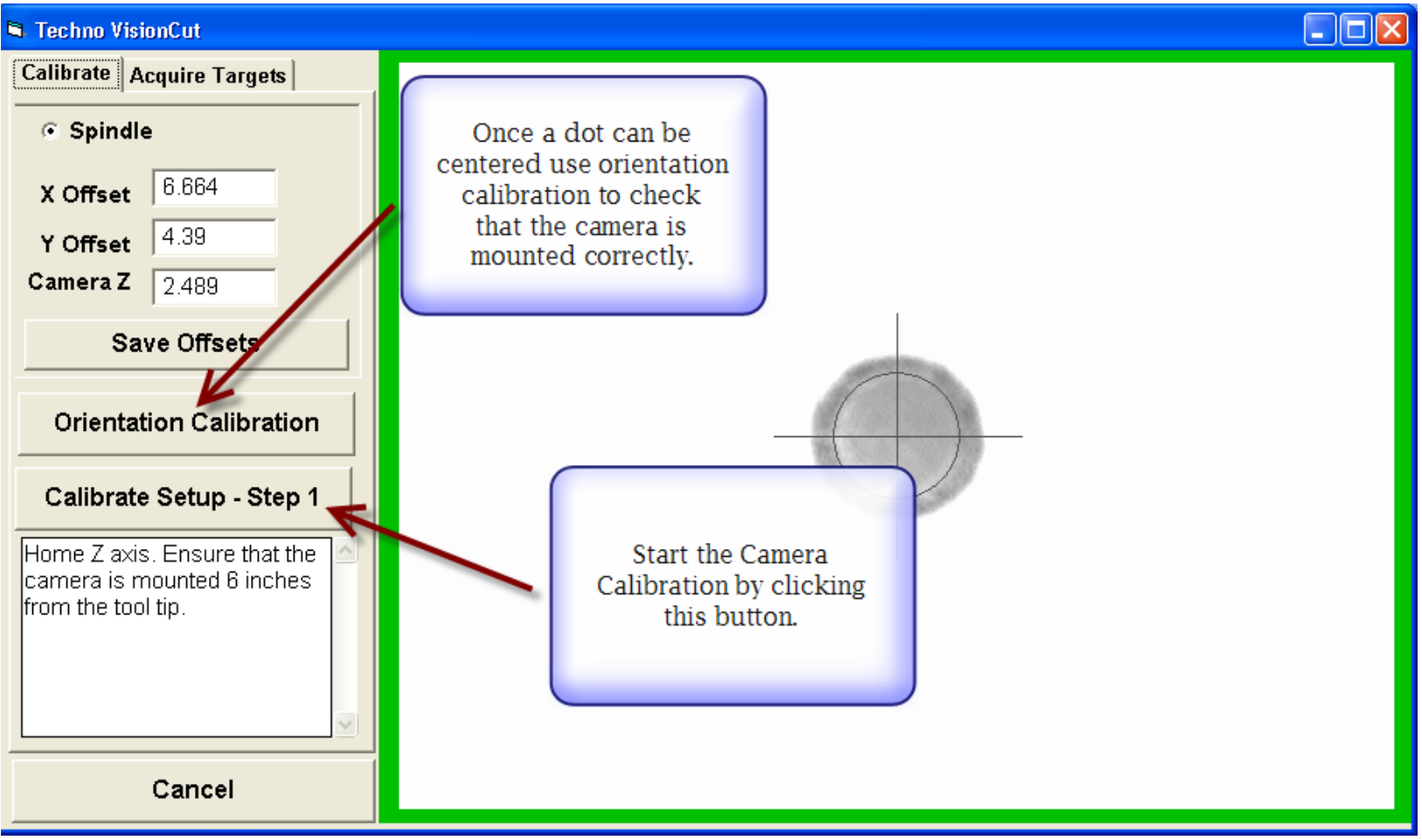
