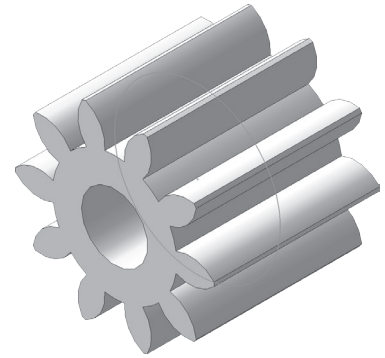


# Gear 10T




## A. Toolbox New Part Spur Gear 10T.

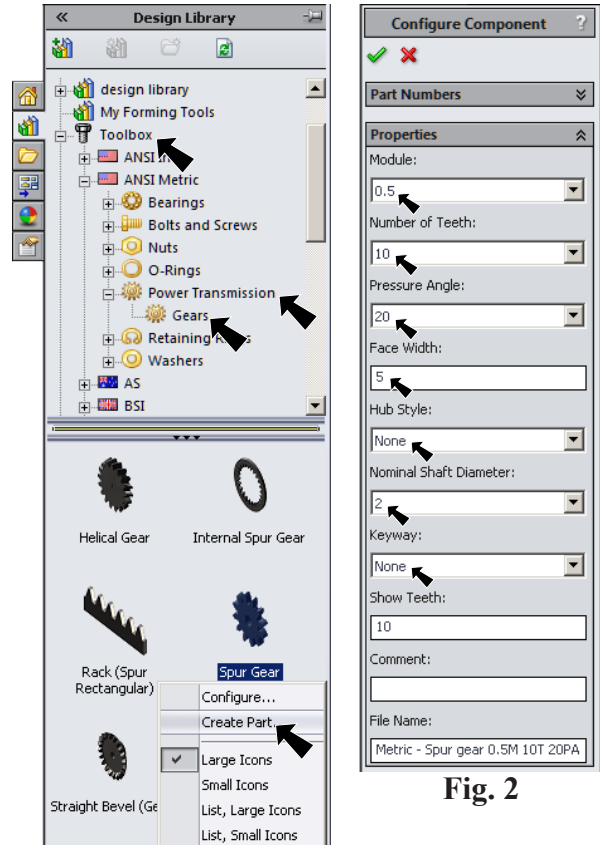
Step 1. Click the **Design Library** tab  in the Task Pane, **Fig. 1**.

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: 10**  
**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.



