Bolt Hole Circle
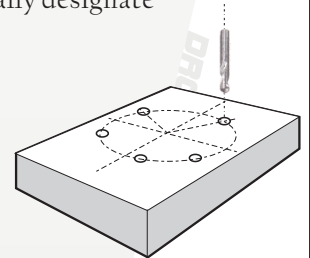
The Bolt Hole Circle function allows the operator to set a desired number of holes in a circular pattern. While most projects will most likely consist of holes evenly spaced around a complete circle, Bolt Hole Circle further allows the operator to designate a starting and stopping angle, such that if the holes were desired to be evenly spaced only along an arc of only 60 degrees then this too would be quite possible. Aside from a less than complete circle, choosing the starting and stopping angles allows the operator to very specifically designate at which angle the "bolt hole" pattern starts and ends.

The parameters required to be entered for Bolt Hole Circle are the following:

Center   CENTER
Diameter   DIA
Number of Holes   NO. HOLE
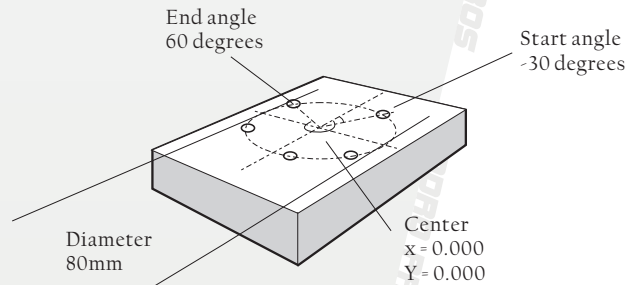Starting Angle   ST. ANGLE
Ending Angle   END. ANG
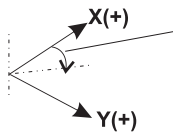
Angular Direction:
Clockwise = Negative angle
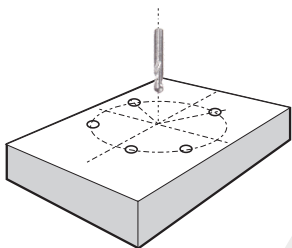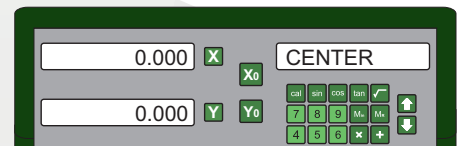Counter clockwise = Positive angle

Bolt Hole Circle - Setup

Center coordinates (CENTRE)...........X = 0.000
Diameter (DIA).....................................80.000
Number Holes (NO HOLE)..................5
Starting angle (ST ANG)......................-30 degrees
End angle (END ANG)..........................60 degrees

End angle
60 degrees

Start angle
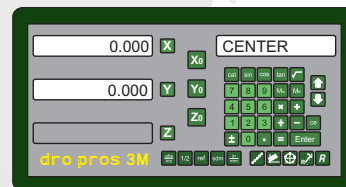-30 degrees

Diameter
80mm

Center
x = 0.000
Y = 0.000

Step 1: Locate your hole center and press the ⬠ Bolt Hole Circle function key

0.000 X   CENTER

0.000 Y

Press the
Bolt Hole Circle
function key

Step 2: Enter the Center coordinates

0.000 X   CENTER

0.000 Y

X 0 Enter

Y 0 Enter

0.000 X   CENTER

0.000 Y
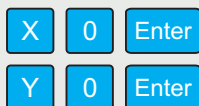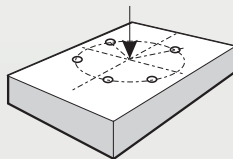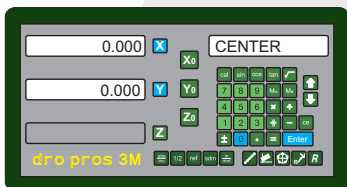
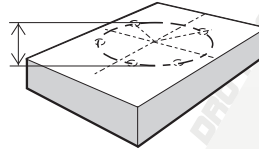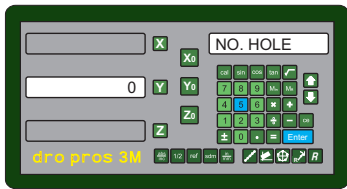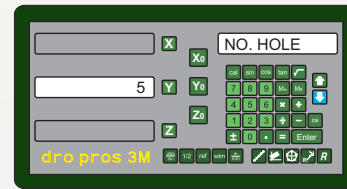Step 3: Enter the Diameter (DIA)
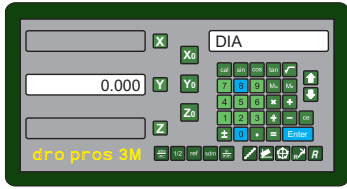
8 0 Enter
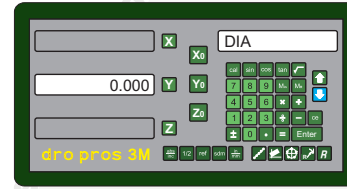
Diameter = 80mm

next step

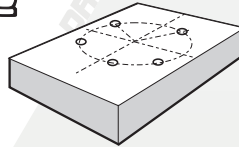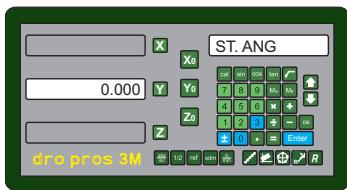Step 4: Enter the number of holes (NO HOLE)

