Vision Builder Inspection: Set Calibration Axis

File Path: C:\Users\Isaac\Desktop\Vision\VisionBuilder\Set Calibration Axis.vbai	Description:
Creation Date: Monday, July 25, 2011 - 6:38:15 PM Last Modification Date: Tuesday, November 24, 2020 - 3:48:47 PM Print Date: Tuesday, November 24, 2020 - 3:48:50 PM	This inspection illustrates how to change the calibration origin as the part moves so the real-world locations on the part rotate and shift with the part. This enables real-world positions of the part to stay consistent even as the part moves in the image.

Inspection States

State 1	Select Inspection	No inspection step.		
State 2	Inspection Setup	No inspection step.		
State 3	Inspection Cleanup	No inspection step.		
State 4	Start			
State 5	End			
State 6	Inspect	7 inspection steps.		
	Inspection Steps	Name	Type	User Documentation
	Step 1	Read Image File	Read Image File	
	Step 2	Find Top Edge	Find Straight Edge	
	Step 3	Find Left Edge	Find Straight Edge	
	Step 4	Calibration Axis Center	Geometry	Use the geometry step to find the intersection point of the lines and this will define the new calibration origin.
	Step 5	Calibrate Image	Calibrate Image	This step updates the calibration origin and angle to match the position of the part. To view the settings that enable this, edit the step and go to the **Calibration Data** tab. Notice the option to **Learn calibration at each iteration** is selected. This is needed so the calibration can change each iteration based on the location of the part. Also notice in the **Calibration Data** tree that the **Origin** and **X Axis Point** are using previous results that correspond to the new location of the part. Once the calibration axis is updated, real-world results will be referenced to this new axis location. Notice that no coordinate system step is used in this inspection, but the real-world results from the **Locate Holes** step stay very consistent even though the location of these holes in the image changes.
	Step 6	Locate Holes	Detect Objects	
	Step 7	Overlay Results	Custom Overlay	The real-world location of the holes stays consistent since they are based on the calibration axis, which is updated based on the location of the part and the holes aren't moving relative to the part.

Inspection Transitions

Transition 1	Name: default	From State: Start	To State: Inspect	Priority 1
	Transition always true.			
Transition 2	Name: default	From State: Inspect	To State: End	Priority 1
	Transition always true.			