Calibration Parameters

[CalibrationFixtureNames] [CircleFeature] [SquareFeature] [LineFeature]

A calibration fixture is a physical object that you use as a reference point for the scanners' coordinate system. You use these parameters to tell JSDiag the location of the features that make up this object. The available features are CircleFeature, SquareFeature, and LineFeature. A calibration fixture can be made up of many features of only one type (i.e., a lot of CircleFeature with no SquareFeature or LineFeature).

You can put many different fixtures in a single parameter file. A single ScannerConfig can have many different CalibFixture names listed with its CalibrationFixtureNames parameter.

Steps to using a fixture in the Parameter Editor.

1. Define a calibration fixture with the **CalibFixture** keyword.
2. Add features to the fixture.
3. Reference the fixture in a ScannerConfig block.

> ⓘ There can be multiple CalibFixture blocks in a single parameter file, each with a different name.

Value Format:	CalibFixture FixtureName
	
	{
	
	#features go here
	
	}

Location:	outside a ScannerConfig block

CalibrationFixtureNames

|	
Value Format:	comma-separated list of names
Default Value:	no calibration fixtures
Location:	inside a ScannerConfig block

Goes in a ScannerConfig to tell those scanners to use the listed calibration fixtures in the Calibration Editor.

CircleFeature

Value Format:	Radius CenterX CenterY
Units:	inches/millimeters
Location:	inside a CalibFixture block

The first number is the radius of the circle. The last two numbers are the x-y coordinates of the center of the circle. The radius must be greater than zero. It's easiest to calibrate against if the fixture is asymmetrical – there's only one way to get it right. They cannot be mixed with `SquareFeature`s or `LineFeature`s.

```
#A sample CalibFixture with a few circles in it
CalibFixture SomeCircles
{
        #               Radius  CenterX  CenterY
        CircleFeature  1.0     -2.0      -3.0    #Radius is 1.0 Centered at the coordinates (-2.0", -3.0")
        CircleFeature  1.0      2.0       3.0    #Radius is 1.0 Centered at the coordinates ( 2.0",  3.0")
        CircleFeature  3.0      2.0      -1.0    #Radius is 3.0 Centered at the coordinates ( 2.0",  1.0")
}
```
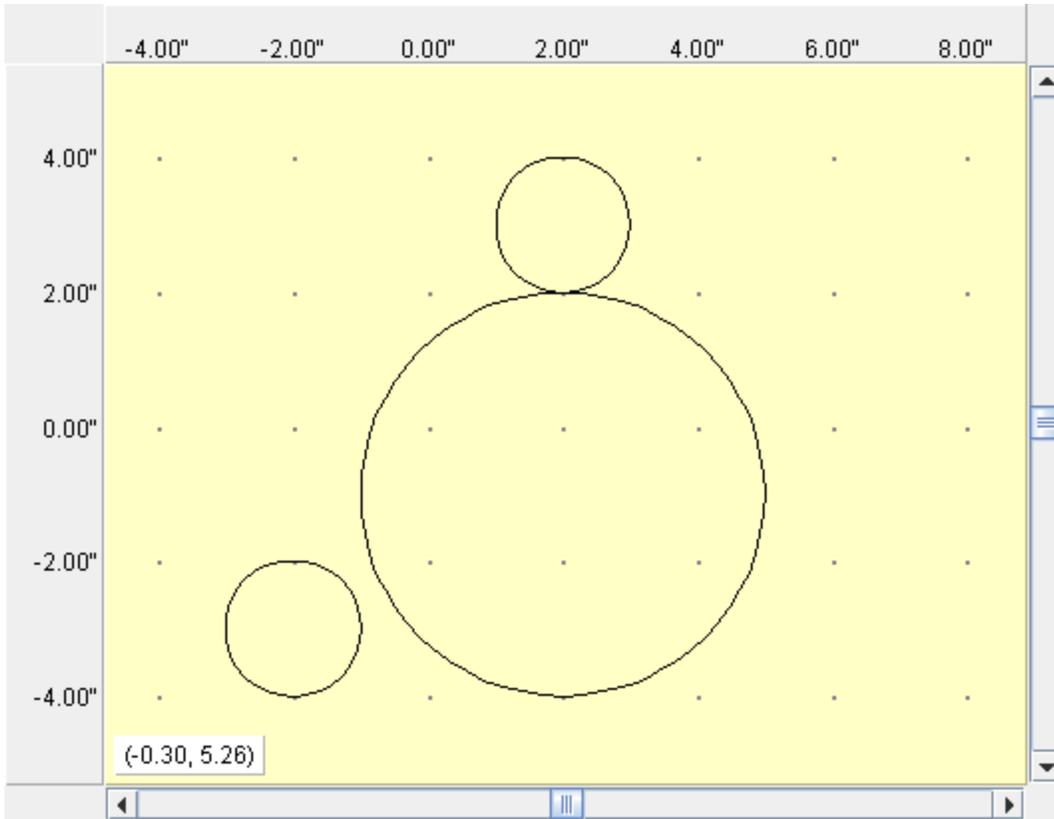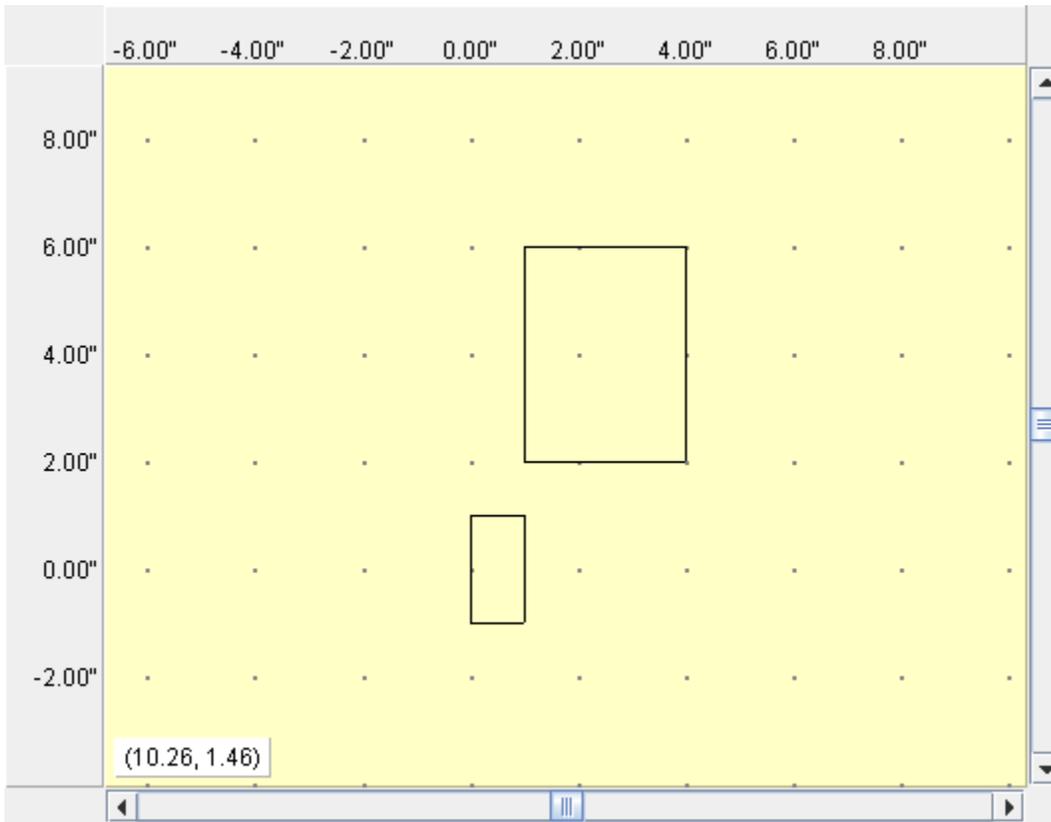
SquareFeature