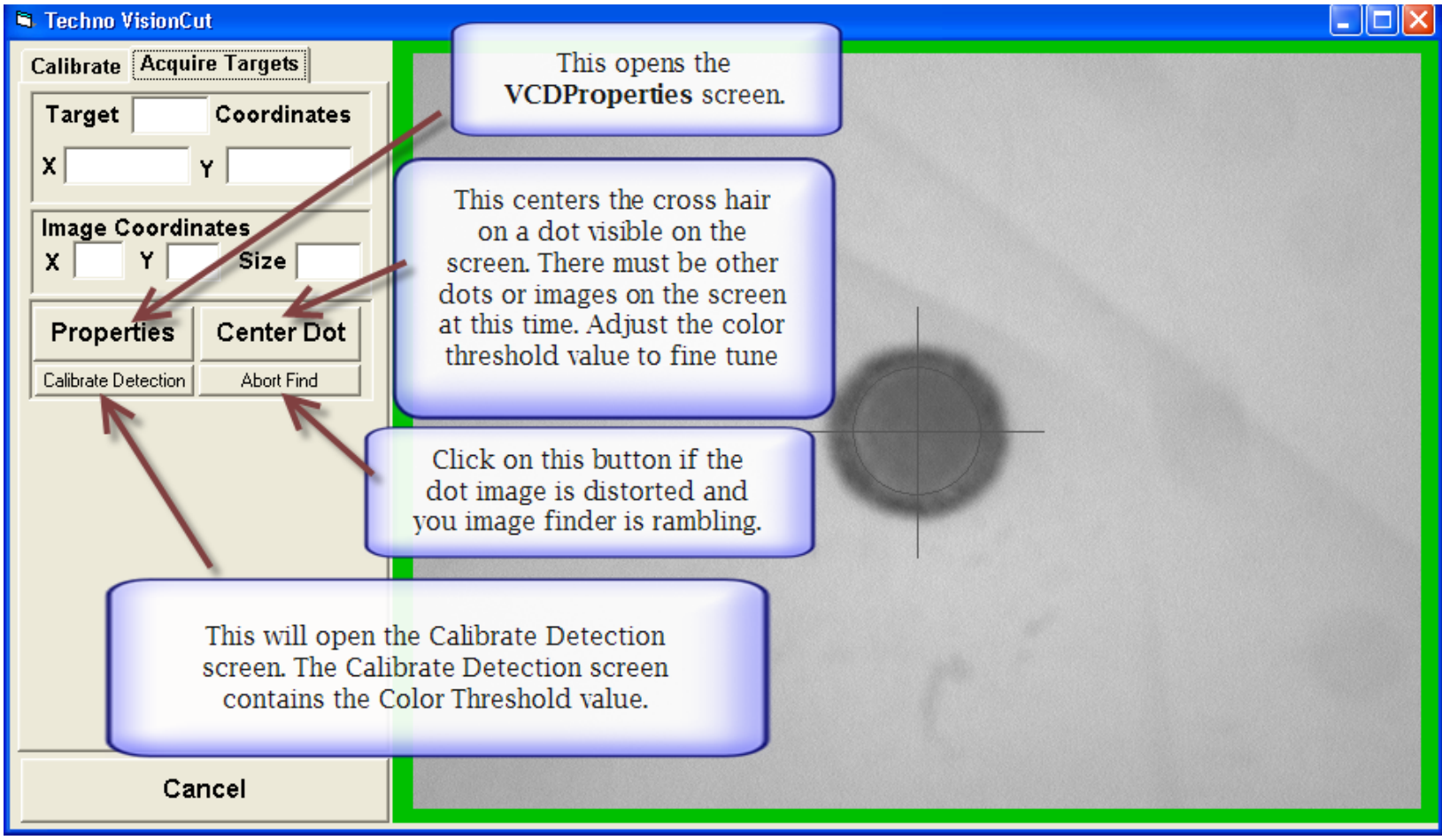
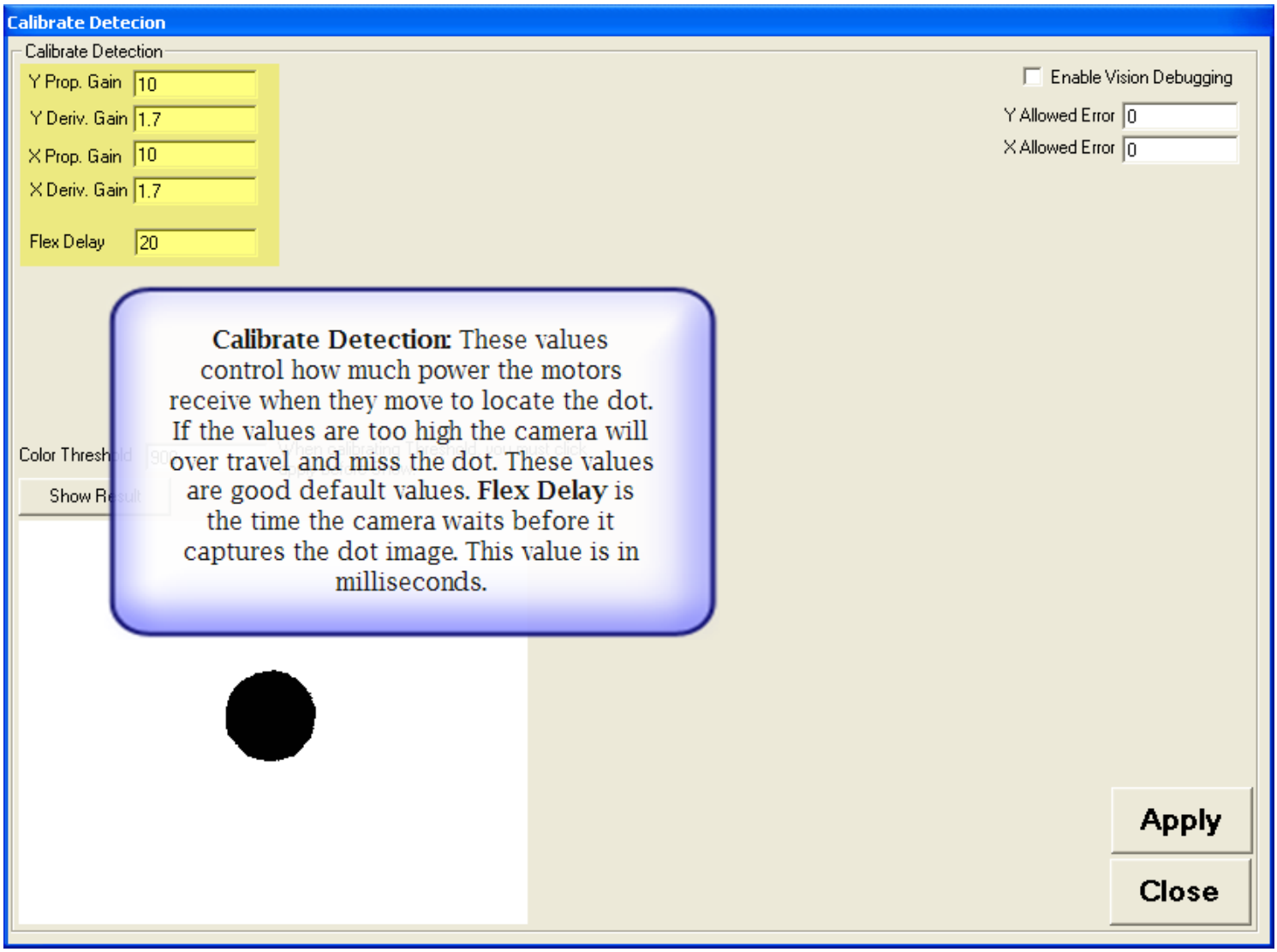
Techno Vision System Build 413

