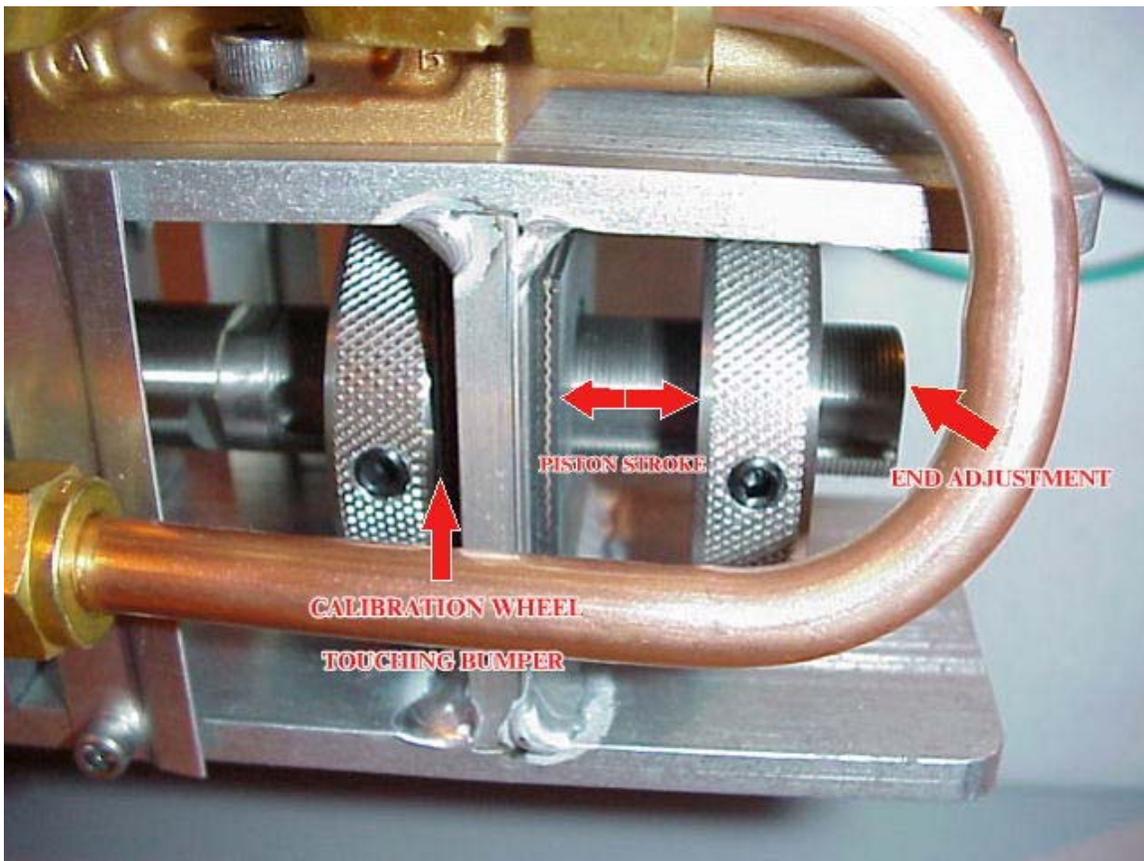
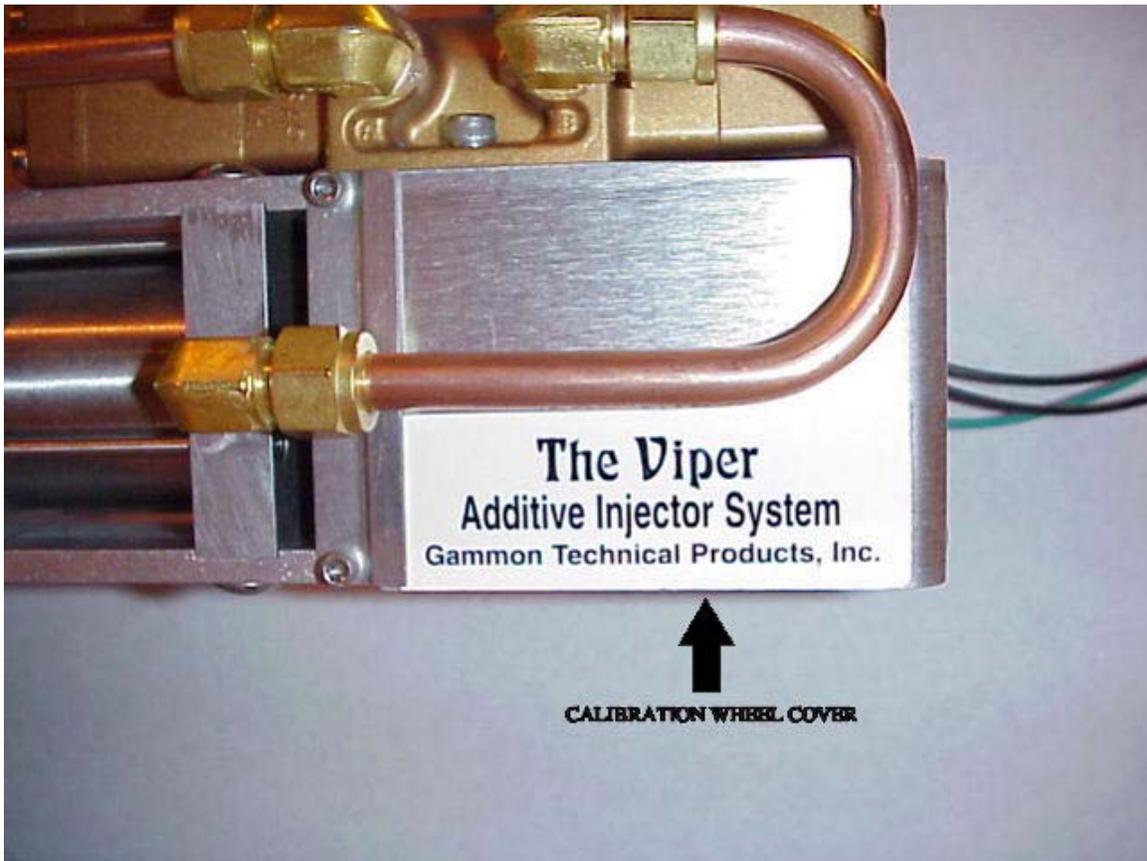


## VIPER PUMP CALIBRATION

The Digital Viper pump is an electronically operated