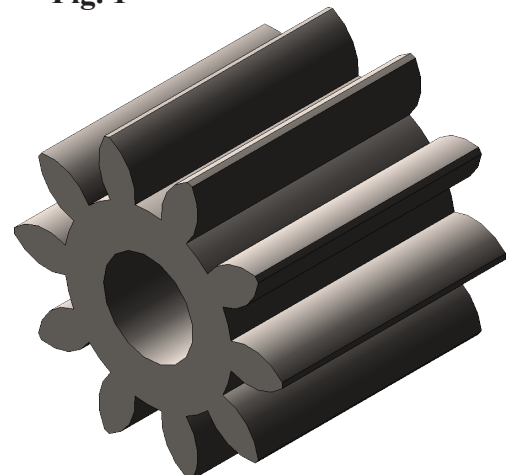
**Fig. 2**

## 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 10T 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

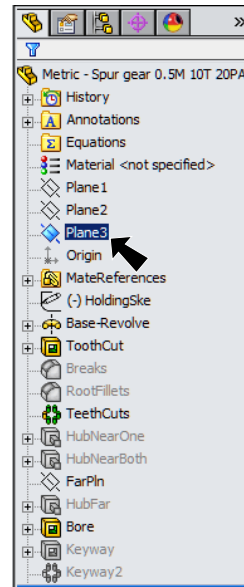


Fig. 4

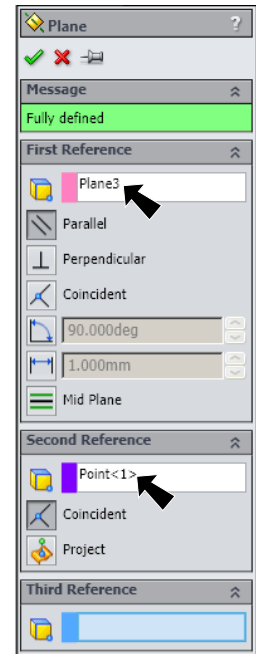


Fig. 5

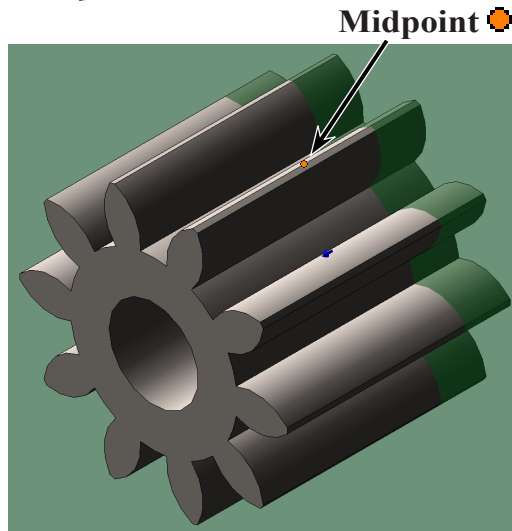


Fig. 6

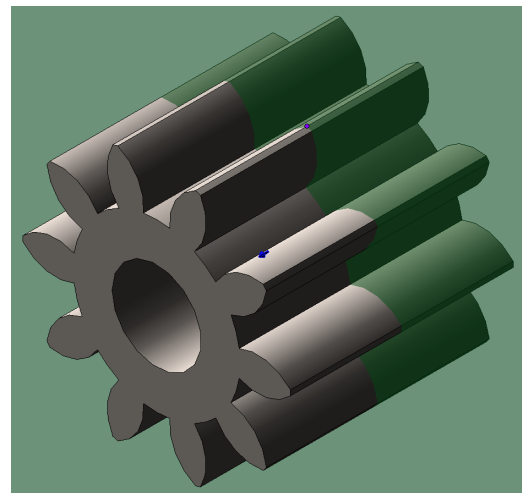




Fig. 7


## 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**)

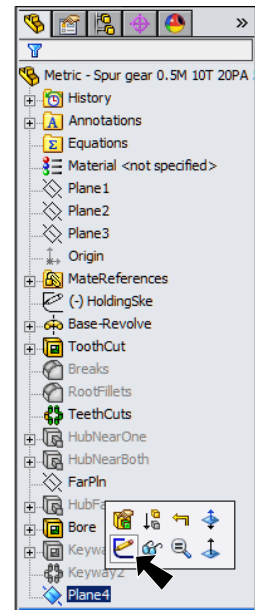
Step 3. Click **Circle**  (S) on the Sketch toolbar.

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

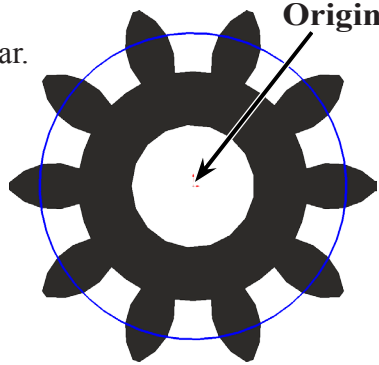
Step 5. Click **Smart Dimension**  (S) on the Sketch toolbar.

Step 6. Dimension circle **diameter 5**, **Fig. 10**.  
 $\text{Module} * \text{Number of Teeth} = \text{Pitch diameter}$   
 or  $.5 * 10 = 5$

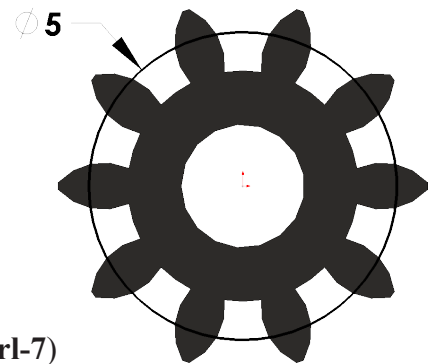
Step 7. Click **Exit Sketch**  on the Sketch toolbar.



**Fig. 8**





**Fig. 9**



**Fig. 10**

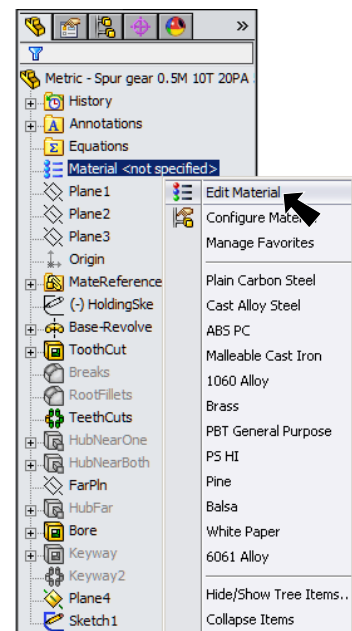
## E. Material ABS Plastic.

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

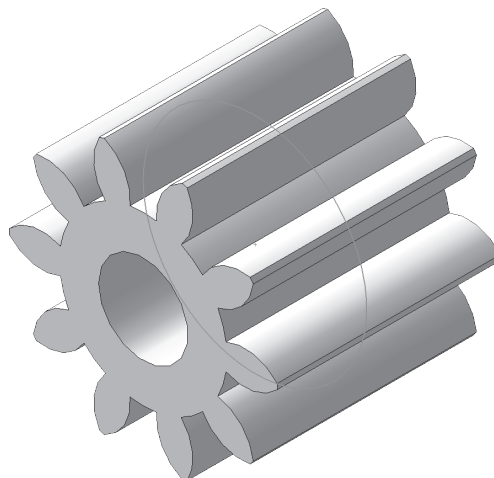
Step 2. **Right click** **Material**  in the Feature Manager and click **Edit Material**, **Fig. 11**.

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

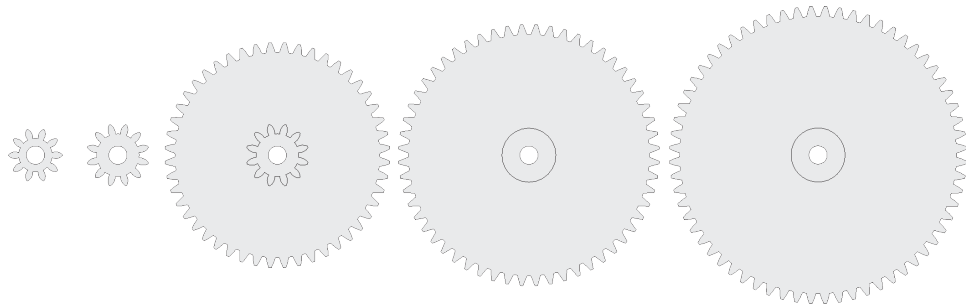
Step 4. Save. Use **Ctrl-S**.



**Fig. 11**



**Fig. 12**



	10T	12T	12-48T	56T	64T
Module	.5	.5	.5	.5	.5
Teeth	10	12	12-48	56	64
Pressure Angle	20	20	20	20	20
Face Width	5	5	4-1.5	1.5	1.5
Hub Style	None	None	None	One Side	One Side
Hub Diameter	-	-	-	6	6
Overall Length	-	-	-	3.5	3.5
Shaft Diameter	2	2	2	2	2
Pitch Diameter	5	6	24	28	32