# 1. Crank



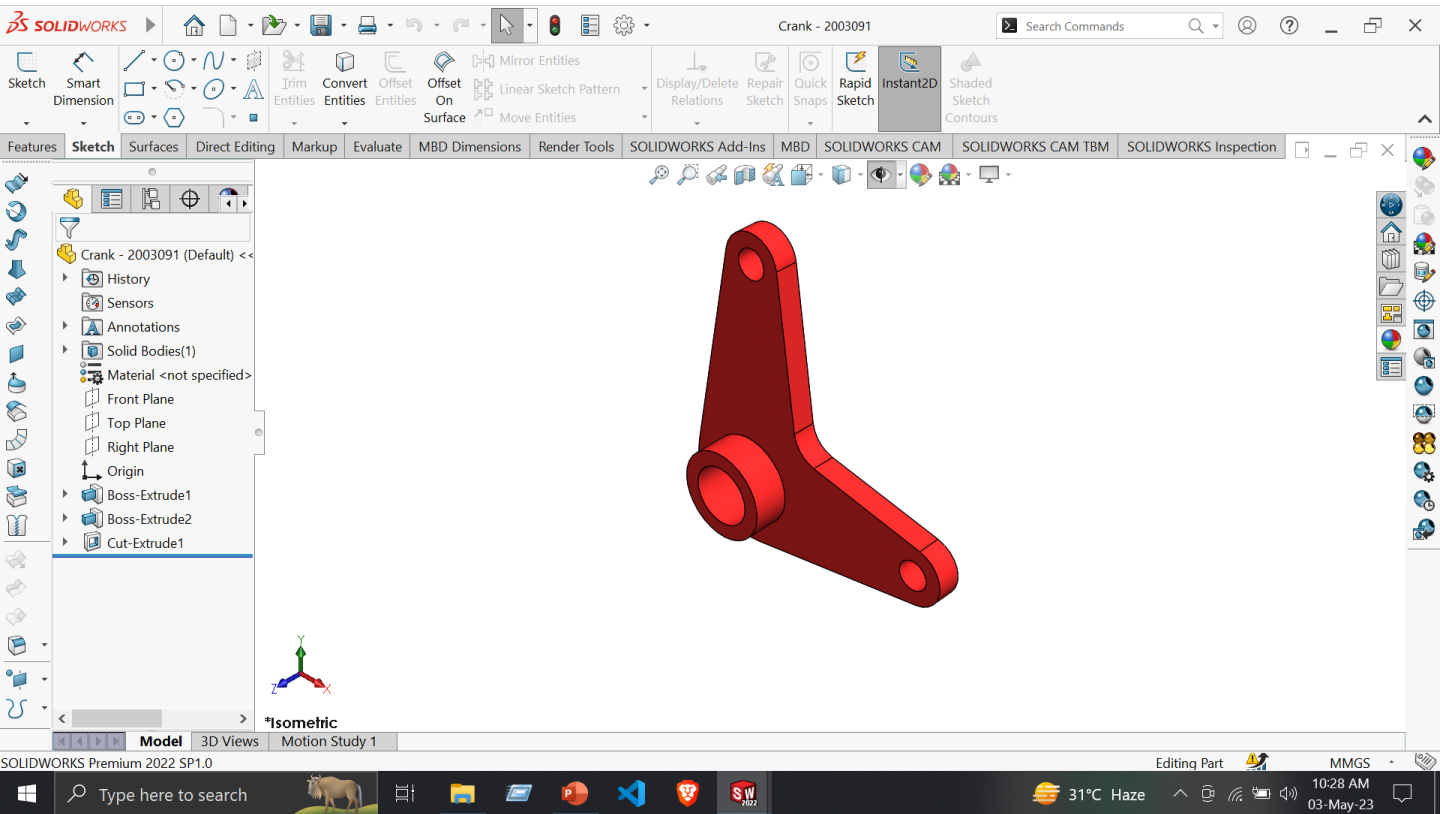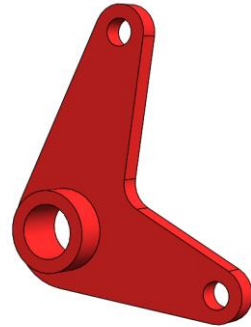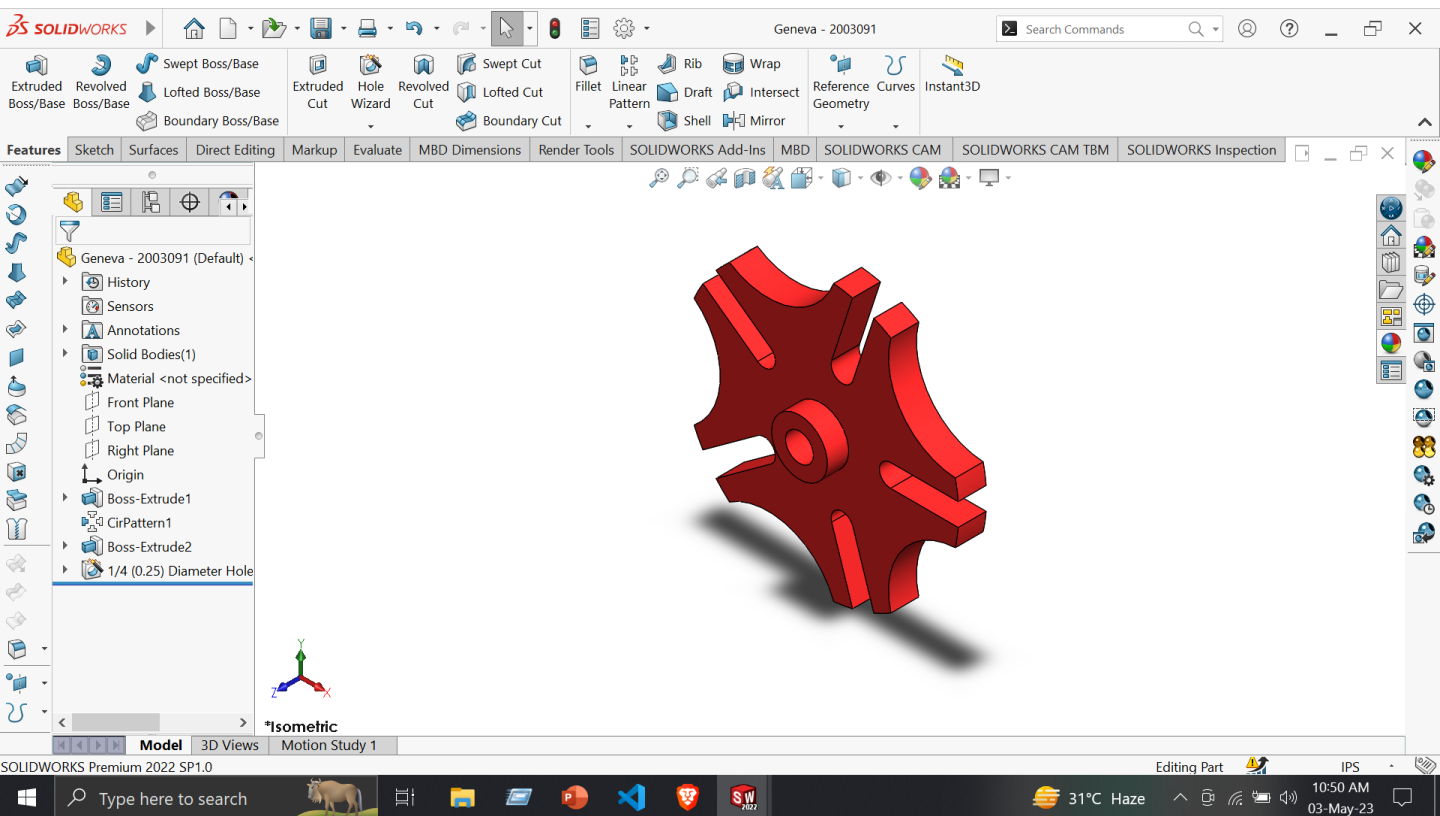**Features:**
1.    Extruded  Boss/Base
2.    Extruded Cut