double acting piston pump. Calibration is done either by changing the piston stroke or by changing the frequency that the pump injects. This section will deal with changing the piston stroke.

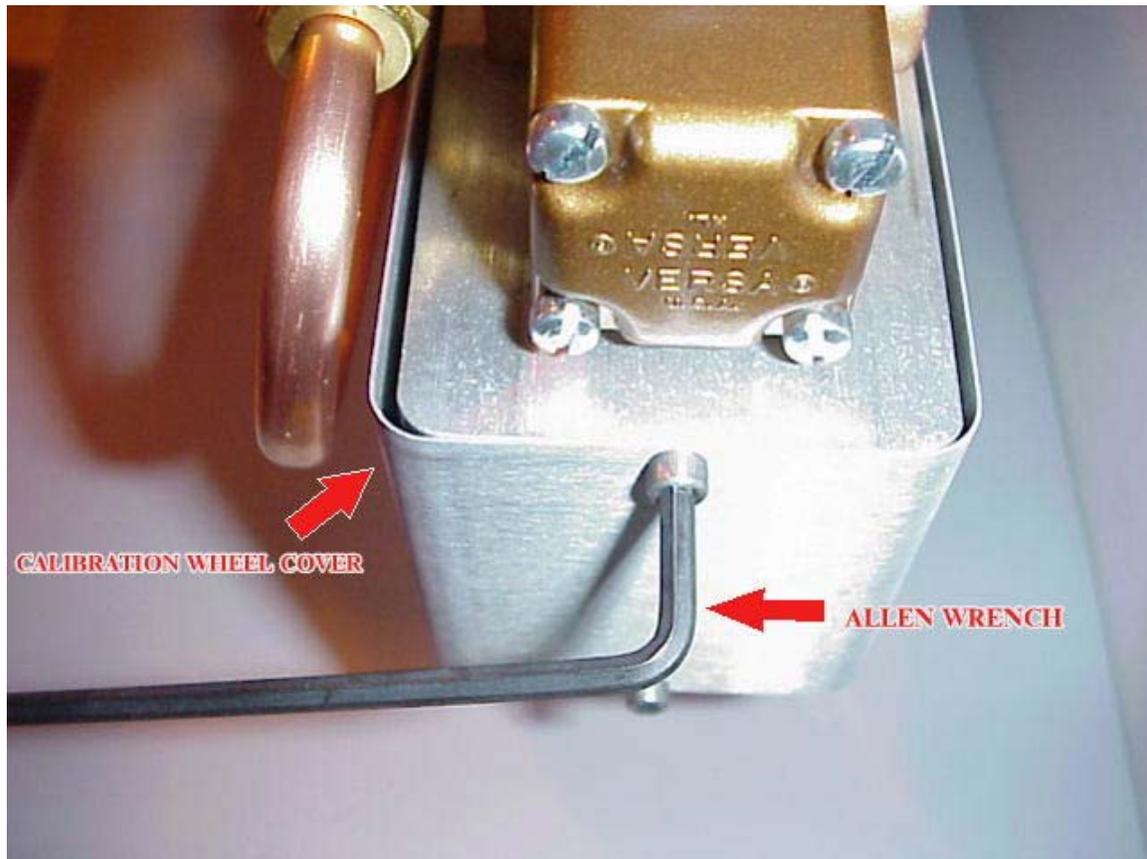


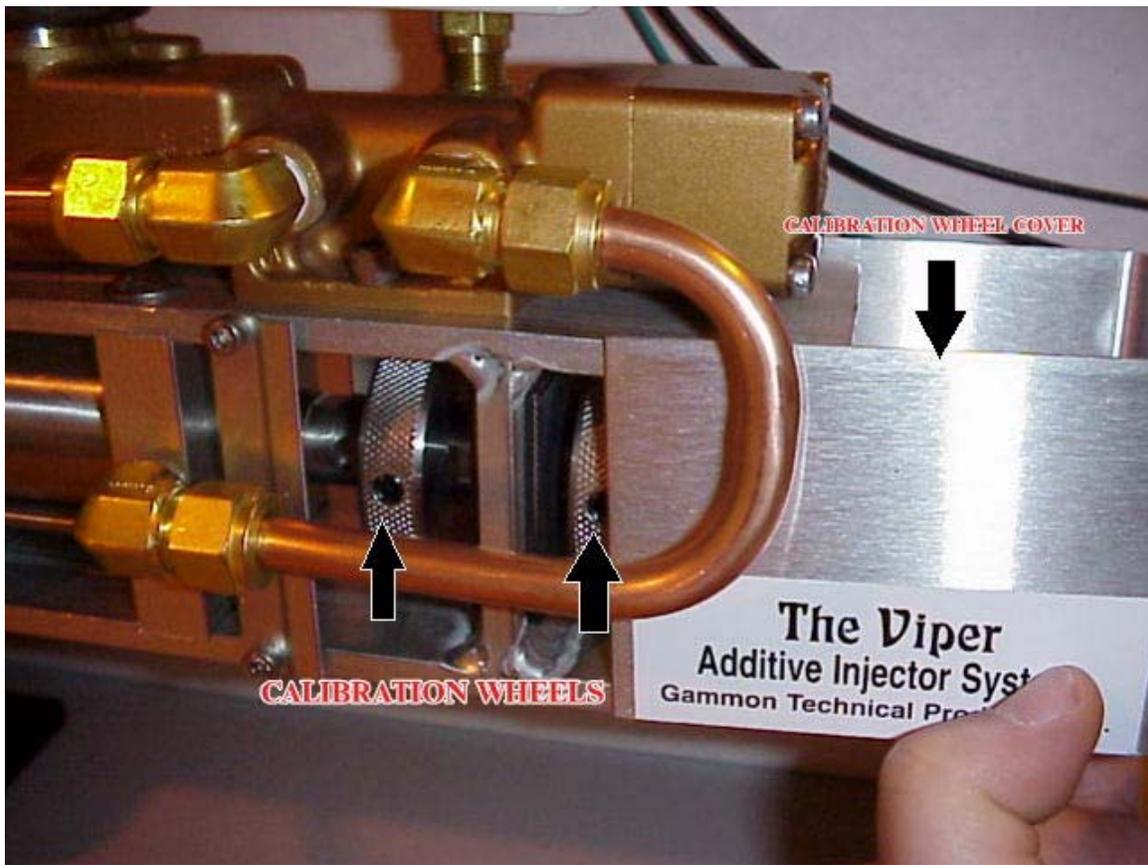


Remove the calibration wheel cover.

