

# The Washer

## The Form

Draw Washer

StartingPoint

Outside Diameter

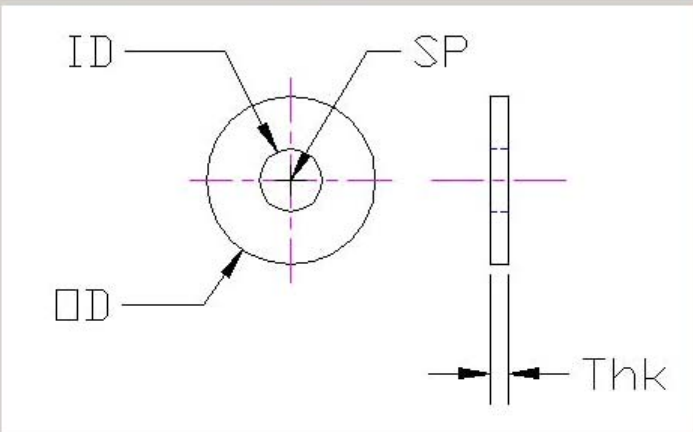
Inside Diameter

Thickness

x

y

z



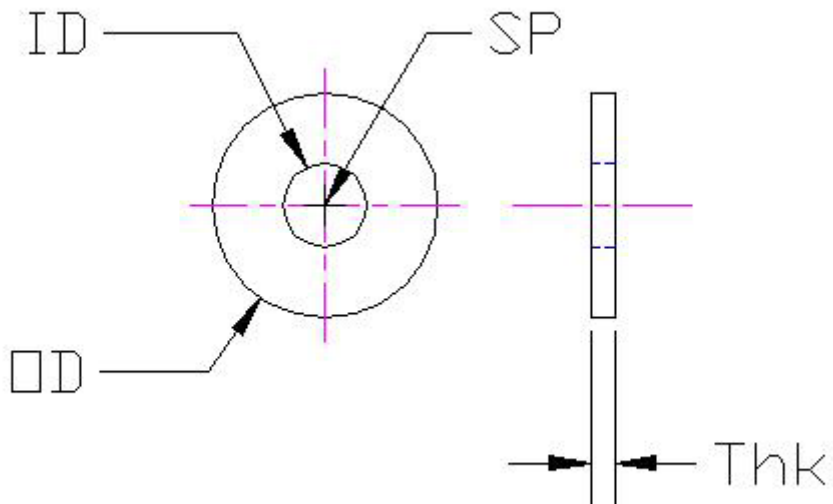
Instructions:  
Place the x, y and z coordinates for the startingpoint, the ID, the OD and thickness in inches.

Draw

Clear Form

Exit

The image shows a software window titled "Draw Washer". On the left, there are five input fields: "StartingPoint" (with sub-fields for x, y, and z), "Outside Diameter", "Inside Diameter", and "Thickness". To the right of these fields is a diagram of a washer. The top view shows two concentric circles with a central point labeled "SP". The inner circle is labeled "ID" and the outer circle is labeled "OD". A side view to the right shows a vertical rectangle representing the washer's thickness, labeled "Thk". Below the diagram, there are three buttons: "Draw", "Clear Form", and "Exit".



```

Option Explicit
'Public Function LinTypeExists(LinTyp As String) As Boolean
'Dim LinType As Acad.LineType
  'Dim hlt As Boolean
  'Dim clt As Boolean
  'If LinType.Name = "hidden" Then hlt = True
  'If LinType.Name = "center" Then clt = True
'End Function

