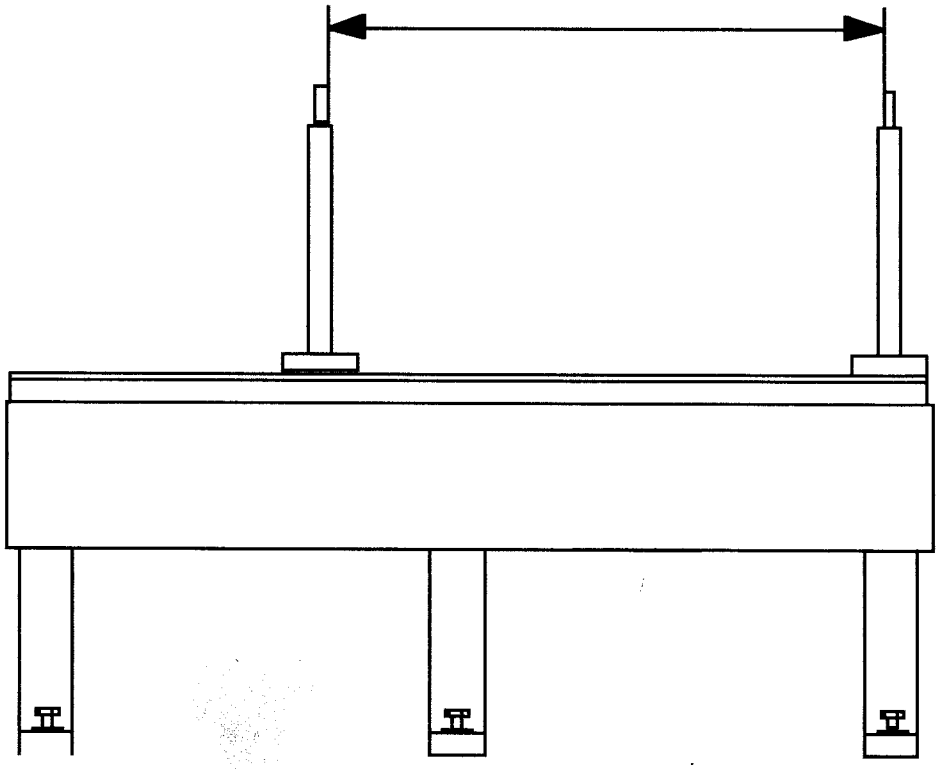
COLUMN PICKUP CALIBRATION

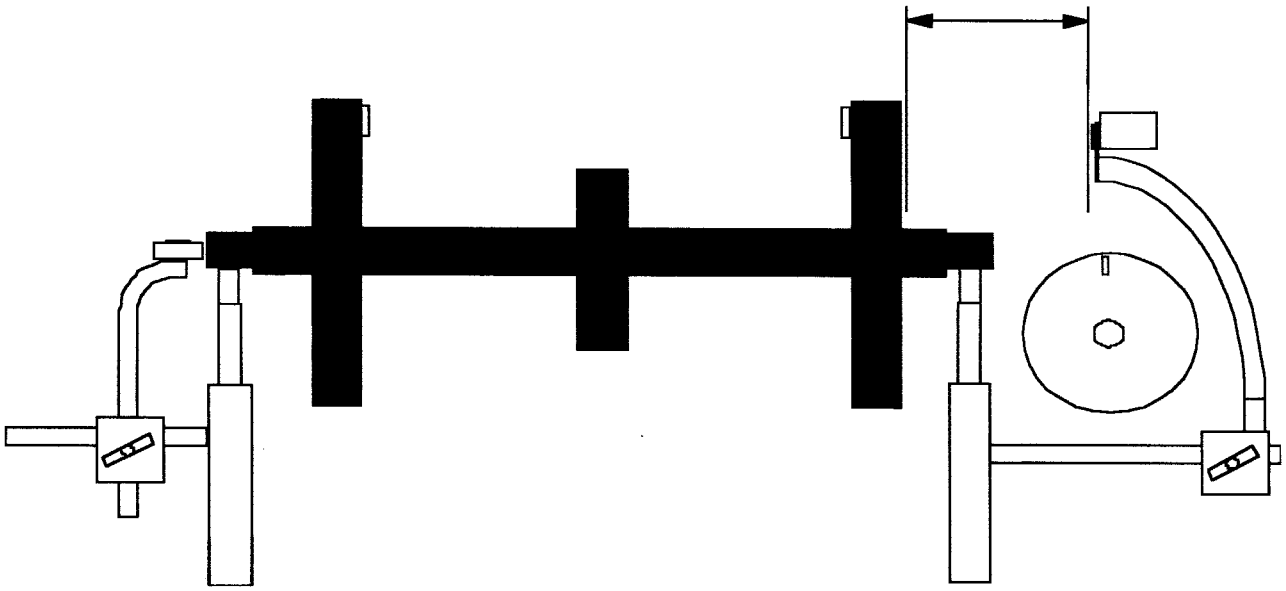
Calibration should be done when machine is first installed, machine is moved to new location, or a problem with machine is suspected.