**Tools:**
1.    Line
2.    Corner Rectangle
3.    Smart Dimension
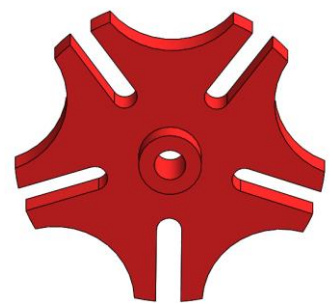4.    Display/Delete Relations -> Add Relation

# 2. Geneva Gear Index
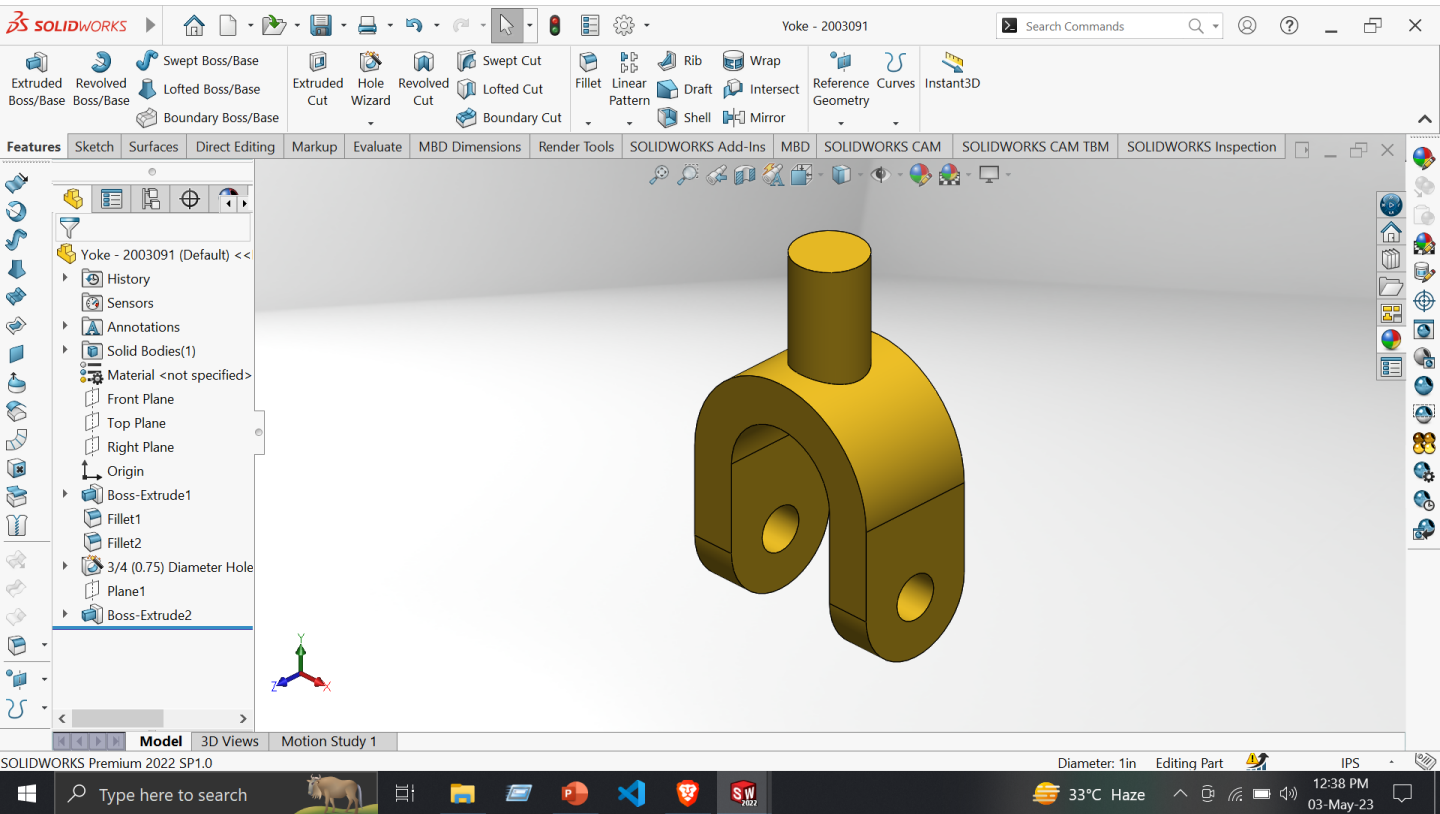


**Features:**
1.    Extruded Boss/Base
2.    Circular Pattern
3.    Hole Wizard

**Tools:**
1.    Line
2.    Centrepoint Arc
3.    Circle
4.    Construction Geometry
5.    Display/Delete Relations -> Add Relation
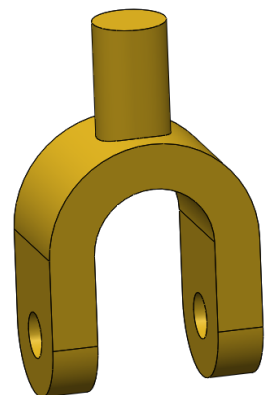6.    Trim Entities
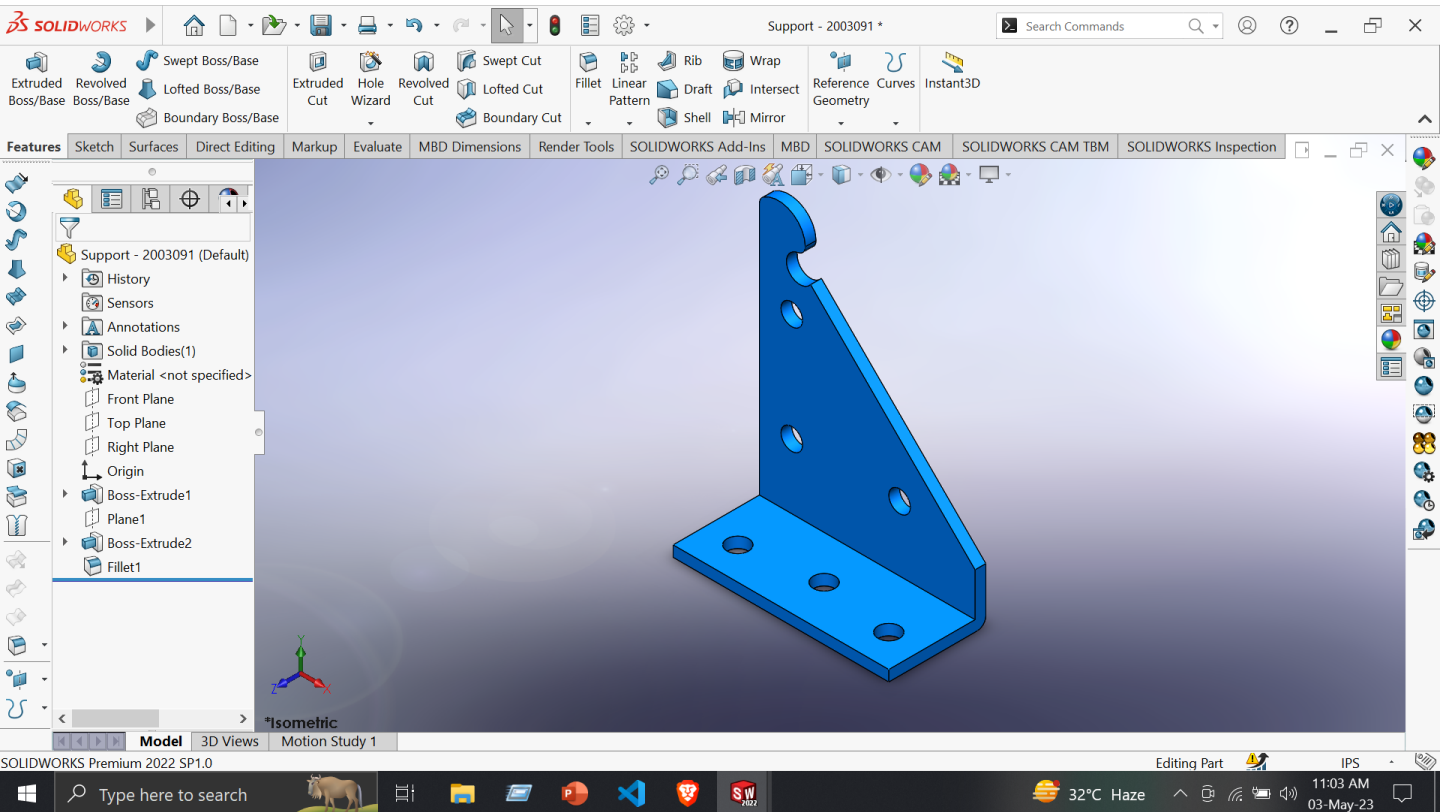7.    Smart Dimension

