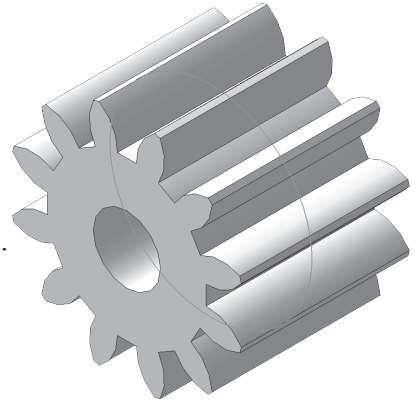


Gear 12T




A. Toolbox New Part Spur Gear 12T.

Step 1. Click the **Design Library** tab  in the Task Pane, **Fig. 1**.

Step 2. In the **Toolbox**  **Toolbox**
 Expand **ANSI Metric** folder  **ANSI Metric**
 Expand **Power Transmission** folder  **Power Transmission**
 Click **Gears** folder  **Gears**

Step 3. In the lower pane, **right click Spur Gear** and click **Create Part**, **Fig. 1**.

Step 4. In the Property Manager set:
 under Properties, **Fig. 2**
Module: .5
Number of Teeth: 12
Pressure Angle: 20
Face Width: 5
Hub Style: None
Nominal Shaft Diameter: 2
Keyway: None
 click OK .

Step 5. Click **Zoom to Fit**  (F) on the View toolbar.

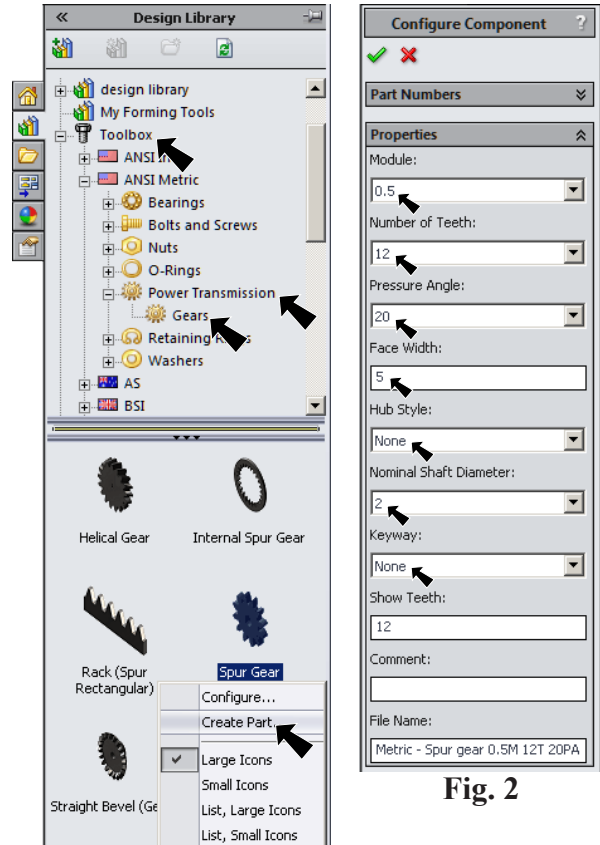


Fig. 2

B. Save As.

Step 1. Click File Menu > Save As.

Step 2. Redirect file path to your **JSS folder** in your Tech Ed 14-15 folder.

Step 3. Delete the Part Number in the filename leaving:
Metric - Spur gear 0.5M 12T 20PA 5FW
 and click Save.

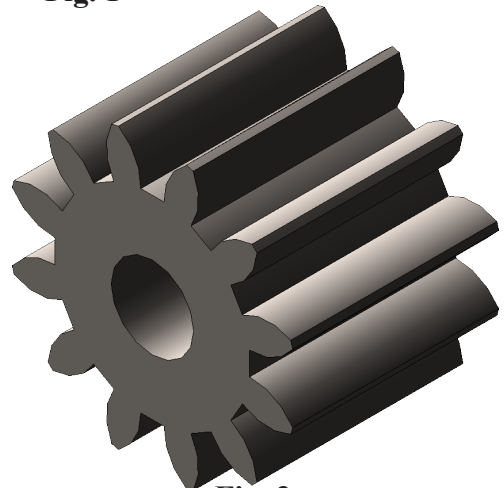




Fig. 3


C. Create Plane.

Step 1. Click **Plane 3**  in the Feature Manager to select Plane, **Fig. 4**.

Step 2. Click **Reference Geometry**  on the Features toolbar and **Plane** from the menu.

Step 3. In the Plane Property Manager set:
under First Reference, **Fig. 5**
Plane 3 should be selected

under Second Reference
click **Midpoint**  of tooth face width edge,
Fig. 6 and Fig. 7.

click OK .