You will need the following equipment: Digital DC Voltmeter, Alligator Clip, Medium Flat Head Screwdriver, 5/16 Allen Wrench, Adjustment Tool (Provided with Machine).

1. Set column distance to approx. 20" apart for calibration rotor. Mount the rotor centrally between supports.

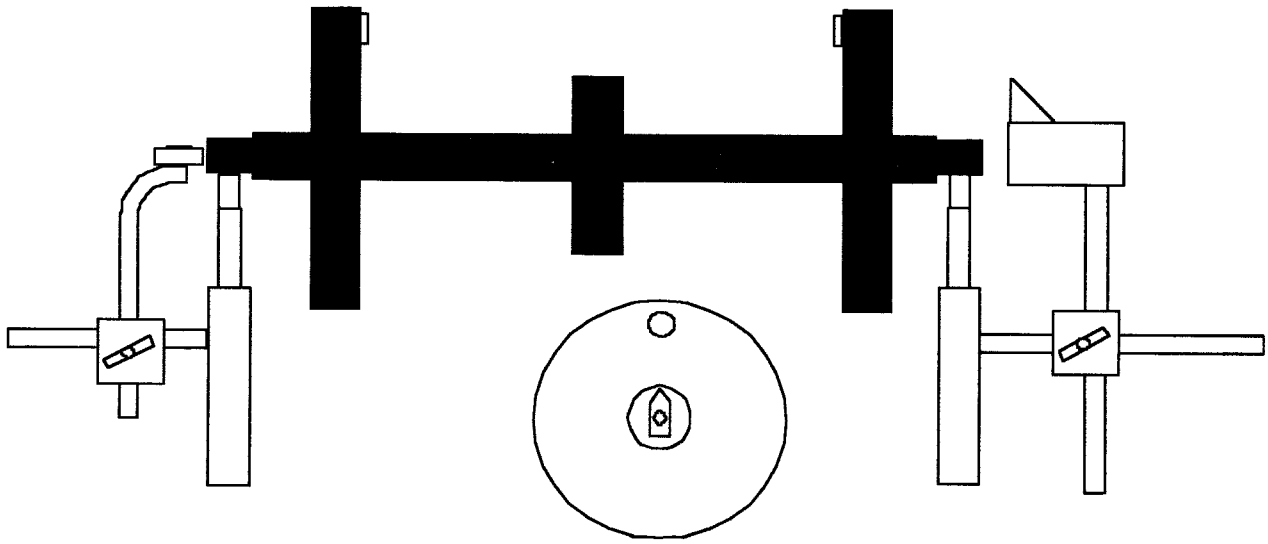


2. Adjust left column so that machine edge of calibration rotor is approximately $\frac{1}{4}$" from bearing on both right and left ends. Install end stop on left column so that ball bearing touches end stop bearing.