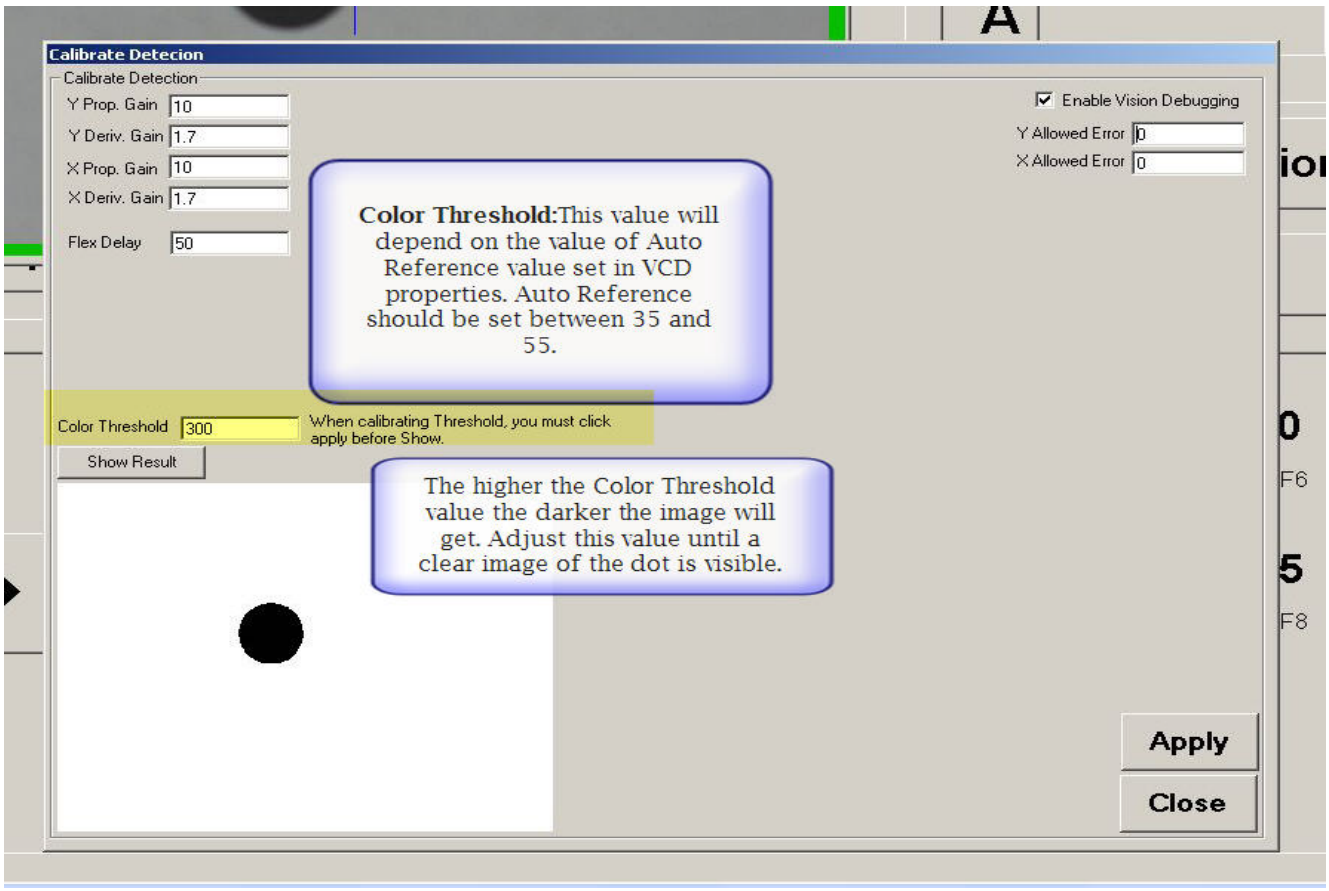
Installation and claibration remains essientially the same for 413 as in 412.
Please refer to document
0412_Techn Vision Systems Manual-3.pdf , located on the techno cd for thsese instructions.

