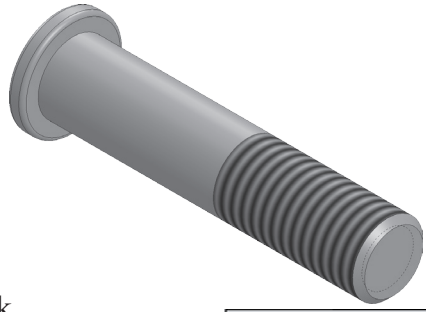
Chapter 5

Skateboard
Kingpin



A. Sketch.

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**.

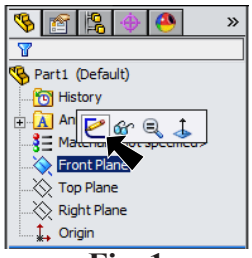


Fig. 1

Step 3. Click **Line** **(L)** on the Sketch toolbar.

Step 4. Draw lines starting at the Origin , **Fig. 2**. Use the inferencing line, the dotted line that appears when you draw the lines.

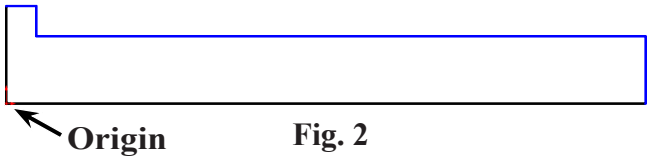


Fig. 2

Step 5. **Right click graphics area and click Select** from menu to unselect Line tool.

Step 6. Click **bottom horizontal line** and click **Construction Geometry** on the Context toolbar, **Fig. 3**.

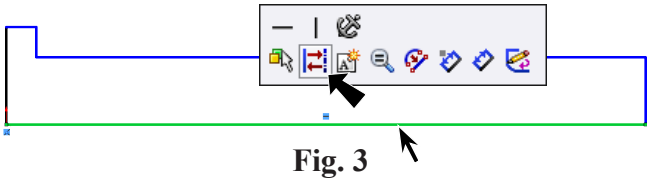


Fig. 3

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

Step 8. Add dimensions, **Fig. 4**. Dimension **double distance** 13.6. To double distance dimension, click centerline and then top horizontal line, move the cursor below centerline (Origin) and click. Key-in 13.6 in the Modify box and press ENTER. Double distance 9.4 dimension.

Fig. 4

Step 9. Click **Features** 

on the Command Manager toolbar.

Step 10. Click **Revolved Boss/Base** 

on the Features toolbar.

Step 11. In the Revolve Property Manger set:

under Axis of Revolution 
construction line is selected, **Fig. 5**
click Yes to message
click OK  .

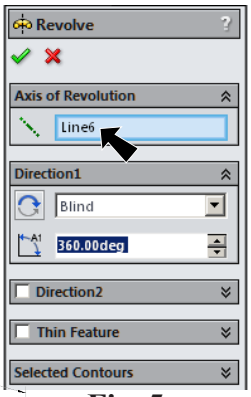


Fig. 5

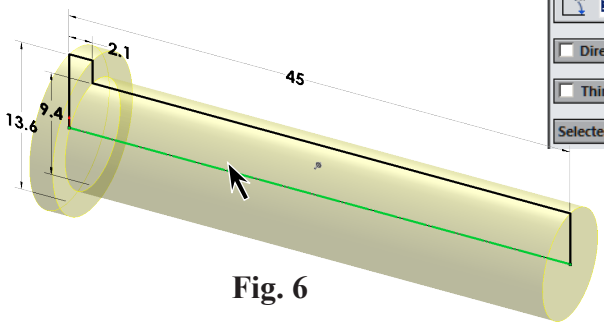


Fig. 6

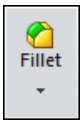
B. Save as "KINGPIN".

Step 1. Click File Menu > Save As.

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

C. Chamfer.

Step 1. Click **Chamfer** 

in the **Fillet flyout** 

on the Features toolbar.

Step 2. In the Chamfer Property Manager set:

under Chamfer Parameters, **Fig. 7**

Depth  **.81**

Angle  **45º**

click **circular edge at right end**, **Fig. 8**

click OK  .