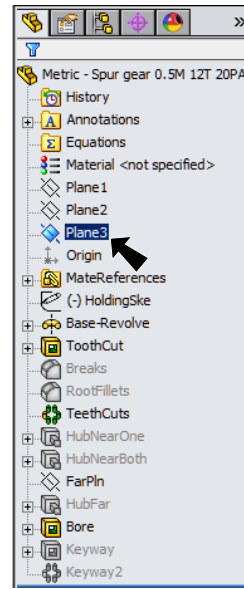


Fig. 4

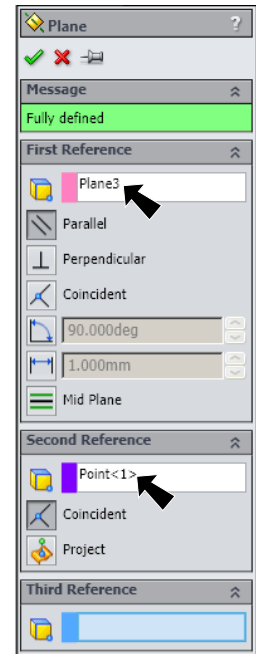


Fig. 5

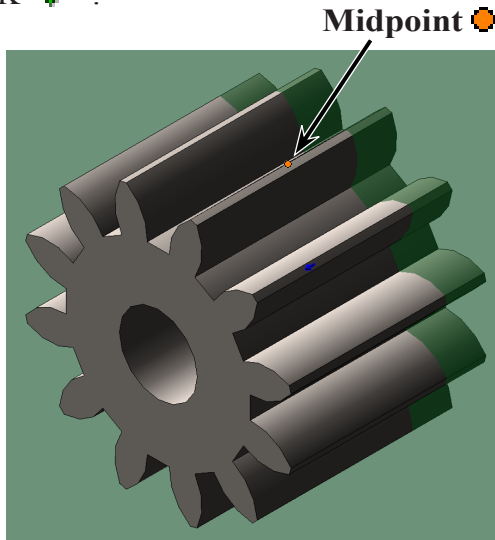


Fig. 6

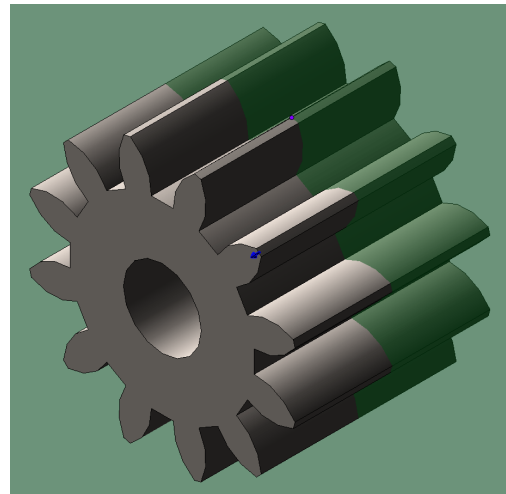






Fig. 7

D. Pitch Circle.

Step 1. Click new **Plane4**  in the Feature Manager and click **Sketch**  on the Context toolbar, **Fig. 8**.

Step 2. Click **Normal To**  on the Standard Views toolbar. (**Ctrl-8**)

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

Step 4. Draw a circle starting at the Origin , **Fig. 9**.

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

Step 6. Dimension circle **diameter 6**, **Fig. 9**.
Module * Number of Teeth = Pitch diameter
or $.5 * 12 = 6$

Step 7. Click **Exit Sketch**  on the Sketch toolbar.

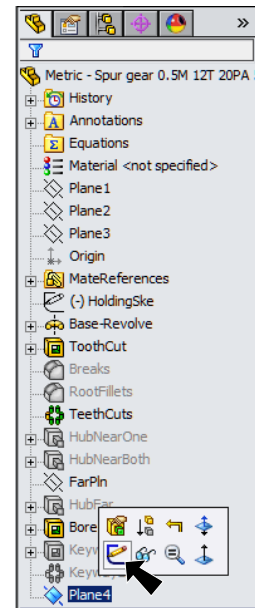


Fig. 8

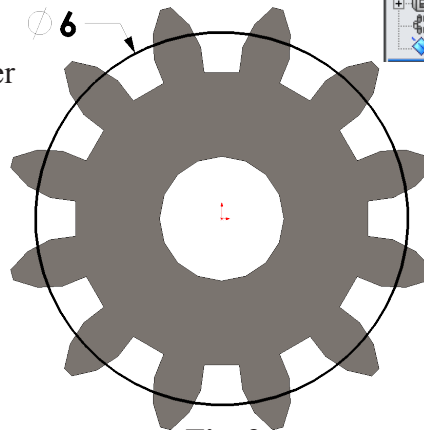


Fig. 9

E. Material ABS Plastic.

Step 1. Click **Isometric**  on the Standard Views toolbar. (**Ctrl-7**)

Step 2. **Right click Material**  in the Feature Manager and click **Edit Material**.

Step 3. **Expand Plastic** in the material tree and select **ABS**.
Click **Apply** and **Close**.

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

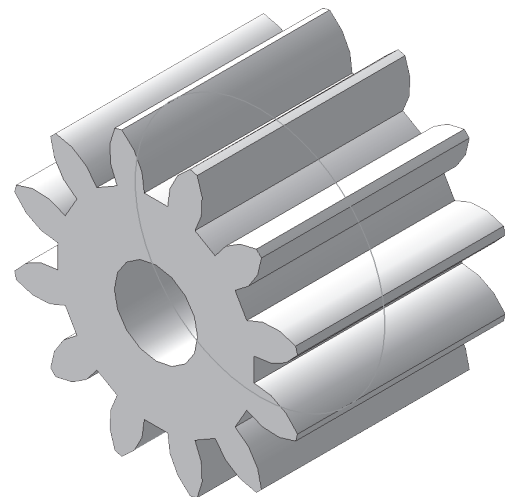


Fig. 10