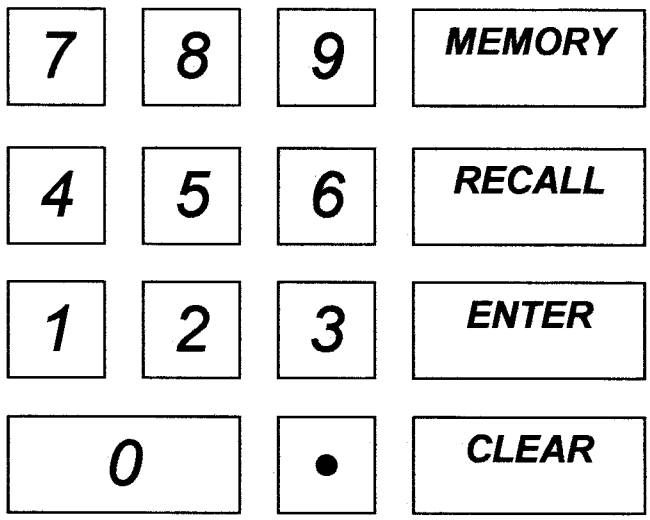
Align the electronic photo eye 6 to 8 inches from right side of rotor. Ensure a 1/8" wide piece of reflective tape is on out side surface opposite of bolted weights. Adjust photo eye so beam hits the reflective tape when in the north (up or 12:00) position. A red light will illuminate on the back of the photo eye when the beam hits the reflective tape. This should be the only time the light will illuminate.

2b. For machines using the Magnetic Tachometer.

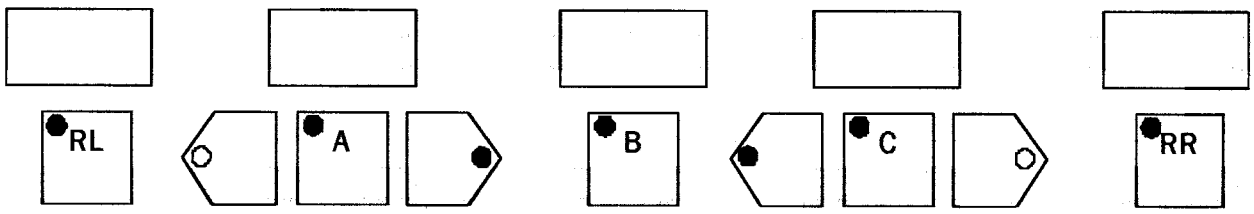


Ensure point of the magnet is pointing towards the mounted weight on the inside of rotor. Align the tachometer 1/4 to 1/8 inch from right side of rotor. Ensure the steel ball on end of rotor does not press against the brass plate on the front of the tachometer. Adjust tachometer so point is in the north (up or 12:00) position and magnet spins in center of tachometer.

3. Press **ENTER-7-ENTER** on front panel of microprocessor to clear previous calibration.



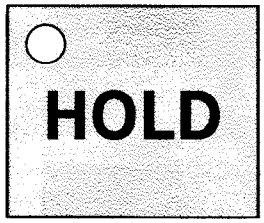
4. On front panel of microprocessor set **RL** to **3.5**, **A** to **0**, **B** to **16**, **C** to **0**, and **RR** to **3.5**.



5. Spin the rotor to approximately 500 RPM for Automotive use. For Industrial use, spin rotor to within 100 RPM of actual balance RPM. Remember; the lighter the part the faster the RPM should be and for heavier parts a slower RPM should be used.