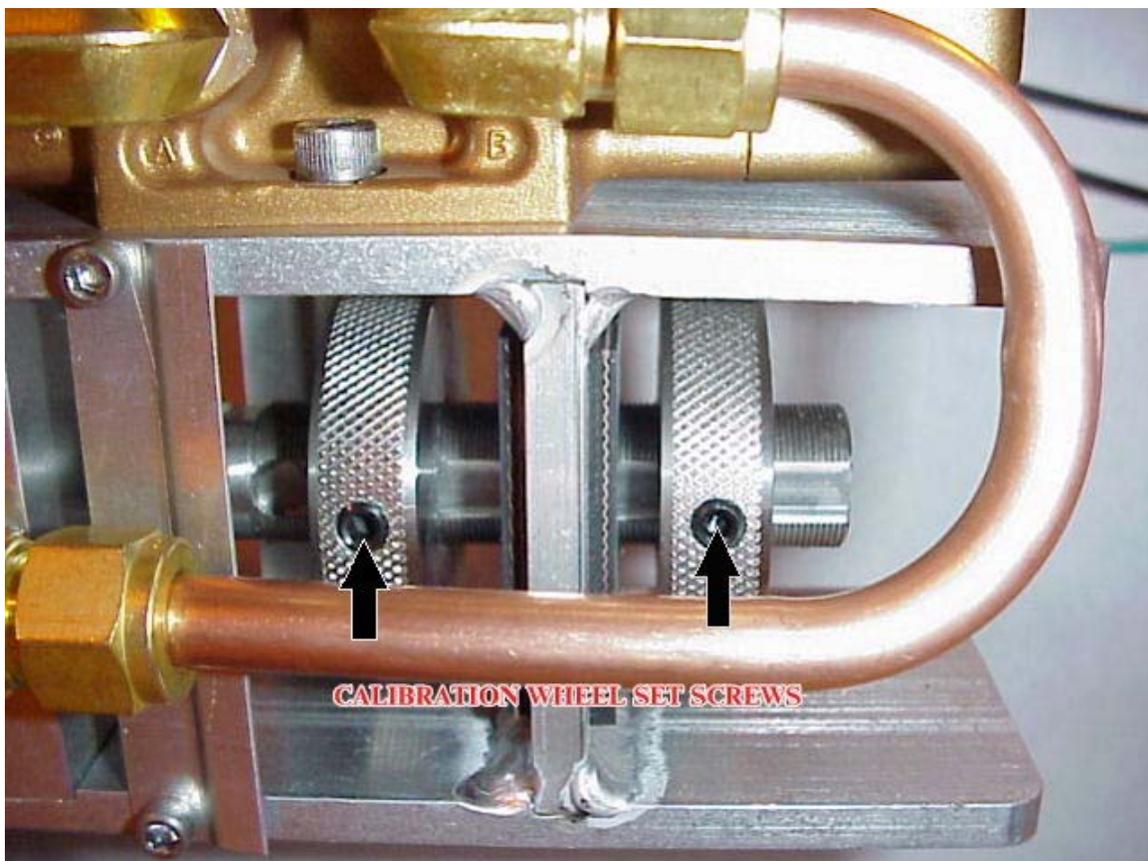
This is done by removing the two socket head screws at the back of the cover.

