

## ZMD INSTALLATION AND REMOVAL

### INSTALLATION

1. Remove the rubber cap and verify the set-screw in the spring adjustment collar is loose. The ZMD pivot shaft should rotate easily by hand.

*Note: To reverse Pivot Shaft orientation:*

*Remove c-clip, hold spring adjustment collar in place while removing and reversing pivot shaft. Install c-clip.*

2. Install the threaded end of the pivot shaft through the mounting bracket. Install the washer and nut provided finger tight. The mounting bracket is typically supplied by the customer and would vary from application to application. The recommended hole diameter in the mounting bracket should be just large enough for clearance of the 1/4" or 6 mm pivot shaft and between 0.5" to 1.5" above the material surface.
3. Hold one end of the pivot shaft with a wrench while the nut is securely tightened.
4. At this point the ZMD housing assembly should rotate easily around the pivot shaft.

5. Rotate the housing so the measuring wheel is contacting the surface to be measured. Insert the 3/32 hex L key into the setscrew on the spring adjustment collar. Using the hex key arm for leverage, rotate the collar around the pivot shaft in the direction necessary to increase the spring force that holds the measuring wheel against the surface to be measured. While maintaining pressure, tighten the set-screw very securely to avoid loss of spring pressure. (A torque of 15-18 in-lbs is recommended, however a torque wrench is not required as long as the set-screw is good and tight.)

*Note: The spring adjustment collar should not be rotated so far that it bottoms out against the internal stop or the ZMD will not have sufficient travel to accommodate variations in the surface height of the material being measured. For most applications the spring setting in it's mid range (about 2 pounds) is satisfactory. The spring force can be checked by carefully lifting up on the wheel. You should be able to lift the wheel 1/8" to 1/4" off the surface being measured. If not, repeat step 5.*

6. Install the rubber cap.

### REMOVAL

1. Remove the rubber cap.
2. Loosen the setscrew in the spring adjustment collar. The ZMD should rotate easily around the pivot shaft.
3. Hold one end of the pivot shaft with a wrench while the lock nut is removed.
4. Remove the ZMD from the mounting bracket and install the washer and lock nut on the shaft by hand.