RPM

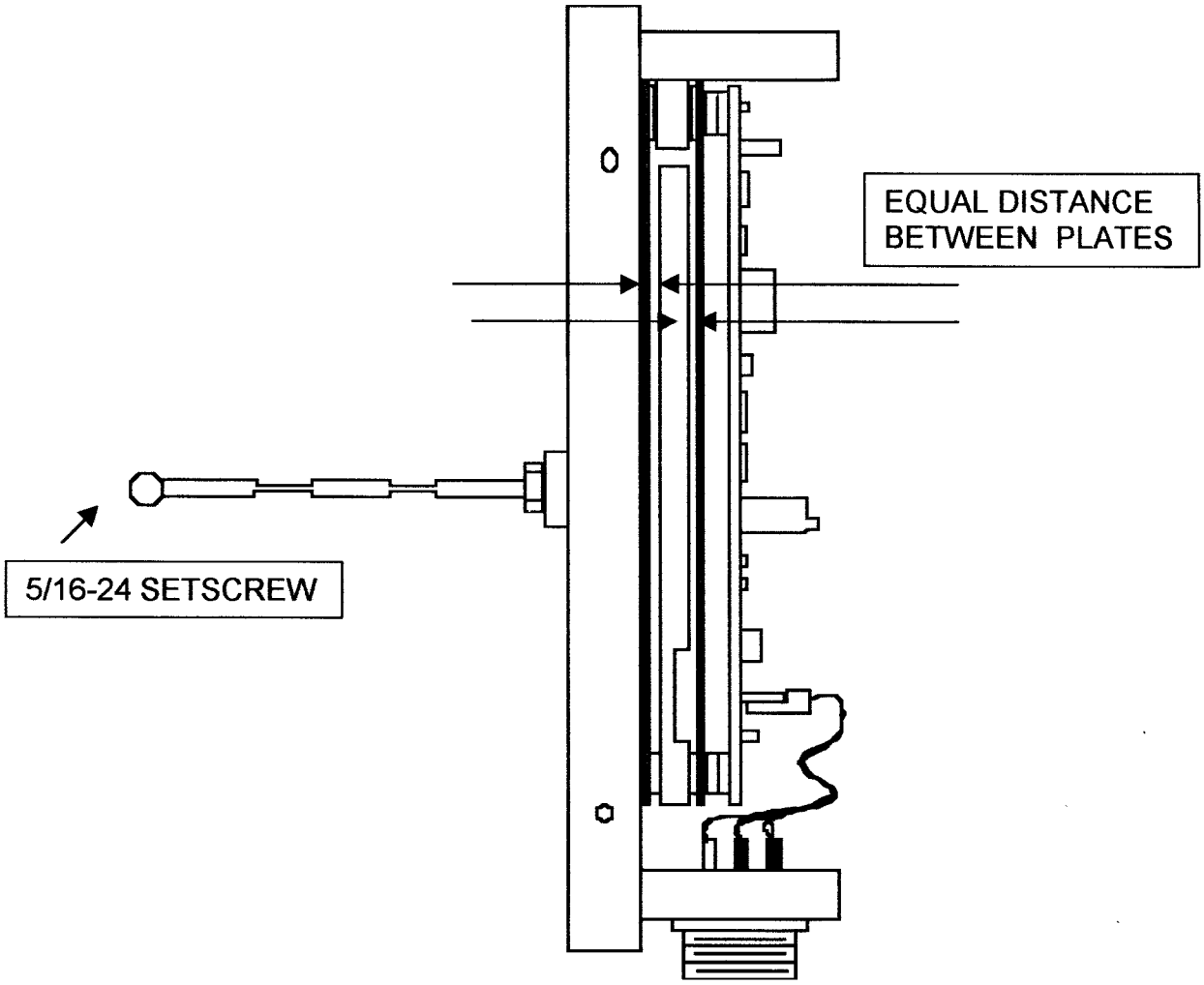
6. Once RPM holds steady, within 2 RPM, press the **HOLD** button once so light goes out.



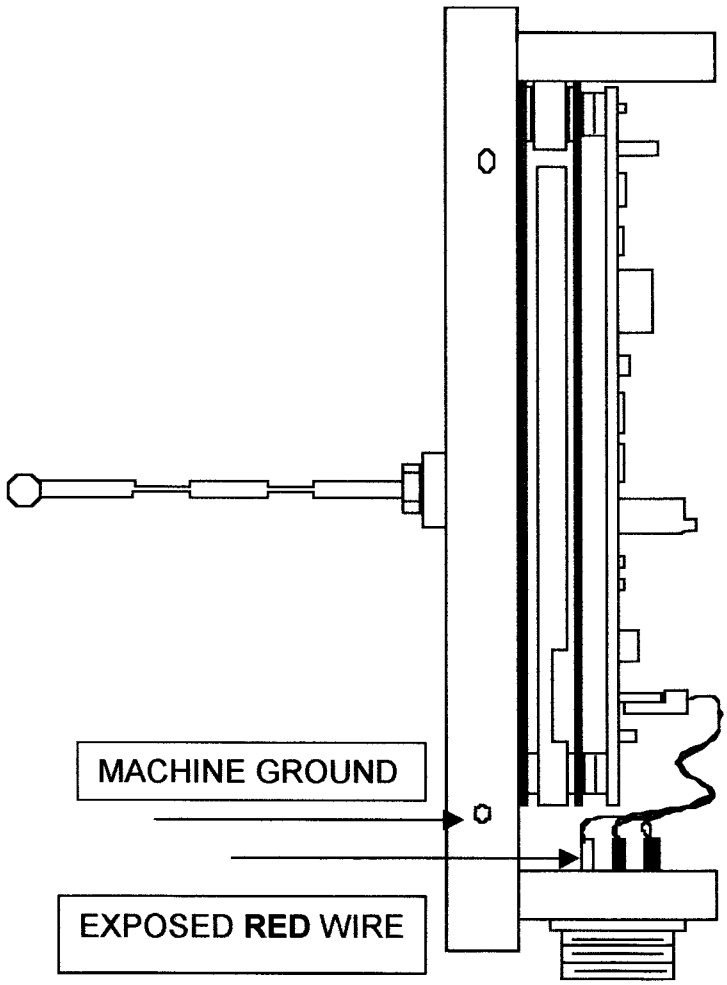
7. If amount readings on left and right sides are between 17.9 and 18.7 grams. Skip to item 14. Do not stop spinning rotor. Do not be concerned with angle reading at this time.