5 Enter

Number of holes = 5

next step

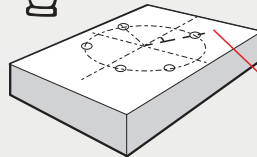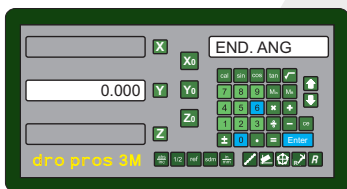Step 5: Enter the start angle (ST ANG)
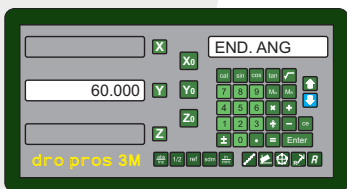

± 3 0 Enter

Start angle = -30 degrees

next step

Step 6: Enter the end angle (END ANG)
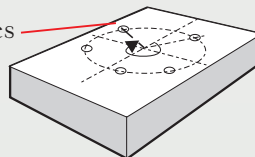

6 0 Enter

End angle = 60 degrees

next step

At this point, all parameters for the Bolt Hole Circle function have been programmed
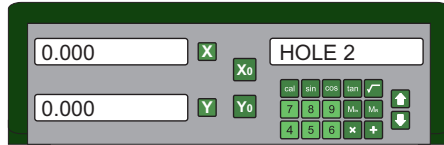
Bolt Hole Circle - Example

The Operator can now ⬆ or ⬇ to select which hole to move to, then simply move the machine to zero the display, which means the target hole has been reached.
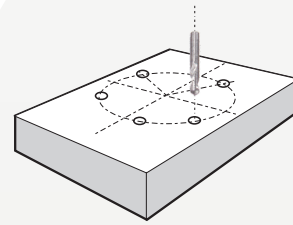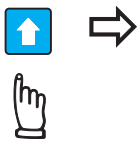
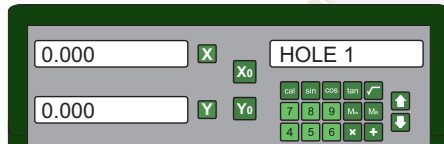To move to the next hole

⬇ ⟹

Move the machine to zero the display

| 0.000 | X | X₀ | HOLE 2 |
| 0.000 | Y | Y₀ | |
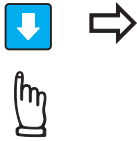
Once the display has zeroed, this means target hole #2 is centered

To move to the previous hole

⬆ ⟹

Move the machine to zero the display

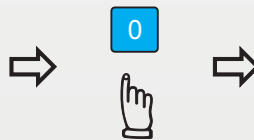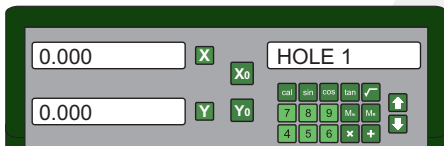| 0.000 | X | X₀ | HOLE 1 |
| 0.000 | Y | Y₀ | |

Once the display has zeroed, this means target hole #1 is centered
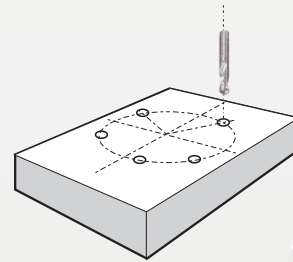
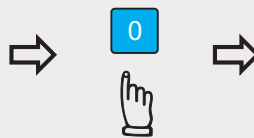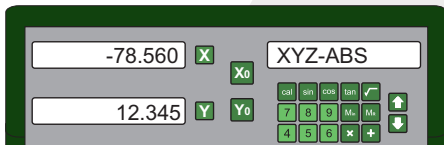To temporarily return to the ABS coordinate system, press the "0" key.

Presently in Bolt Hole Circle function

| 0.000 | X | X₀ | HOLE 1 |
| 0.000 | Y | Y₀ | |

⟹ **0** ⟹

Temporarily in ABS coordinate system

| -78.560 | X | X₀ | XYZ-ABS |
| 12.345 | Y | Y₀ | |
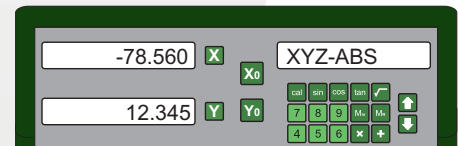
To return to the Bolt Hole Circle function, press the "0" key.

| -78.560 | X | X₀ | XYZ-ABS |
| 12.345 | Y | Y₀ | |

⟹ **0** ⟹

Back in Bolt Hole Circle function

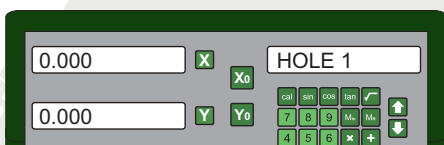| 0.000 | X | X₀ | HOLE 1 |
| 0.000 | Y | Y₀ | |

To exit Bolt Hole Circle function and permanently return to the ABS coordinate system, press the Bolt Hole Circle function key.

Presently in Bolt Hole Circle function

| 0.000 | X | X₀ | HOLE 1 |
| 0.000 | Y | Y₀ | |

⟹ ⊕ ⟹

Permanently back in ABS coordinate system

| -78.560 | X | X₀ | XYZ-ABS |
| 12.345 | Y | Y₀ | |