```

```
Sub washer()
```

```
'define the layers and linetypes
```

```
  Dim LinType As Acad.LineType
  Dim objLayer As Acad.Layer
  Dim objNewlayer As Acad.Layer
  Dim objLinetype As Acad.LineType
```

```
'define the starting and centerpoint arrays, width, height and radius
```

```
  Dim objLine As Acad.Line
  Dim ObjCircle As Acad.Circle
  Dim P1(0 To 2) As Double
  Dim P2(0 To 2) As Double
  Dim P3(0 To 2) As Double
  Dim P4(0 To 2) As Double
  Dim P5(0 To 2) As Double
  Dim P6(0 To 2) As Double
  Dim P7(0 To 2) As Double
  Dim P8(0 To 2) As Double
  Dim P9(0 To 2) As Double
  Dim P10(0 To 2) As Double
  Dim P11(0 To 2) As Double
  Dim P12(0 To 2) As Double
  Dim P13(0 To 2) As Double
  Dim P14(0 To 2) As Double
  Dim P15(0 To 2) As Double
  Dim OD As Double
  Dim ID As Double
  Dim Thk As Double
```

```
  Dim X1 As Double
  Dim X2 As Double
  Dim X3 As Double
  Dim X4 As Double
  Dim X5 As Double
  Dim X6 As Double
  Dim X7 As Double
```

```
  Dim Y1 As Double
  Dim Y2 As Double
  Dim Y3 As Double
  Dim Y4 As Double
  Dim Y5 As Double
  Dim Y6 As Double
  Dim Y7 As Double
```

```
  Dim Z1 As Double
```

```
'let the point positions 0 1 and 2 accept data from the textboxes
```

```
  OD = txtOD
  ID = txtID
  Thk = txtThk
```

```
  X2 = txtStartingpointX
  X1 = X2 - OD / 2 - 0.125
  X3 = X2 + OD / 2 + 0.125
  X4 = X3 + 1
  X5 = X4 + 0.125
  X6 = X5 + Thk
  X7 = X6 + 0.125
```

```
  Y4 = txtStartingpointY
  Y1 = Y4 - OD / 2 - 0.125
  Y2 = Y1 + 0.125
  Y3 = Y4 - ID / 2
  Y5 = Y3 + ID
  Y6 = Y2 + OD
  Y7 = Y6 + 0.125
```

```
  Z1 = txtStartingpointZ
```

```
' Point assignment
```

```
  P1(0) = X1
  P1(1) = Y4
  P1(2) = Z1
  P2(0) = X2
  P2(1) = Y4
  P2(2) = Z1
  P3(0) = X3
  P3(1) = Y4
  P3(2) = Z1
  P4(0) = X2
  P4(1) = Y1
  P4(2) = Z1
  P5(0) = X2
  P5(1) = Y7
  P5(2) = Z1
  P6(0) = X5
  P6(1) = Y2
  P6(2) = Z1
  P7(0) = X6
  P7(1) = Y2
  P7(2) = Z1
  P8(0) = X5
  P8(1) = Y3
  P8(2) = Z1
  P9(0) = X6
  P9(1) = Y3
  P9(2) = Z1
  P10(0) = X4
  P10(1) = Y4
  P10(2) = Z1
  P11(0) = X7
  P11(1) = Y4
  P11(2) = Z1
  P12(0) = X5
  P12(1) = Y5
  P12(2) = Z1
  P13(0) = X6
  P13(1) = Y5
  P13(2) = Z1
  P14(0) = X5
  P14(1) = Y6
  P14(2) = Z1
  P15(0) = X6
  P15(1) = Y6
  P15(2) = Z1
```

```
'If Not clt = True Then
```

```
  ThisDrawing.Linetypes.Load "Center", "acad.lin"
```

```
'End If
```

```
'If Not hlt = True Then
```

```
  ThisDrawing.Linetypes.Load "Hidden", "acad.lin"
```

```
'End If
```

```
'Set Up Centerline and Hidden Layers
```

```
  Set objLayer = ThisDrawing.Layers.Add("Centerlines")
```

```
  objLayer.Color = acBlue
```

```
  objLayer.Linetype = "Center"
```

```
  Set objLayer = ThisDrawing.Layers.Add("Hiddenlines")
```

```
  objLayer.Color = acGreen
```

```
  objLayer.Linetype = "Hidden"
```

'Draw continuous lines

```
ThisDrawing.ActiveLayer = ThisDrawing.Layers("0")
  Set ObjCircle = ThisDrawing.ModelSpace.AddCircle(P2, ID /
2)
  Set ObjCircle = ThisDrawing.ModelSpace.AddCircle(P2, OD
/2)
  Set objLine = ThisDrawing.ModelSpace.AddLine(P6, P7)
  Set objLine = ThisDrawing.ModelSpace.AddLine(P14, P15)
  Set objLine = ThisDrawing.ModelSpace.AddLine(P6, P14)
  Set objLine = ThisDrawing.ModelSpace.AddLine(P7, P15)
```

'Draw centerlines

```
ThisDrawing.ActiveLayer = ThisDrawing.Layers("Centerlines")
  Set objLine = ThisDrawing.ModelSpace.AddLine(P1, P3)
  Set objLine = ThisDrawing.ModelSpace.AddLine(P4, P5)
  Set objLine = ThisDrawing.ModelSpace.AddLine(P10, P11)
```

'Draw hidden lines

```
ThisDrawing.ActiveLayer =
ThisDrawing.Layers("Hiddenlines")
  Set objLine = ThisDrawing.ModelSpace.AddLine(P8, P9)
  Set objLine = ThisDrawing.ModelSpace.AddLine(P12, P13)
```

End Sub

Private Sub cmdClearform\_Click()

```
'clear the form
txtStartingpointX = "0.00"
txtStartingpointY = "0.00"
txtStartingpointZ = "0.00"
txtOD = "0.00"
txtID = "0.00"
txtThk = "0.00"
```

End Sub

Private Sub cmdDraw\_Click()

```
'draw the part
washer
End Sub
```

Private Sub cmdExit\_Click()

```
'unload and end program
Unload Me
End
End Sub
```