# 3. Yoke



**Features:**
1. Extruded Boss/Base
2. Fillet
3. Hole Wizard
4. Reference Geometry -> Plane

**Tools:**
1. Line
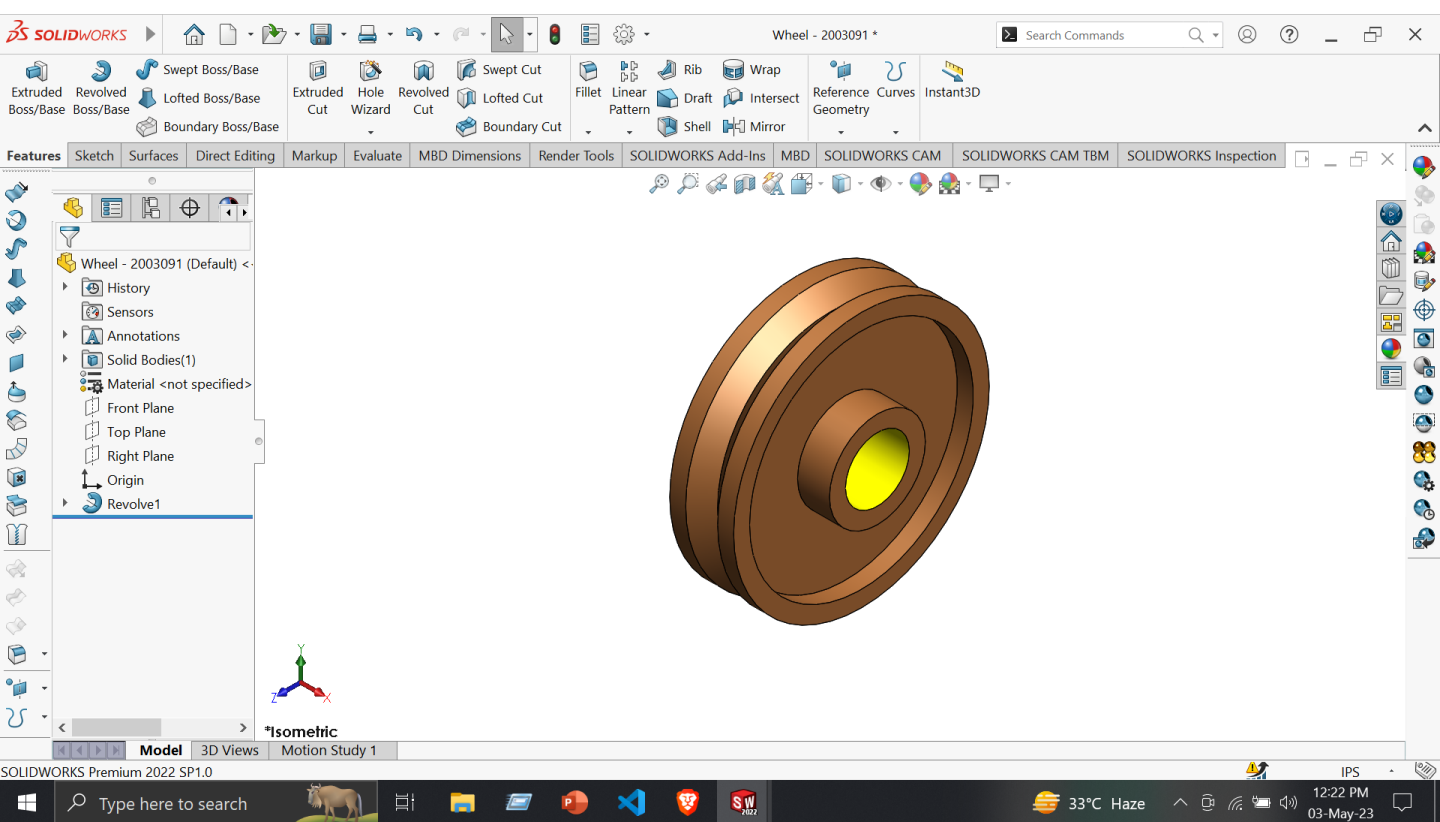2. Centerline
3. Circle
4. Smart Dimension

# 4. Support



**Features:**

1.  Extruded Boss/Base
2.  Reference Geometry -> Plane
3.  Fillet

**Tools:**

1.  Line
2.  Circle
3.  Sketch Fillet
4.  Trim Entities
5.  Display/Delete Relations -> Add Relation
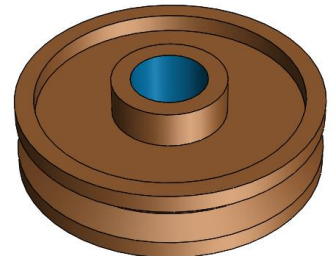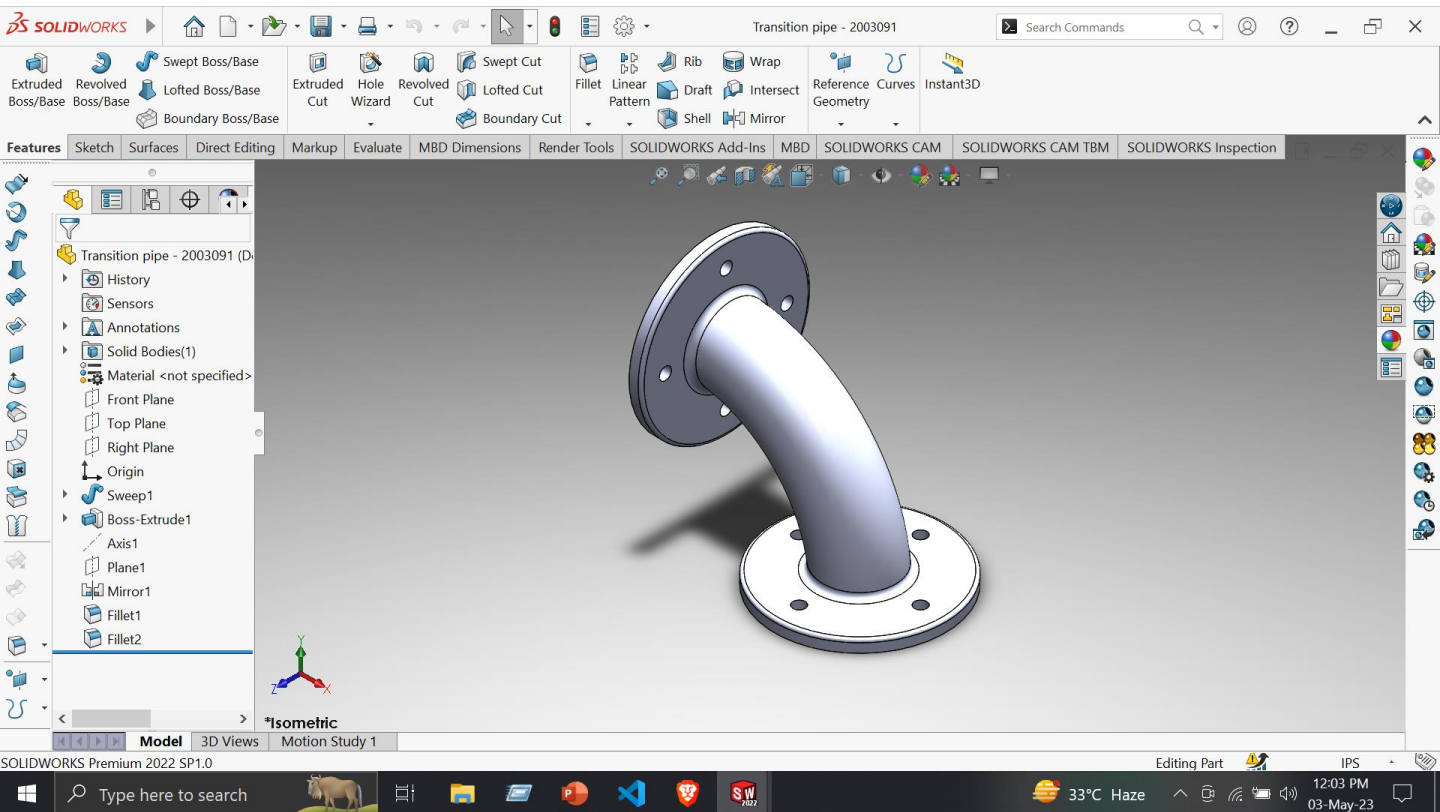6.  Smart Dimension

