

1. Home the AngleMaster. Next we'll make angle cuts on scrap material to determine if the angle at the home position is accurate. Before you cycle the saw, make sure the blade is not going to hit the fence casting when it cuts. This can happen when the fence is moved back from the turret centerline and the home position is set at a low angle. If the blade is going to hit the casting if cycled at the home position then type in the lowest angle that will not interfere with the casting. Make 5 cuts with the saw at that position.
2. Accurately measure the angles of the 5 cuts. If you see wide variation between those 5 cuts then either the saw is erratic or the measuring method is unsound. Do not proceed until the problem is resolved. The five measurements should be nearly identical. Once you've achieved repeatability, modify the RG#2 OFFSET parameter. If the saw was in the HOME position when you made the cuts then just take the CURRENT POSITION of the saw and put that value in the RG#2 OFFSET. If you had to go to some larger angle in order to keep from sawing into the fence casting, then you must calculate the new offset. First subtract the entered position of the saw from the measured length of the part.  $d = \text{PART MEASUREMENT} - \text{CURRENT POSITION}$ . Add that difference 'd' to the current RG#2 OFFSET. So if the entered position was 25 degrees and the angle measures 23 degrees,  $d = 23 - 25$  or negative 2. So in this example you would add a negative 2 to the current offset. That's the same as subtracting 2 from the current offset. Once you have adjusted the RG#2 offset, make 5 more angle cuts and measure. Repeat the process until those 5 test cuts measure out accurately with the current position of the turret.
3. Now rotate the saw to 135 degrees and make 5 cuts. Measure them. They should all be the same. Adjust the RG#2 SCALE to make the cuts measure correctly at the 135 degree mark. You can either adjust the scale by trial and error or you can calculate a new scale based on the measurements. The equation is as follows:  $(\text{Actual Angle} / \text{Commanded Angle}) \times \text{Existing Scale Factor} = \text{New Scale Factor}$ . DO NOT PROCEED UNTIL ANGLE CUTS ARE ACCURATE.
4. Now, from the MAIN screen, set the saw to 90 degrees and the positioner to a small value. 5 if possible so you can measure the resulting part with calipers but if the home offset is set to something larger than that then you'll have to just cut the shortest length possible. Cut 5 parts at that position using the gage as a stop and measure the parts. If they are uniform, then take the average length and compare it to the position entered. If the part is shorter than the commanded position then reduce the RG#1 home offset by the difference. If the part is longer than the commanded position then increase the RG#1 offset by the difference.
5. Cut 5 more short parts using the positioner as a STOP. They should now be accurate and uniform. If they are not then stop and repeat step 4 until they are accurate and uniform.
6. Now use the MAIN SCREEN to cut 5 of the longest parts you can using the positioner as a stop and with the saw at 90 degrees. Once you can cut 5 long parts with repeatability, adjust the RG#1 SCALE until the parts are accurate.  $(\text{Measured Length} / \text{Commanded Position}) \times \text{RG\#1 SCALE} = \text{New RG\#1 SCALE}$ . Do not proceed until long parts cut using the gage as a STOP are accurate.
7. Now use the MANUAL PARTS screen to push-cut 10 x 5" parts with 90 degree ends. Number the parts as they come out and measure each one and log the measurements. Take extreme care to make sure the stock is firmly against the pusher face before engaging the clamps before each cut. They should all be uniform. Don't worry about the accuracy at this point. If the parts aren't uniform then do not change any settings. Changing parameters will not fix non-repeatability. Check for loose parts or clamping issues.
8. Once your 10 short parts are being cut repeatably, compare the length you're getting to the length entered. Adjust the kerf to bring the parts into size. Once you can cut 10 short parts that are repeatable and accurate, move on to the next step.
9. Now use the MANUAL PARTS screen to push-cut 5 long parts. Again, the first thing to look for is repeatability. You can't adjust for accuracy until repeatability is achieved. Once you can cut 5 long parts uniformly, take note of the difference between the commanded length and the measured length. If all prior steps were completed properly these long parts should be accurate. At this point you should be able to push cut both short and long parts with 90 degree ends with good accuracy. The saw angle cuts should also be accurate. The only thing left to do is to push cut parts with angled ends to see if they are accurate. If they are not then the PIVOT POINT needs to be adjusted. See instructions on following page.

# Calibrating Saw Pivot Point

## Pivot Point Calibration

To Calibrate: Move to a position of your choice. Cut 3 pieces, 1 with the angle at 90deg, 1 with the angle at 45deg and 1 with the angle at 135deg. Make these cuts using the RazorGage as a stop, NOT as a pusher.

Measure the lengths along the **fence side**, and enter below. Click calculate to have the pivot point offsets computed.

Length at 90deg

Length at 45deg

Length at 135deg

— Important - The part cut with the saw set at 45 degrees must be measured on the short side at indicated here.

— Important - The part cut with the saw set at 135 degrees must be measured on the long side at indicated here.

After entering the lengths of the parts as measured along the fence press CALIBRATE NEW OFFSETS to calculate and display the offsets then press USE THESE OFFSETS to load the values into the machine.