ANGLE ***LEFT*** **AMOUNT** **ANGLE** ***RIGHT*** **AMOUNT**

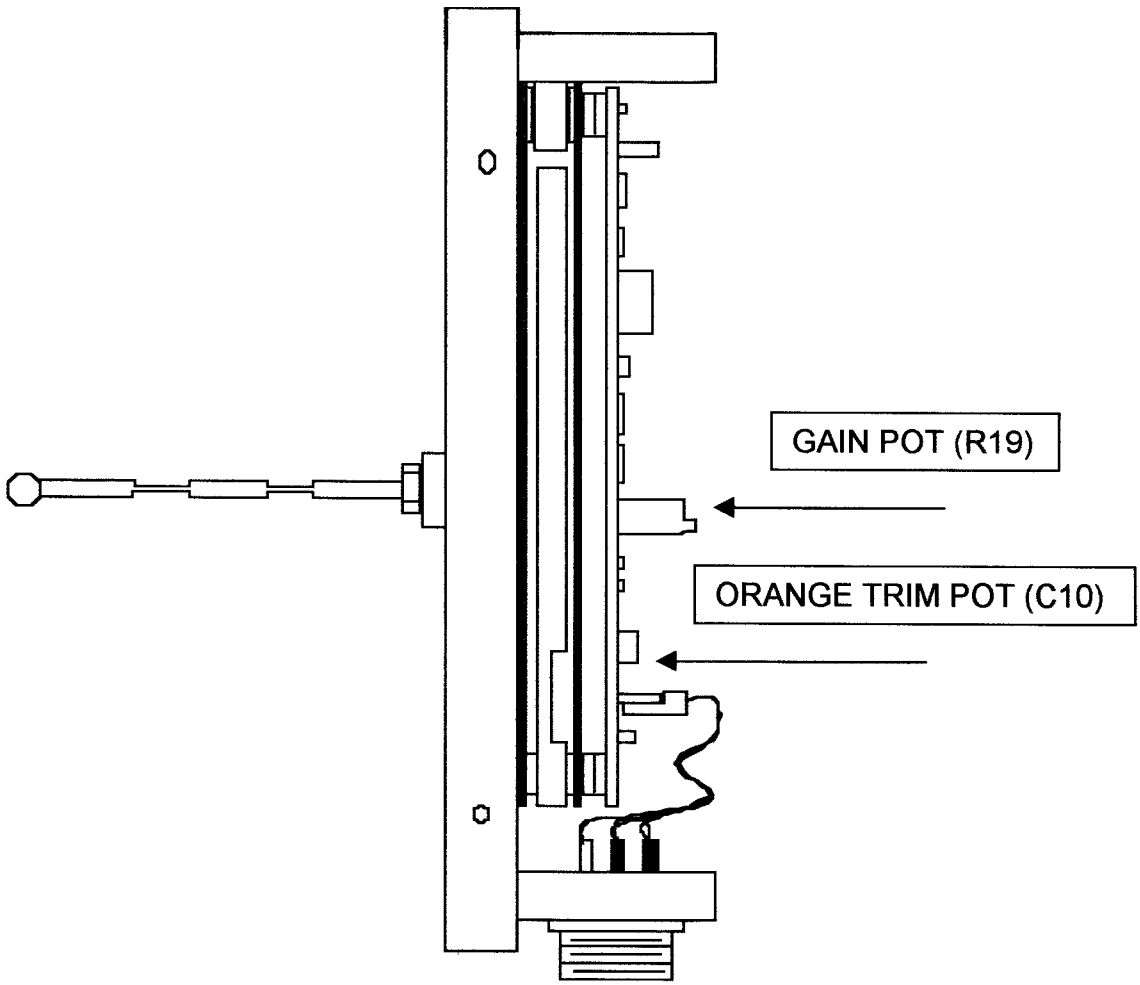
8. Remove Pick-Up covers. Inspect the center distance of the brass spring and the Pick- Up plates. Distance need not be exact. Check for debris in-between brass spring and plates; blow out with HP air. If correction adjustments are needed, loosen setscrew on both sides of column approx. 2" in front of Pick-Up. Adjust brass spring and retighten setscrews with equal pressure on each.