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

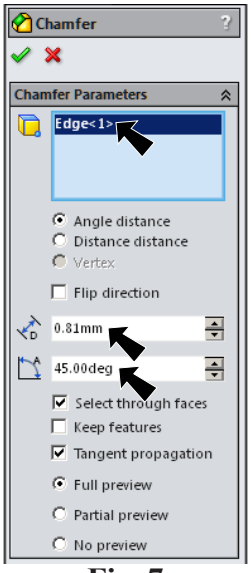


Fig. 7

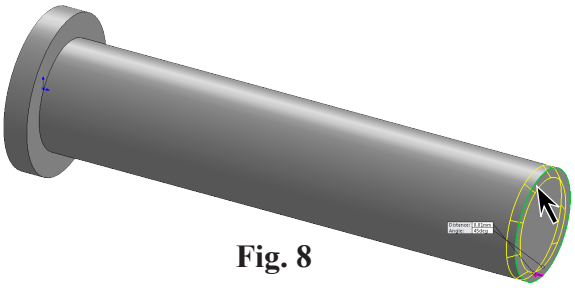


Fig. 8

D. Fillet Face.

Step 1. Click **Fillet** 

on the Features toolbar.

Step 2. In the Fillet Property Manager set:
under Items to Fillet, **Fig. 9**

Radius **.5**
click **cylindrical face** of bolt head, **Fig. 10**
click OK .

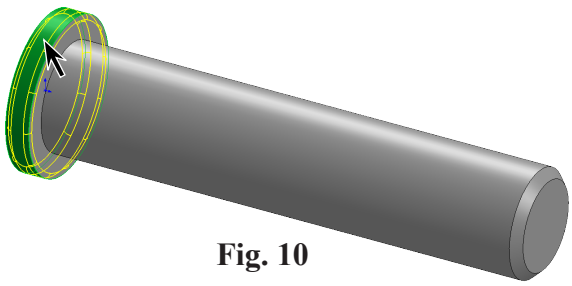


Fig. 10

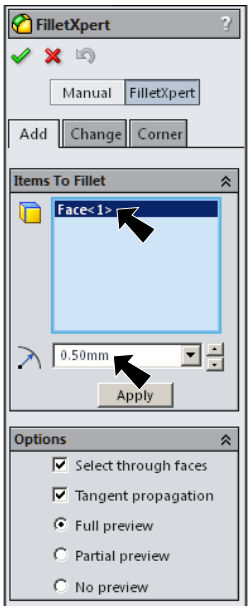


Fig. 9

E. Cosmetic Threads.

Step 1. Click Insert Menu > Annotations > Cosmetic Thread.

Step 2. In Cosmetic Thread Property Manager set:
under Thread Setting, **Fig. 11**
click **chamfer edge**, **Fig. 12**
under Standard:
ANSI Metric
under Type:
Machine Threads
under Size:
M8x1.0

Depth **19.5**
click OK .

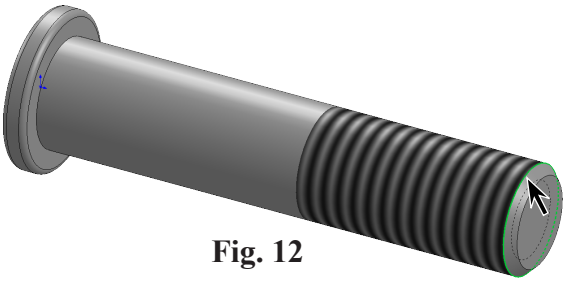


Fig. 12

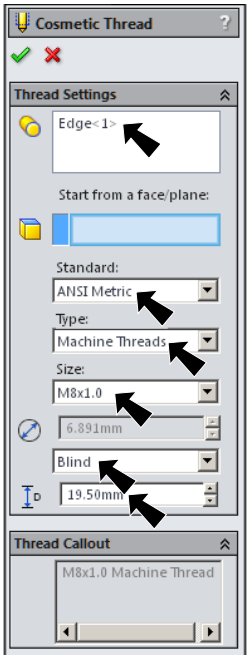


Fig. 11

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

If the threads are not visible, turn on display in Document Properties. To turn on, click Options  on the Standard toolbar or Tools Menu > Options. Click Document Properties tab and under **Detailing**, check **Cosmetic threads** and check **Shaded cosmetic threads**.