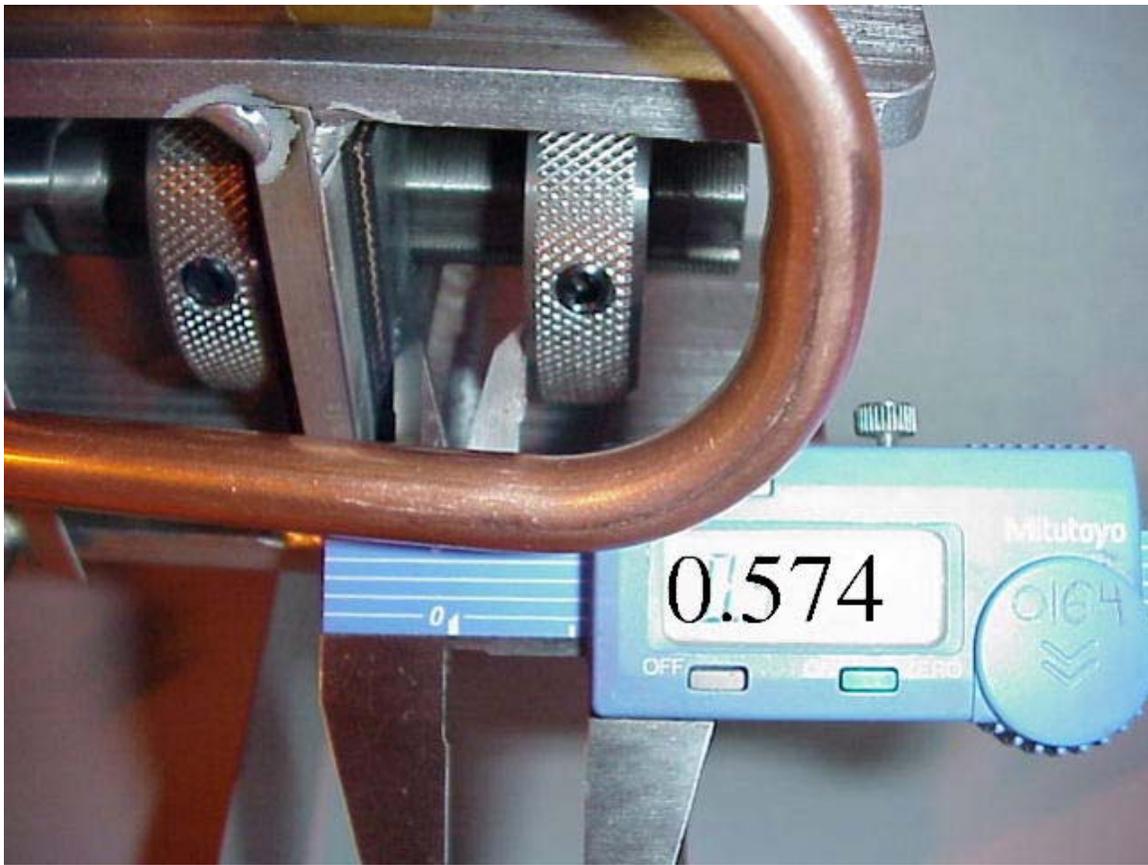
Once the two screws are removed, slide the cover out of the way to expose the calibration wheels.



