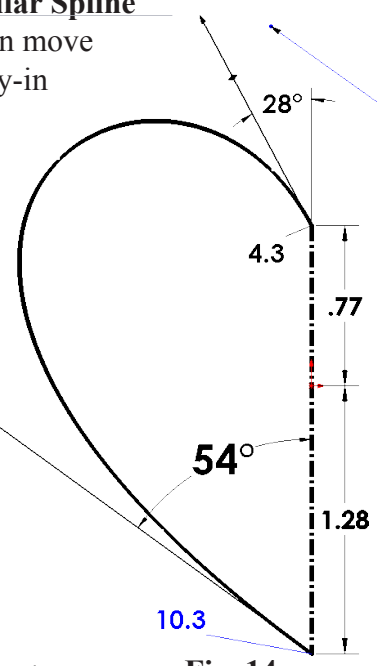
Step 11. Save. Use **Ctrl-S**.

D. Mirror Spline.

Step 1. **Ctrl click Spline and vertical centerline** to select both, **Fig. 15**. To Ctrl click, click Spline, then hold down Ctrl key and click vertical centerline.
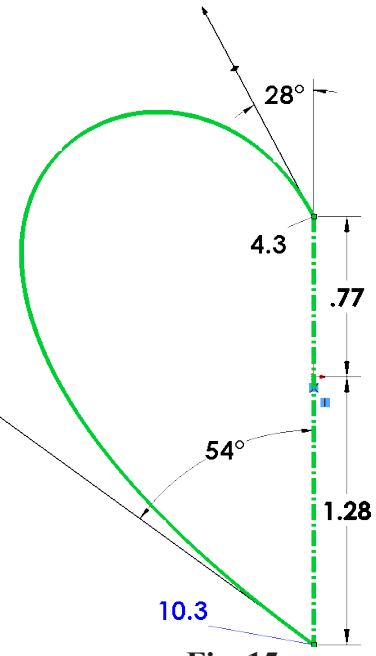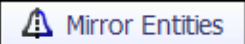
Step 2. Click **Mirror Entities**
[⚠ Mirror Entities] on the Sketch toolbar, **Fig. 16**.

Step 3. Save. Use **Ctrl-S**.
Important to Save here.

28°

4.3

.77

1.28

10.3

Fig. 13

28°

4.3

.77

54°

1.28

10.3

Fig. 14

28°

4.3

.77

54°

1.28

10.3

Fig. 15
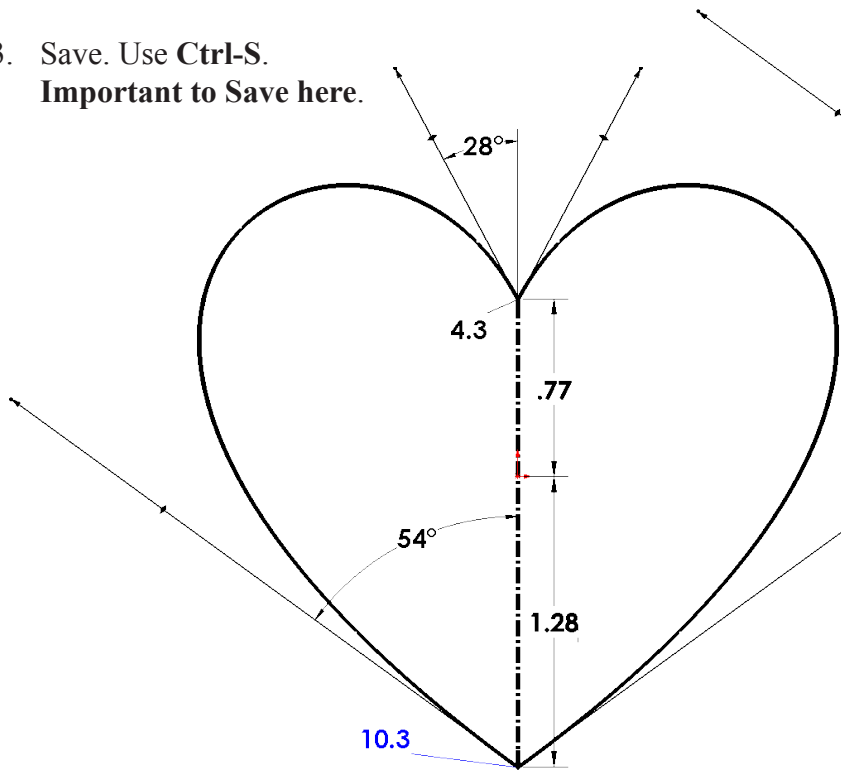
28°

4.3

.77

54°

1.28

10.3
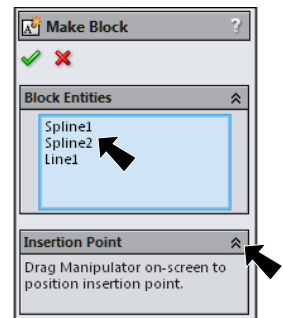
Fig. 16

E. Make Block.

Step 1.   Click Tools Menu > Blocks > Make.