# 5. Wheel



**Features:**
1. Extruded Boss/Base
2. Revolved Boss/Base

**Tools:**
1. Line
2. Centerline
3. Circle
4. Construction Geometry
5. Smart Dimension
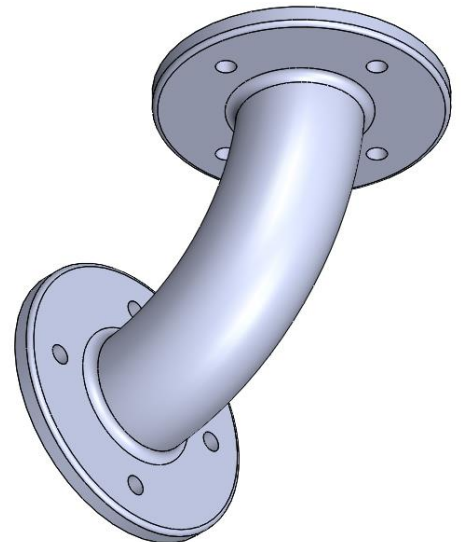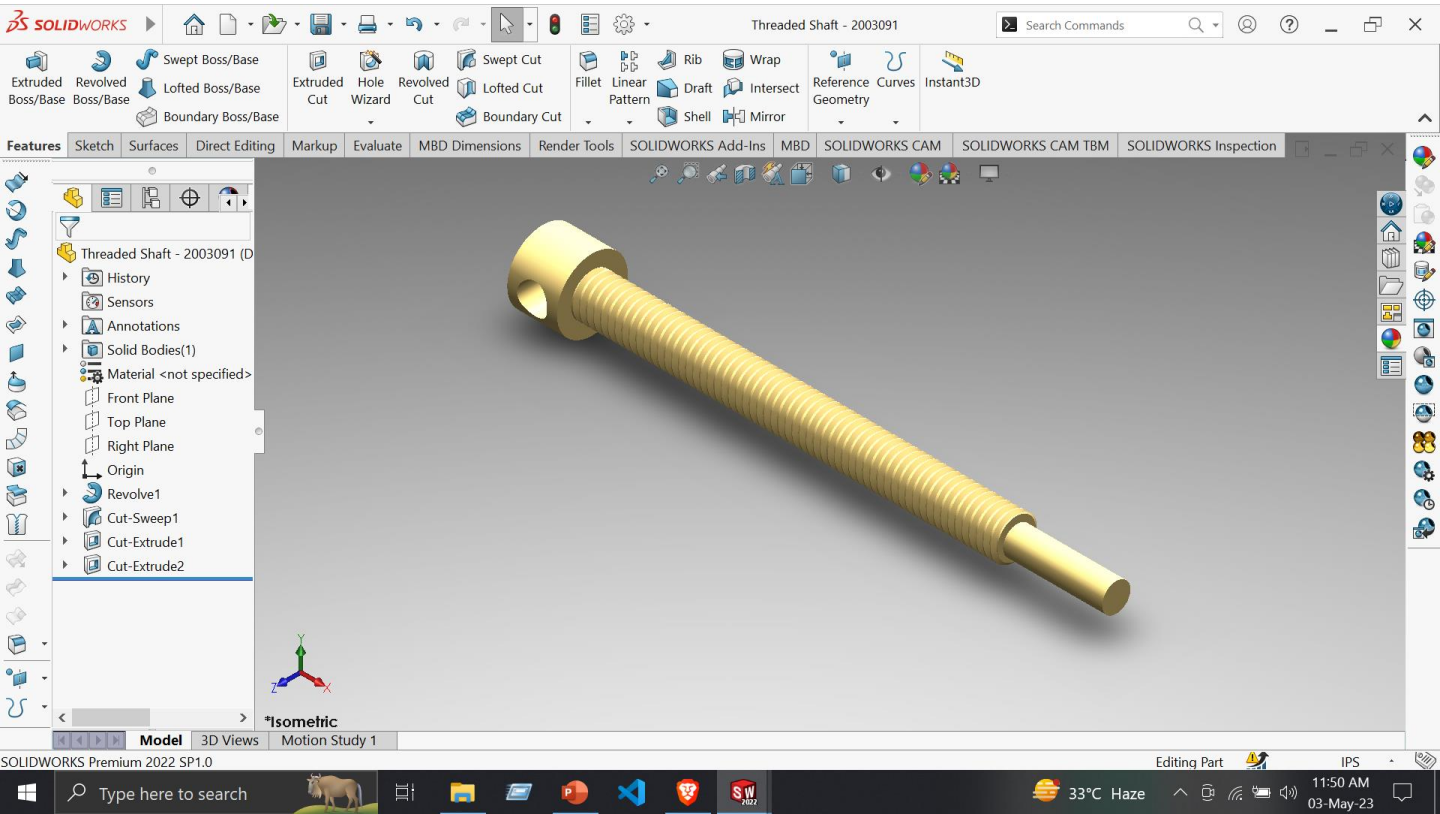
# 6. Transition Pipe