Value Format:	LeftX BottomY Width Height
Units:	inches/millimeters
Location:	inside a `CalibFixture` block

The first two numbers are the x-y coordinates of the lower-left corner. The third number is the width of the square, and the fourth number is the height of the square. The width and height must be greater than zero. They cannot be mixed with `CircleFeature`s or `LineFeature`s.

```
#A sample CalibFixture with a few squares in it
CalibFixture SomeSquares
{
        #              LeftX  BottomY  Width  Height
        SquareFeature  0.0    -1.0     1.0    2.0     #Bottom-Left corner at (0.0", 0.0"), 1.0" wide and 2.0"
tall
        SquareFeature  1.0    2.0      3.0    4.0     #Bottom-Left corner at (1.0", 2.0"), 3.0" wide and 4.0"
tall
}
```

```
                -6.00"   -4.00"   -2.00"   0.00"   2.00"   4.00"   6.00"   8.00"

       8.00"      .        .        .        .        .        .        .        .

       6.00"      .        .        .        .                         .        .

       4.00"      .        .        .        .        .                .        .

       2.00"      .        .        .        .                         .        .

       0.00"      .        .        .        .        .        .        .        .

      -2.00"      .        .        .        .        .        .        .        .

            (10.26, 1.46)
```

LineFeature

Value Format:	X1 Y1 X2 Y2
Units:	inches/millimeters
Location:	inside a `CalibFixture` block

The first two numbers are the x-y coordinates of the beginning of the line and the last two numbers are the x-y coordinates of the end of the line. They cannot be mixed with `CircleFeature`s or `SquareFeature`s.

```
#A sample CalibFixture with a few lines in it
CalibFixture SomeLines
{
        #              FirstX  FirstY  SecondX  SecondY
        LineFeature    0.0     0.0     1.0      1.0      #A line from (0.0", 0.0") to (1.0", 1.0")
        LineFeature    1.0     1.0     2.0      0.0      #A line from (1.0", 1.0") to (2.0", 0.0")
        LineFeature    2.0     0.0     3.0      3.0      #A line from (2.0", 0.0") to (3.0", 3.0")
}
```