This document will explain some of the features in build number 413 and show how to optimize the the vision systerm operation

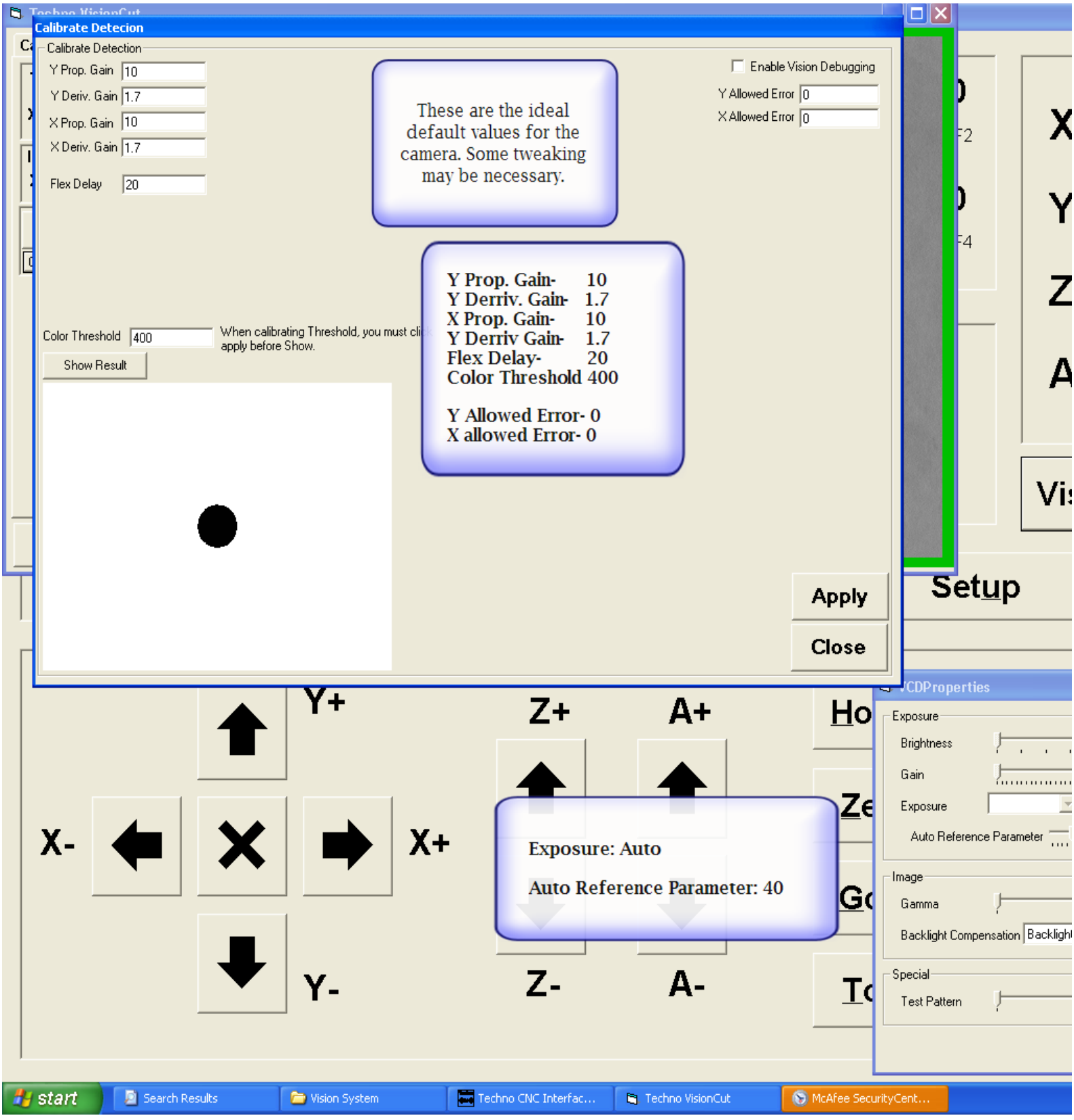

Techno VisionCut
Calibrate
Acquire Targets
Spindle
X Offset
6.664
Y Offset
4.39
Camera Z
2.489
Save Offsets
Orientation Calibration
Calibrate Setup - Step 1
Home Z axis. Ensure that the camera is mounted 6 inches from the tool tip.
Cancel
Once a dot can be centered use orientation calibration to check that the camera is mounted correctly.
Start the Camera Calibration by clicking this button.


Techno VisionCut
Calibrate
Acquire Targets
Target
Coordinates
X
Y
Image Coordinates
X
Y
Size
Properties
Center Dot
Calibrate Detection
Abort Find
Cancel
This opens the VCDProperties screen.
This centers the cross hair on a dot visible on the screen. There must be other dots or images on the screen at this time. Adjust the color threshold value to fine tune
Click on this button if the dot image is distorted and you image finder is rambling.
This will open the Calibrate Detection screen. The Calibrate Detection screen contains the Color Threshold value.