Step 2.   In the Make Block Property Manager set:
under Block Entities, **Fig. 17**
drag selection across to select both splines and centerline, **Fig. 18**

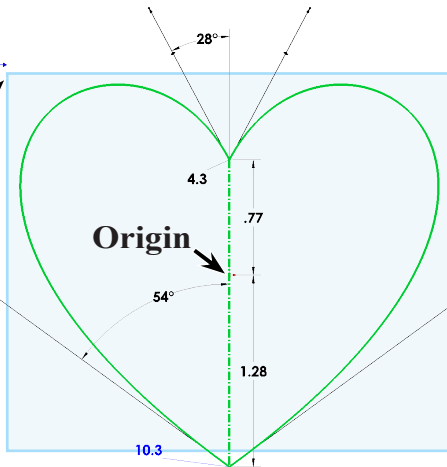expand Insertion Point, **Fig. 17**

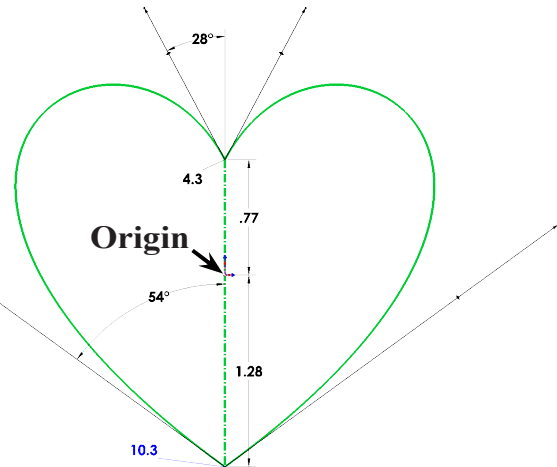**drag Insertion Point Manipulator** ⌐ **to Origin**, **Fig. 18** and **Fig. 19**   **Fig. 17**

click OK ✓ .

Drag Point Manipulator to Origin

Drag selection to right

28°   4.3   .77   Origin   54°   1.28   10.3

Fig. 18

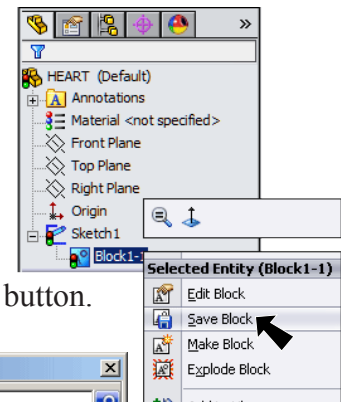28°   4.3   .77   Origin   54°   1.28   10.3

Fig. 19

F. Save Block.

Step 1.   **Right click Block1-1** in the Feature Manager and click **Save Block** on the Context toolbar, **Fig. 20**.
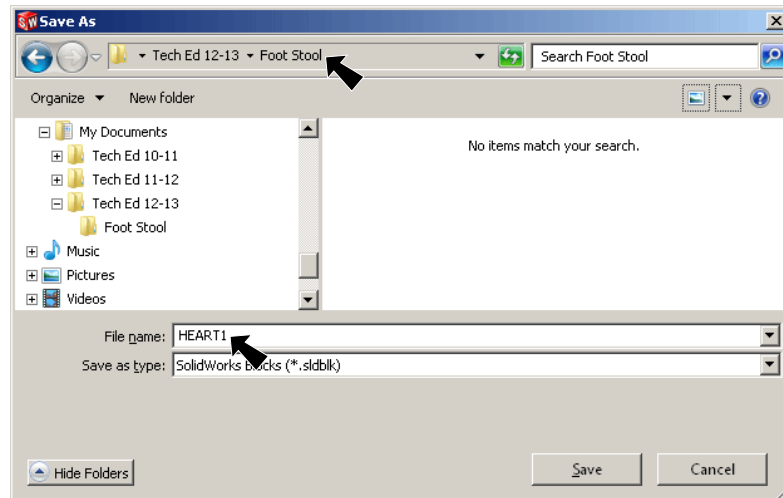
Step 2.   In the Save As dialog box, **Fig. 21**
key-in **HEART1** for the filename
navigate to **My Documents/Foot Stool folder** and click Save button.

Fig. 20

Step 3.   **Do Not Save Heart part file** with the Block as the Block deleted all dimensions and relations in the sketch. Or you can undo creating the Block.

Fig. 21