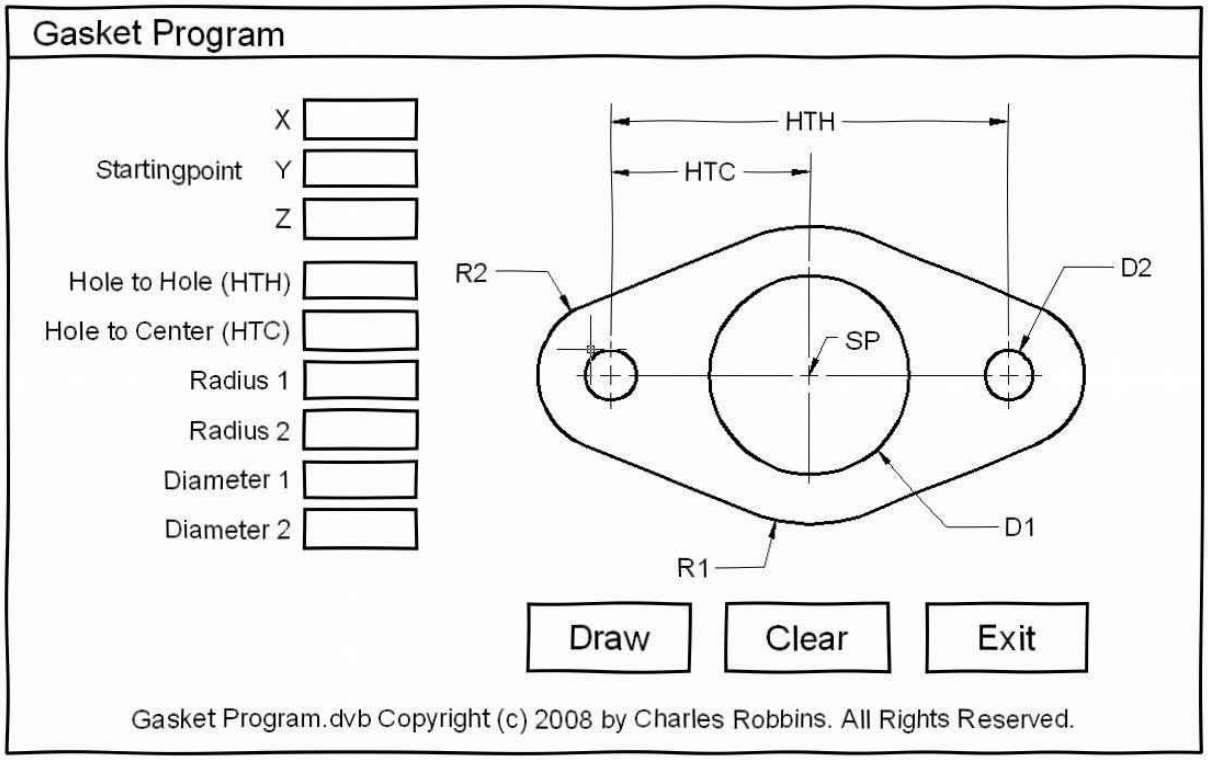
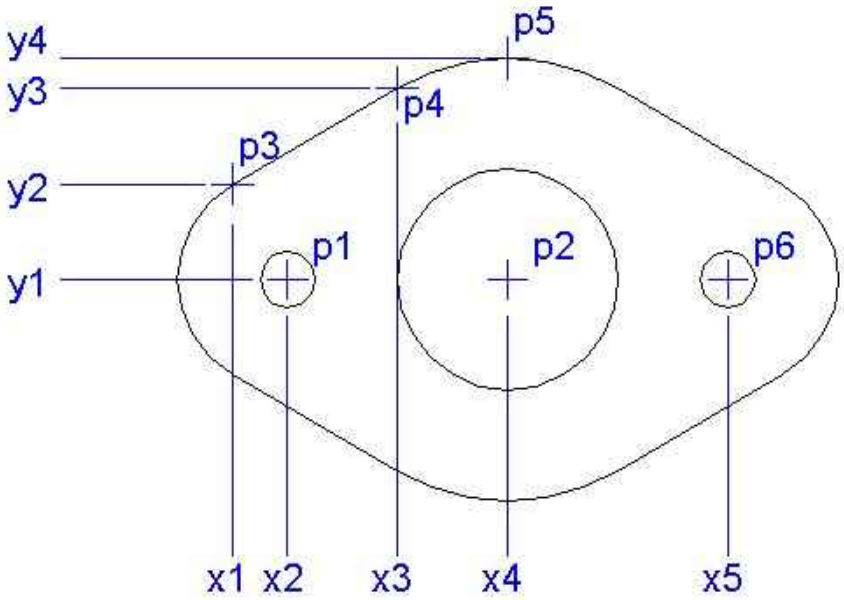
The Gasket

The Form



The Point Layout



The Code

Code for the Module

```
Sub DrawGasket()
'draw the Gasket
   frmGasket.Show
End Sub
```