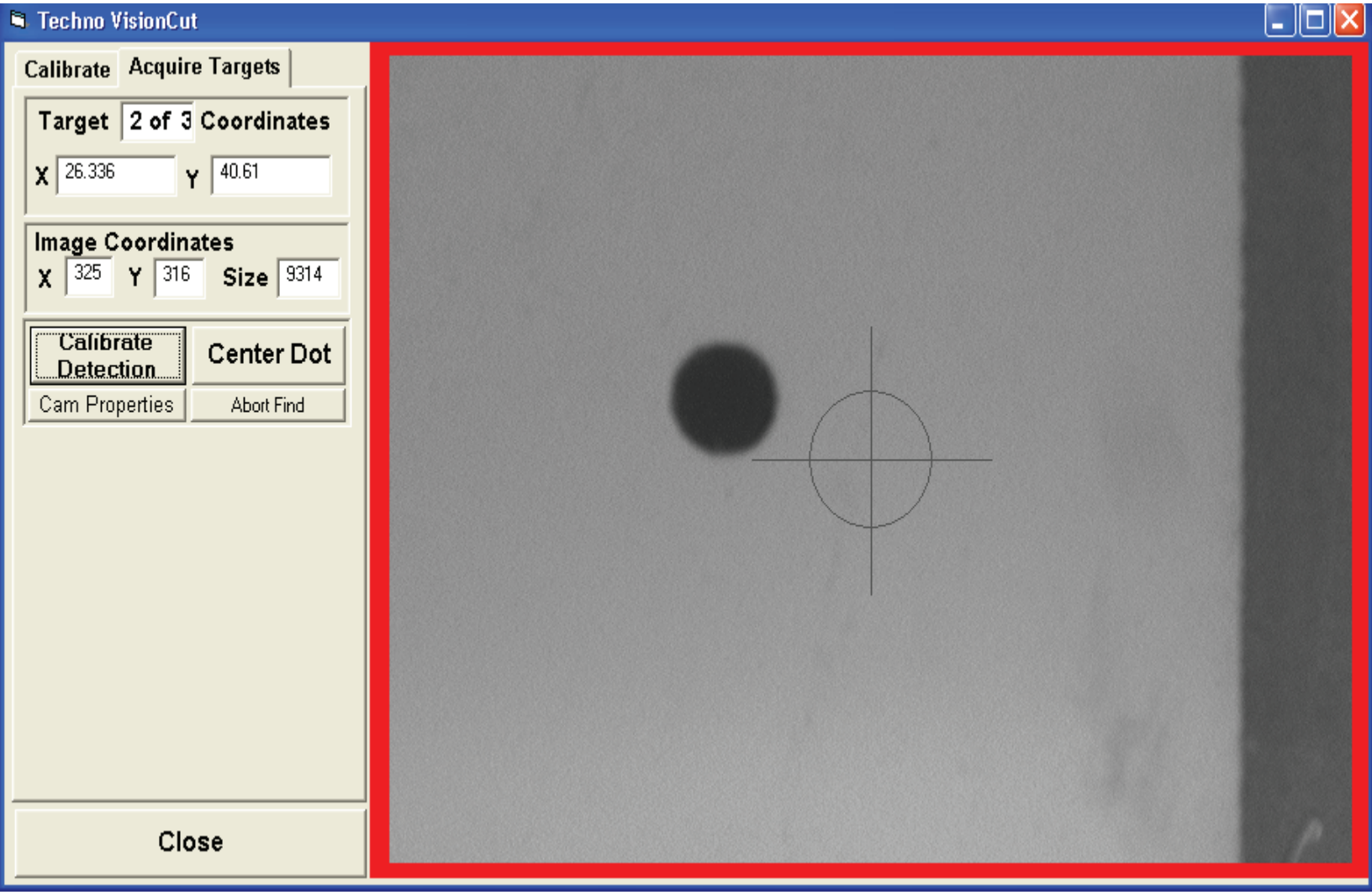

Calibrate Detecion
Calibrate Detection
Y Prop. Gain 10
Y Deriv. Gain 1.7
X Prop. Gain 10
X Deriv. Gain 1.7
Flex Delay 20
Enable Vision Debugging
Y Allowed Error 0
X Allowed Error 0
Calibrate Detection: These values control how much power the motors receive when they move to locate the dot. If the values are too high the camera will over travel and miss the dot. These values are good default values. Flex Delay is the time the camera waits before it captures the dot image. This value is in milliseconds.
Color Thresh
Show R
Apply
Close


Calibrate Detecion
Calibrate Detection
Y Prop. Gain 10
Y Deriv. Gain 1.7
X Prop. Gain 10
X Deriv. Gain 1.7
Flex Delay 50
Enable Vision Debugging
Y Allowed Error 0
X Allowed Error 0
Color Threshold: This value will depend on the value of Auto Reference value set in VCD properties. Auto Reference should be set between 35 and 55.
Color Threshold 300
When calibrating Threshold, you must click apply before Show.
Show Result
The higher the Color Threshold value the darker the image will get. Adjust this value until a clear image of the dot is visible.
Apply
Close