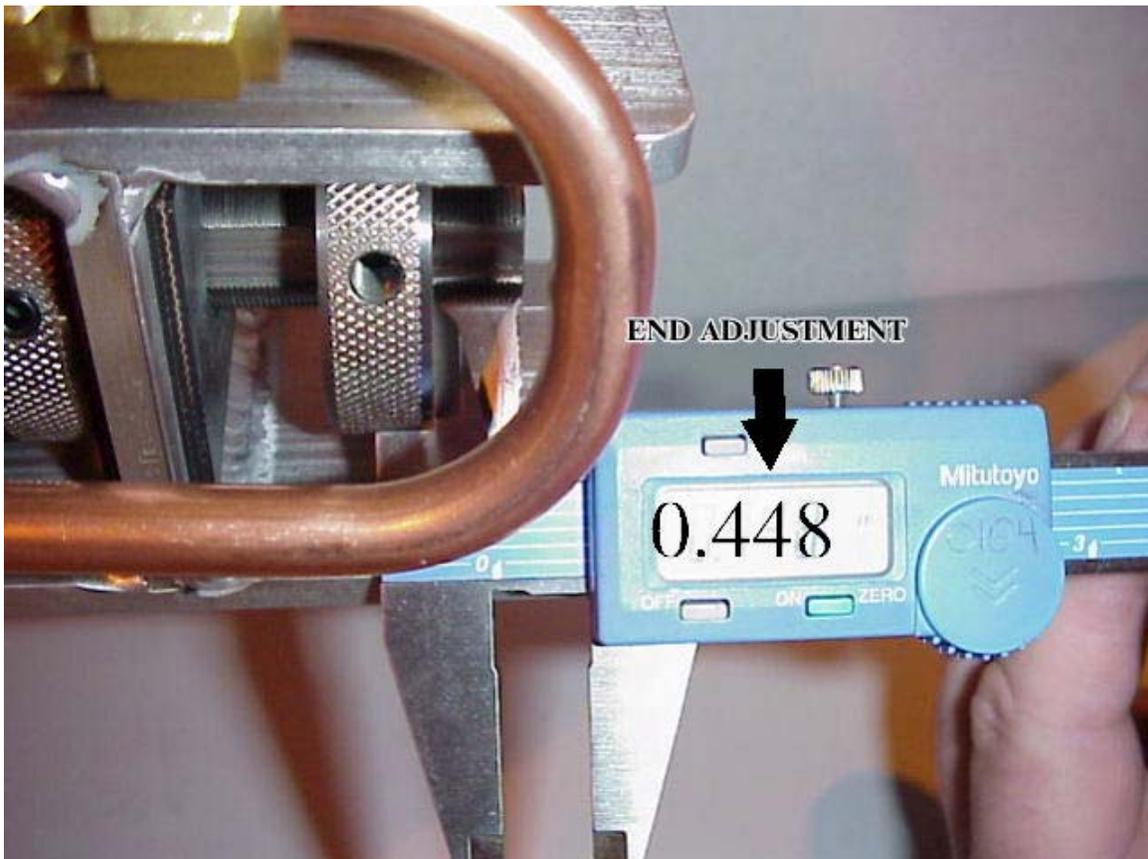


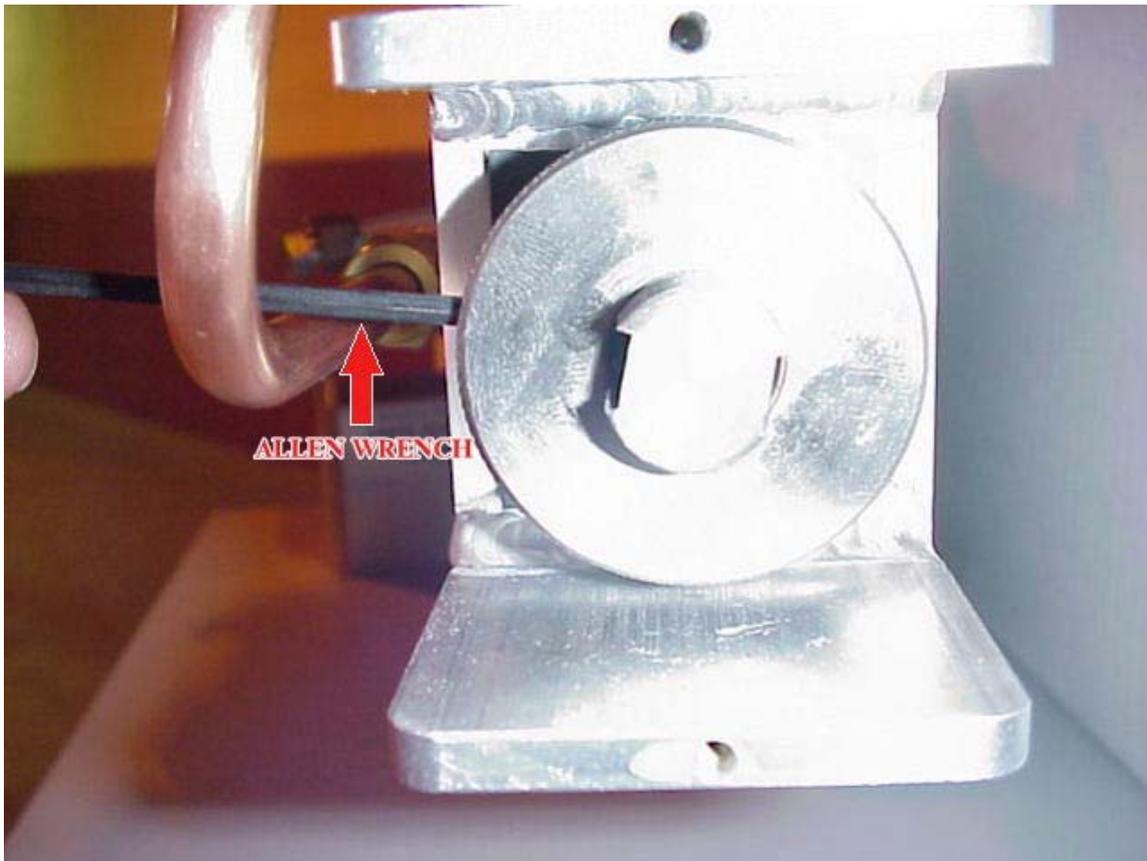
Each calibration wheel has four set screws to hold them in position.