**Features:**
1. Extruded Boss/Base
2. Revolved Boss/Base
3. Swept Boss/Base
4. Reference Geometry -> Plane
5. Fillet

**Tools:**
1. Line
2. Centerline
3. Circle
4. Construction Geometry
5. Smart Dimension

# 7. Threaded Shaft
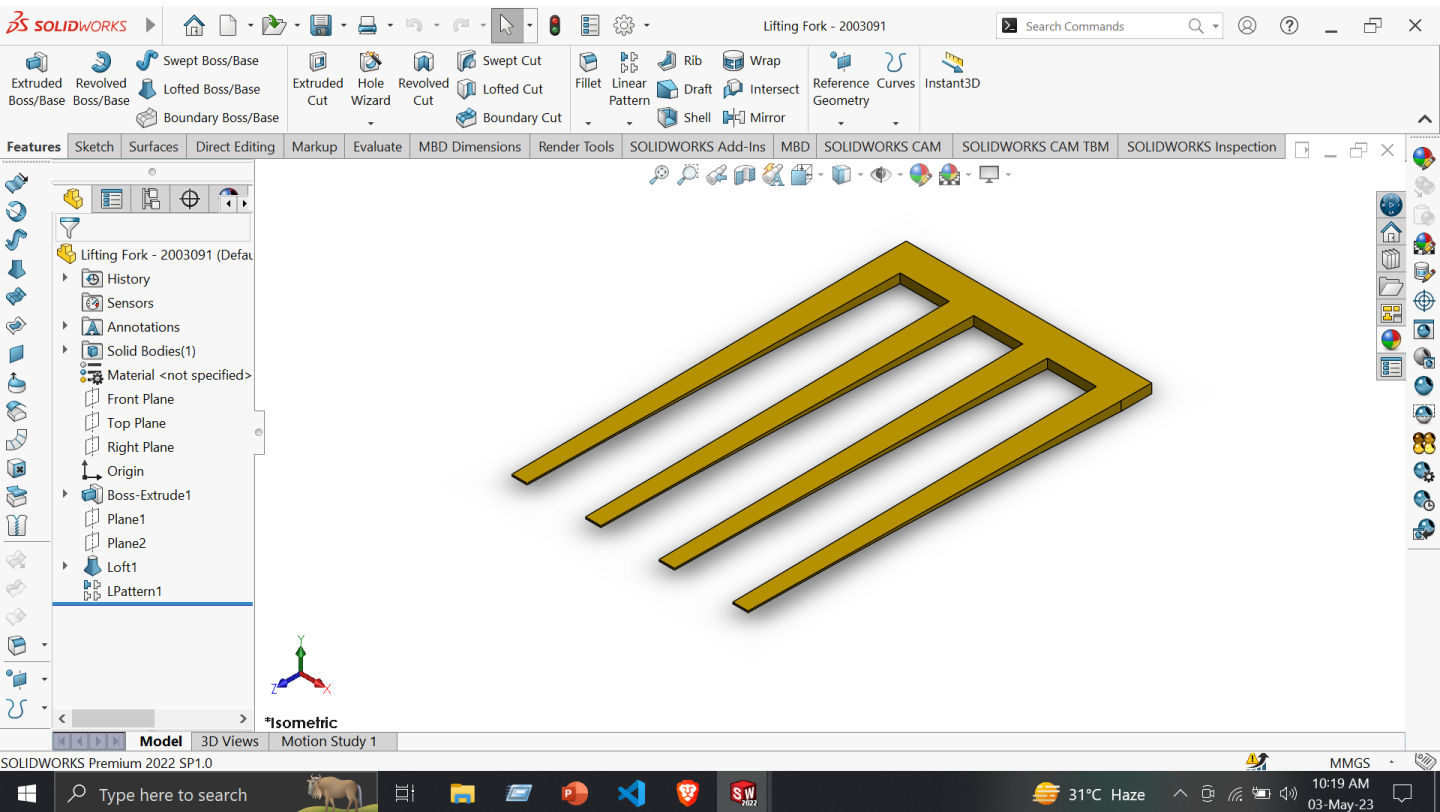


**Features:**
1.  Extruded Boss/Base
2.  Revolved Boss/Base
3.  Swept Cut
4.  Extruded Cut

**Tools:**
1.  Line
2.  Centerline
3.  Circle
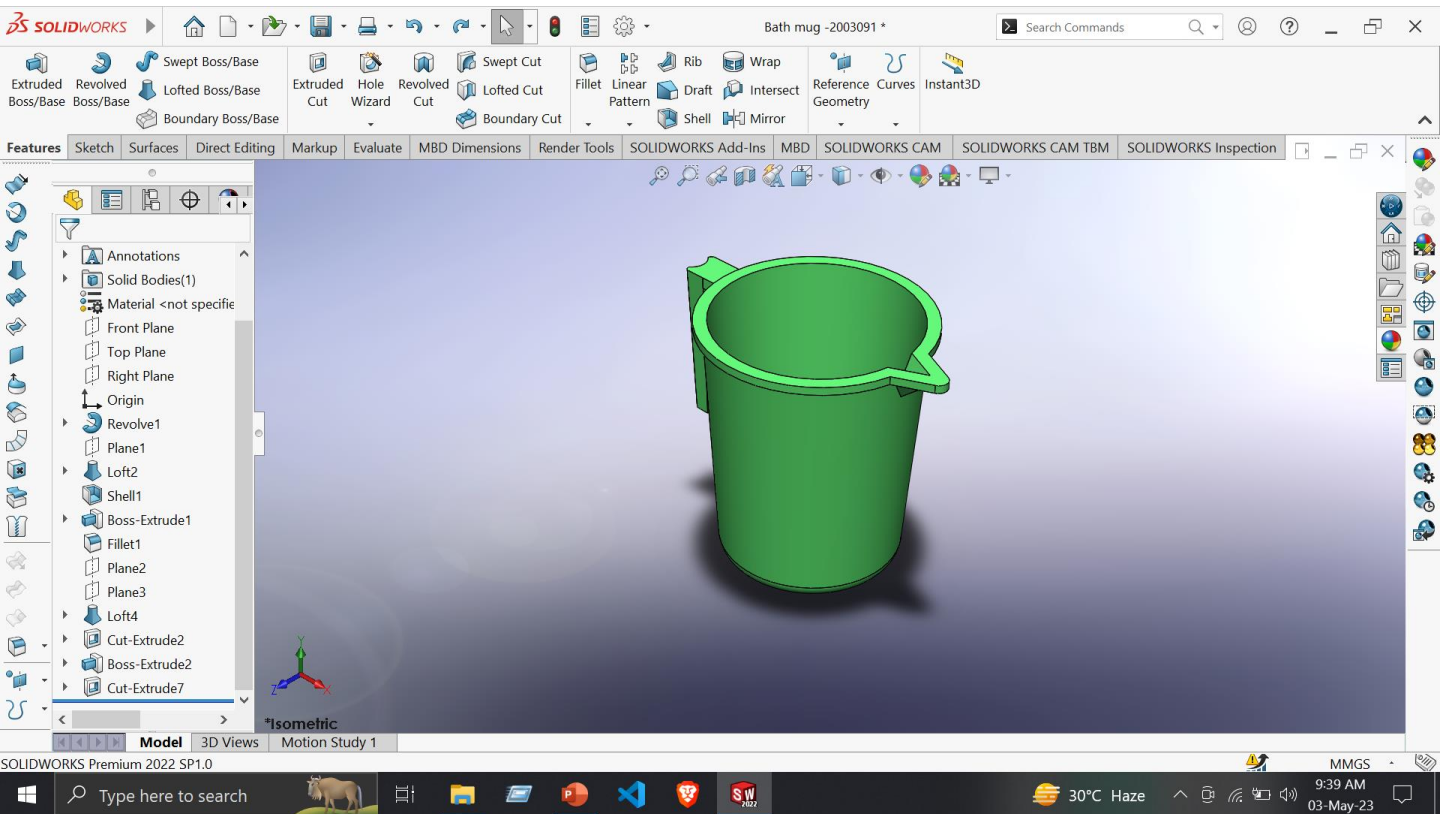4.  Covert Entities
5.  Smart Dimension