More Code

```
Private Sub cmdDraw_Click()
'draw the part
   gasket
End Sub

Private Sub cmdExit_Click()
'unload and end program
   Unload Me
   End
End Sub

Private Sub cmdClear_Click()
'clear the form
   txtSpX = ""
   txtSpY = ""
   txtSpZ = ""
   txtHTH = ""
   txtHTC = ""
   txtRadius1 = ""
   txtRadius2 = ""
   txtDiameter1 = ""
   txtDiameter2 = ""
End Sub
```

```
Sub gasket()
'Gasket.dvb copyright (c) 2008 by Charles W. Robbins
'This program will open a dialogue box in AutoCAD, allow the user to enter a
starting point (x, y z)
'Hole to Hole, Hole to Center, Radius1, Radius2, Diameter1, Diameter2 and then
draw a gasket

'Define the point arrays,the layers and linetypes

   Dim objSs1 As AcadSelectionSet
   Dim objDrawingObject As AcadEntity
   Dim objMirroredObject As AcadEntity
   Dim objLayer As AcadLayer
   Dim objArc As AcadArc
   Dim objLine As AcadLine
   Dim objCircle As AcadCircle

   Dim HTH As Double
   Dim HTC As Double
   Dim Radius1 As Double
   Dim Radius2 As Double
   Dim Diameter1 As Double
   Dim Diameter2 As Double
   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 x1 As Double
   Dim x2 As Double
   Dim x3 As Double
   Dim x4 As Double
   Dim x5 As Double
   Dim y1 As Double
   Dim y2 As Double
   Dim y3 As Double
   Dim y4 As Double
   Dim z1 As Double
   Dim Length As Double
   Dim Angle As Double
   Dim pi As Double
```

```
‘ assign values to variables

    pi = 3.14159265358979
    HTH = txtHTH
    HTC = txtHTC
    Radius1 = txtRadius1
    Radius2 = txtRadius2
    Diameter1 = txtDiameter1
    Diameter2 = txtDiameter2
    Length = Sqr(HTC ^ 2 - (Radius1 - Radius2) ^ 2)
    Angle = Atn((Radius1 - Radius2) / Length)
    x4 = txtSpX
    x2 = x4 - HTC
    x1 = x2 + Radius2 * Cos((pi / 2) + Angle)
    x3 = x4 + Radius1 * Cos(pi / 2 + Angle)
    x5 = x4 + HTC
    y1 = txtSpY
    y2 = y1 + Radius2 * Sin(pi / 2 + Angle)
    y3 = y1 + Radius1 * Sin(pi / 2 + Angle)
    y4 = y1 + Radius1
    z1 = txtSpZ

'Point assignment

    P1(0) = x2
    P1(1) = y1
    P1(2) = z1
    P2(0) = x4
    P2(1) = y1
    P2(2) = z1
    P3(0) = x1
    P3(1) = y2
    P3(2) = z1
    P4(0) = x3
    P4(1) = y3
    P4(2) = z1
    P5(0) = x4
    P5(1) = y4
    P5(2) = z1
    P6(0) = x5
    P6(1) = y1
    P6(2) = z1

'Set variables

    ThisDrawing.SetVariable "osmode", 0

'Create and set layer

    Set objLayer = ThisDrawing.Layers.Add("Gasket")
        objLayer.Color = acBlue
        objLayer.Linetype = "Continuous"

ThisDrawing.ActiveLayer =
ThisDrawing.Layers("Gasket")

'Draw a line

    Set objLine = ThisDrawing.ModelSpace.AddLine(P3, P4)

'Draw the arcs

    Set objArc = ThisDrawing.ModelSpace.AddArc(P1, Radius2, pi / 2 + Angle, pi)
    Set objArc = ThisDrawing.ModelSpace.AddArc(P2, Radius1, pi / 2, pi / 2 +
Angle)

'Mirror the line and arcs across vertical centerline

    Set objSs1 = ThisDrawing.SelectionSets.Add("TempSS")
        objSs1.Select (acSelectionSetAll)

    For Each objDrawingObject In objSs1
        Set objMirroredObject = objDrawingObject.Mirror(P2, P5)
        objMirroredObject.Update
    Next
    objSs1.Delete

'Mirror the line and arcs across horizontal centerline

    Set objSs1 = ThisDrawing.SelectionSets.Add("TempSS")
        objSs1.Select (acSelectionSetAll)

    For Each objDrawingObject In objSs1
        Set objMirroredObject = objDrawingObject.Mirror(P1, P2)
        objMirroredObject.Update
    Next
    objSs1.Delete

'Draw the circles

    Set objCircle = ThisDrawing.ModelSpace.AddCircle(P2, Diameter1 / 2)
    Set objCircle = ThisDrawing.ModelSpace.AddCircle(P1, Diameter2 / 2)
    Set objCircle = ThisDrawing.ModelSpace.AddCircle(P6, Diameter2 / 2)

End Sub

Private Sub txtHTH_Change()
‘Set value for HTC from HTH
    Dim value As Double
    value = txtHTH / 2
    txtHTC.Text = value
End Sub
```