9. Connect DC Voltmeter positive lead (RED) to exposed **RED WIRE** using alligator clip. Ensure that you do not short out any other colored wire or ground. Connect the negative lead (BLACK) to ground on machine bare metal surface.



10. Adjust orange trimmer cap. (C-10), so that the DC voltage is ZERO (+ or - **.300** volts DC).



11. Adjust Pick-Up gain pot (R19) so **AMOUNT** reads 18.3 grams (+ or - .4 grams).

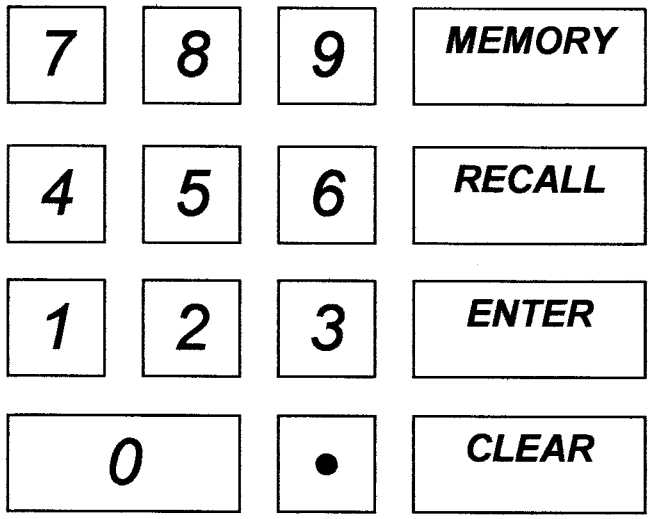
ANGLE *LEFT* AMOUNT **ANGLE *RIGHT* AMOUNT**

12. Recheck the voltage between ground and RED WIRE. Readjust the trimmer cap if necessary, (refer to item 10). Do Not Stop spinning rotor.

NOTE: Static will occur when adjusting Pick-Ups which will give false readings in amount windows. These readings will be corrected within two microprocessor updates (When angle reads approx. 24).

13. Recheck amount readings and adjust if necessary, (refer to item 11).

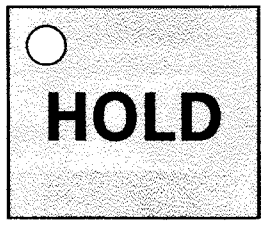
14. With rotor still spinning and once all requirements are met, press **ENTER-2-ENTER**.



15. Panel will "beep" and the amount and angle readings will change to **0 / 40** in left and right angle/amounts.

ANGLE *LEFT* AMOUNT		ANGLE *RIGHT* AMOUNT	

16. Press HOLD button once. Readings will change to **0 / 18.3** in left and right angle/amounts.



16. To check for calibration drift, allow machine to run for 30 to 60 minutes. Amounts should stay within + or - .3 grams of 18.3 grams. This need only be done if a problem is suspected.

17. Stop rotor and return to normal balancing operation.