Default Settings For Camera

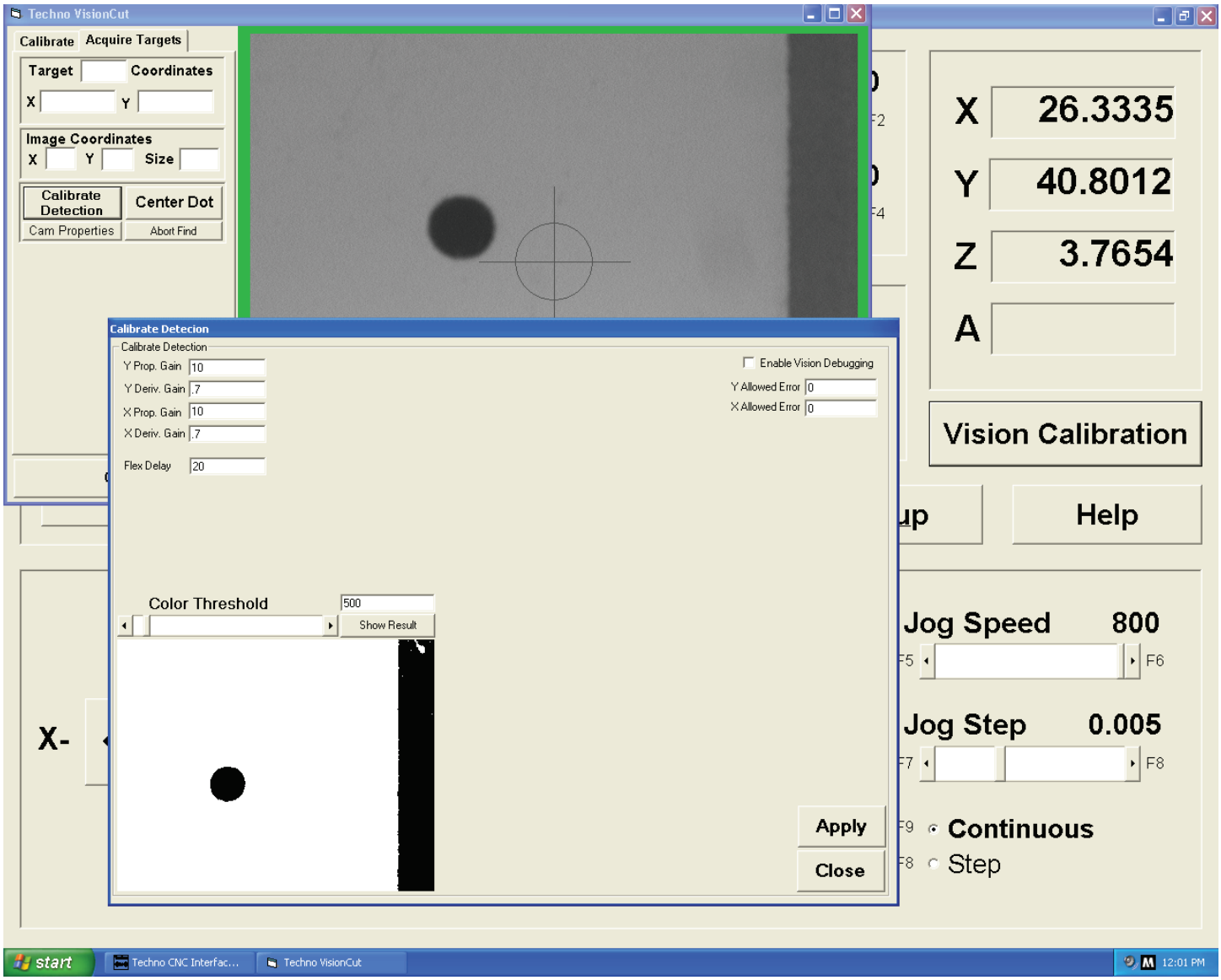


Fault Finding/Optmizing the Vision System

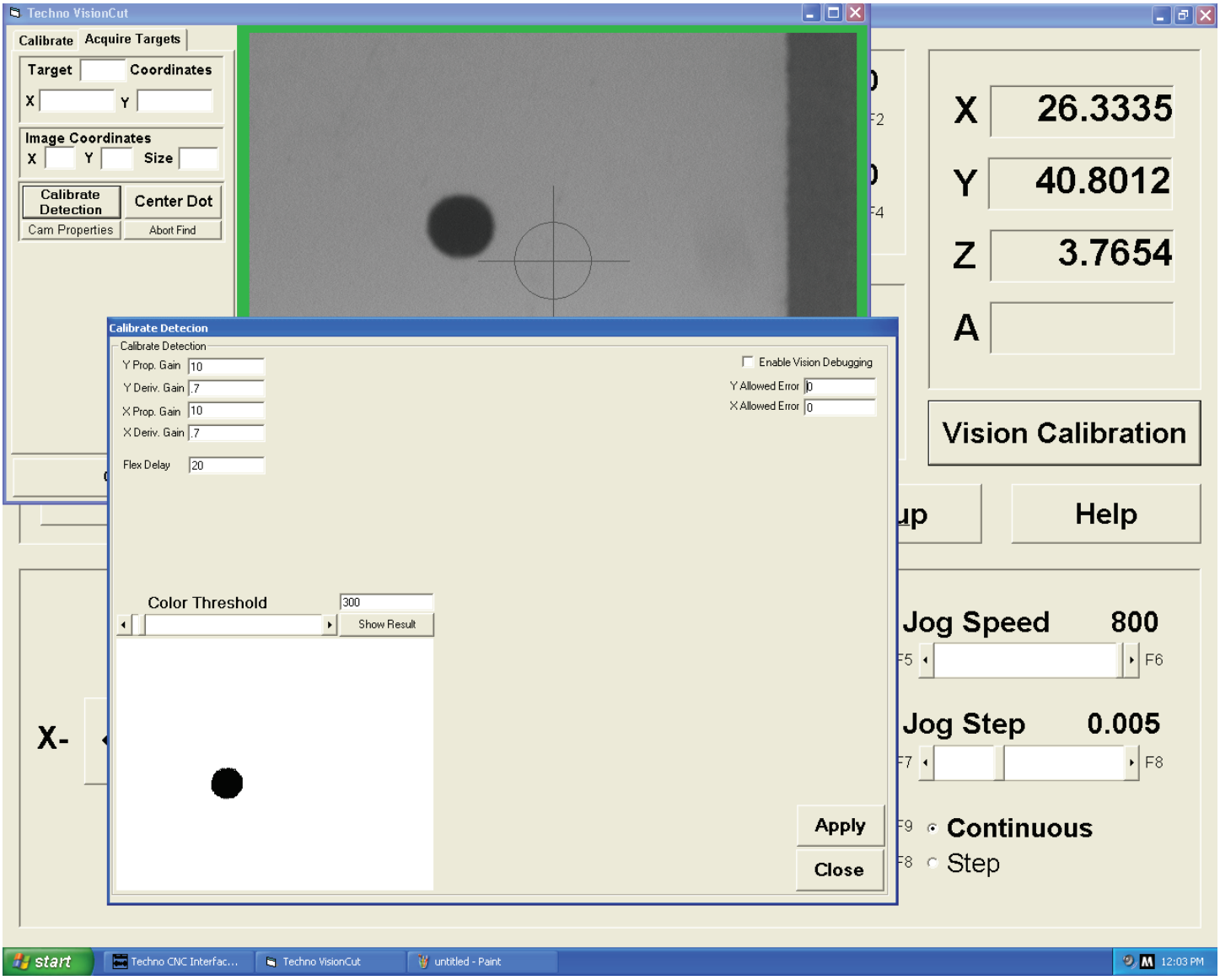


In the above situation it is possible that the vision system will not find the dot. It may start to ramble or it may hover between the dot and the dark line on the right.

This can be fixed to some degree by adjusting the color threshold in the Calibrate Dection screen.



When *show result* is clicked an image of what the camera sees appears on the screen. As you can see, there is a dark line on the right which is confusing the image recoginition software. The Color Threshold needs to be adjusted until only the dot is visible.



With a reduced Color Threshold the dark line is ignored and the dot will be perfectly centered.