**Features:**
1. Extruded  Boss/Base
2. Reference Geometry -> Plane
3. Lofted Boss/Base
4. Linear Pattern

**Tools:**
1. Line
2. Corner Rectangle
3. Smart Dimension
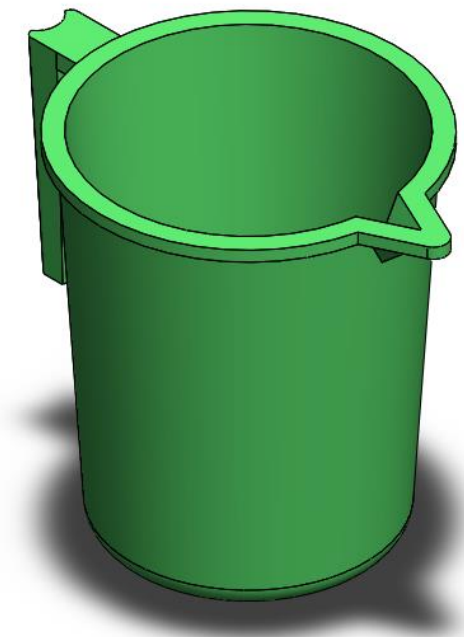4. Display/Delete Relations -> Add Relation
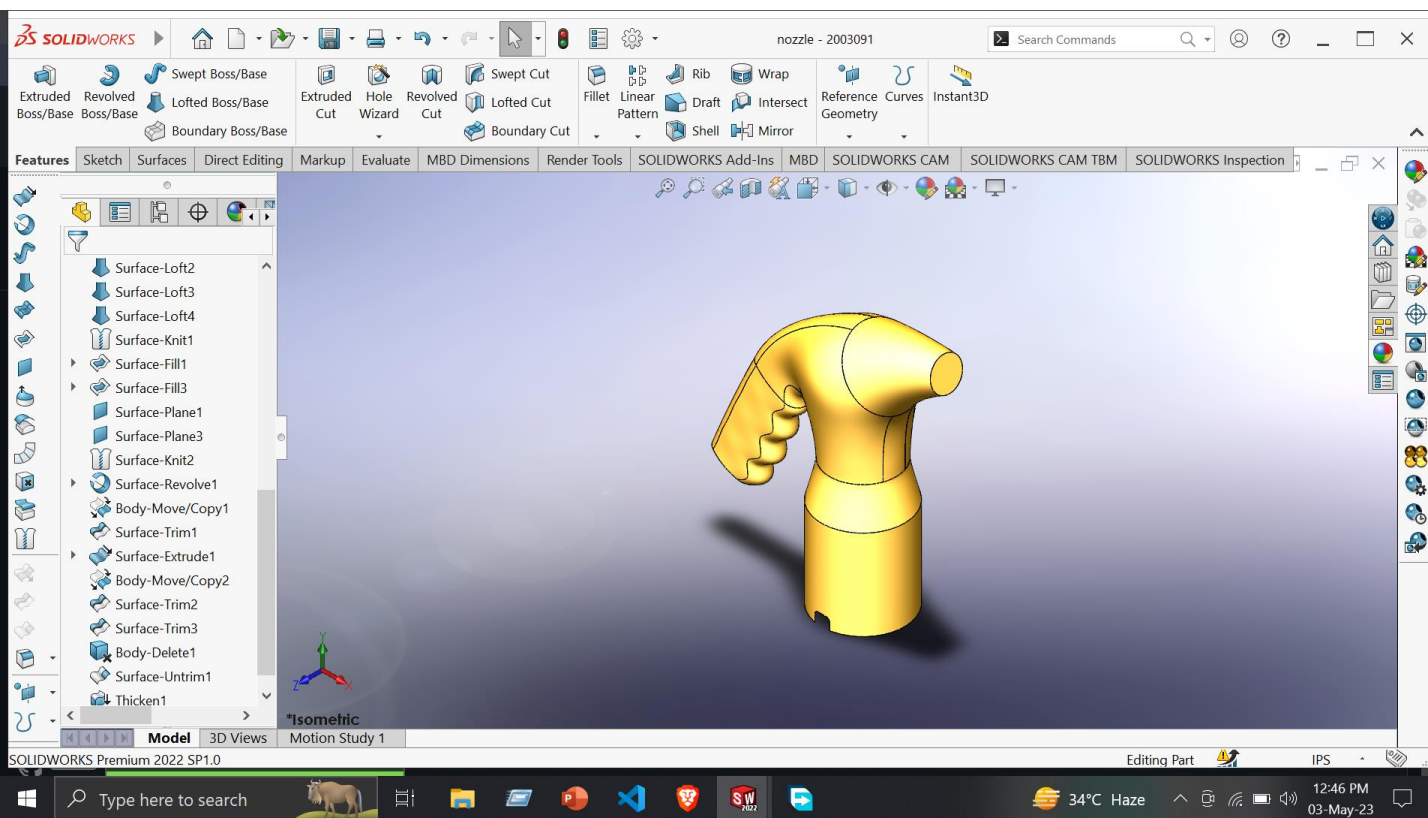
# 9. Bath Mug



**Features:**

1. Extruded Boss/Base
2. Revolved Boss/Base
3. Lofted Boss/Base
4. Extruded Cut
5. Fillet
6. Shell
7. Reference Geometry -> plane

**Tools:**

1. Line
2. Centerline
3. Circle
4. Center Rectangle
5. Spline
6. Covert Entities
7. Trim Entities
8. Point
9. Smart Dimension

# 10. Nozzle



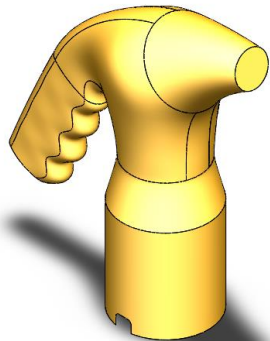**Features:**
1.    Curves -> Split Line


**Surfaces:**
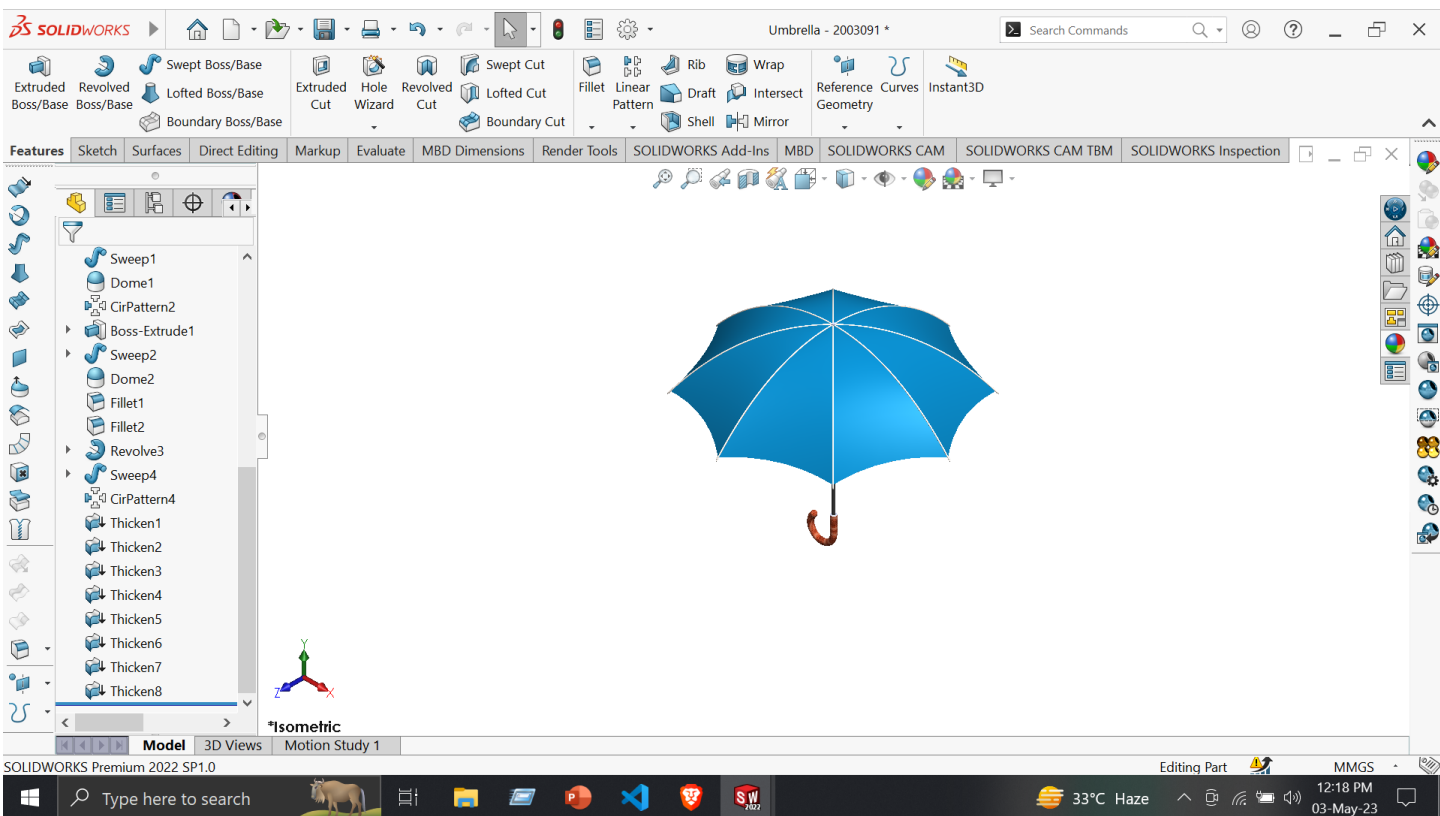1.    Lofted Surface
2.    Swept Surface
3.    Filled Surface
4.    Planer Surface
5.    Trim surface
6.    Knit Surface
7.    Thicken



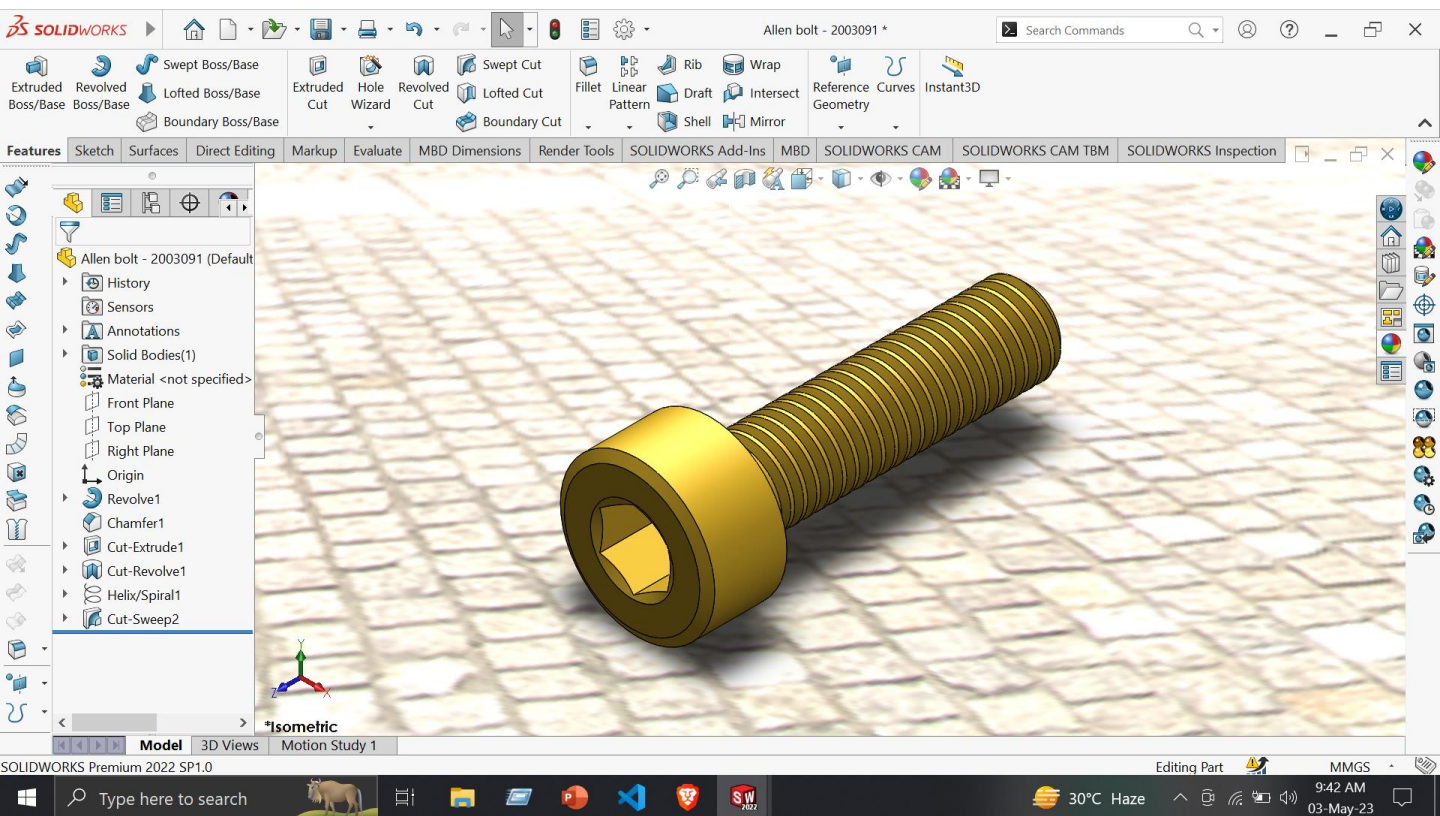   **Direct Editing:**
1.    Move/Copy Bodies

**Features:**

1. Extruded Boss/Base
2. Revolved Boss/Base
3. Swept Boss/Base
4. Reference Geometry -> Plane

**Tools:**

1. Line
2. Centerline
3. Circle
4. 3 point Arc
5. Smart Dimension

# 12. Allen Bolt



**Features:**
1.    Revolved Boss/Base
2.    Extruded Cut
3.    Revolved Cut
4.    Swept Cut
5.    Chamfer
6.    Curves -> Helix and Spiral

**Tools:**
1.    Line
2.    Circle
3.    Polygon
4.    Centerline
5.    Smart Dimension