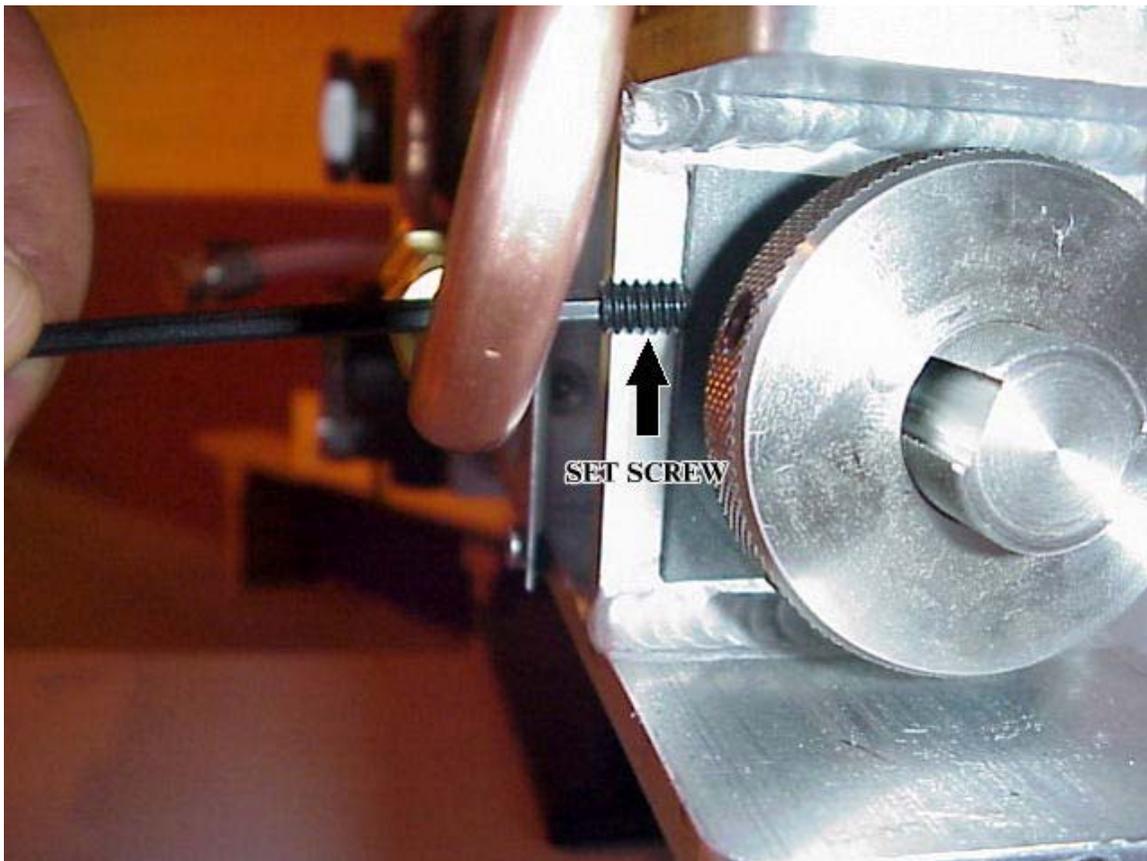


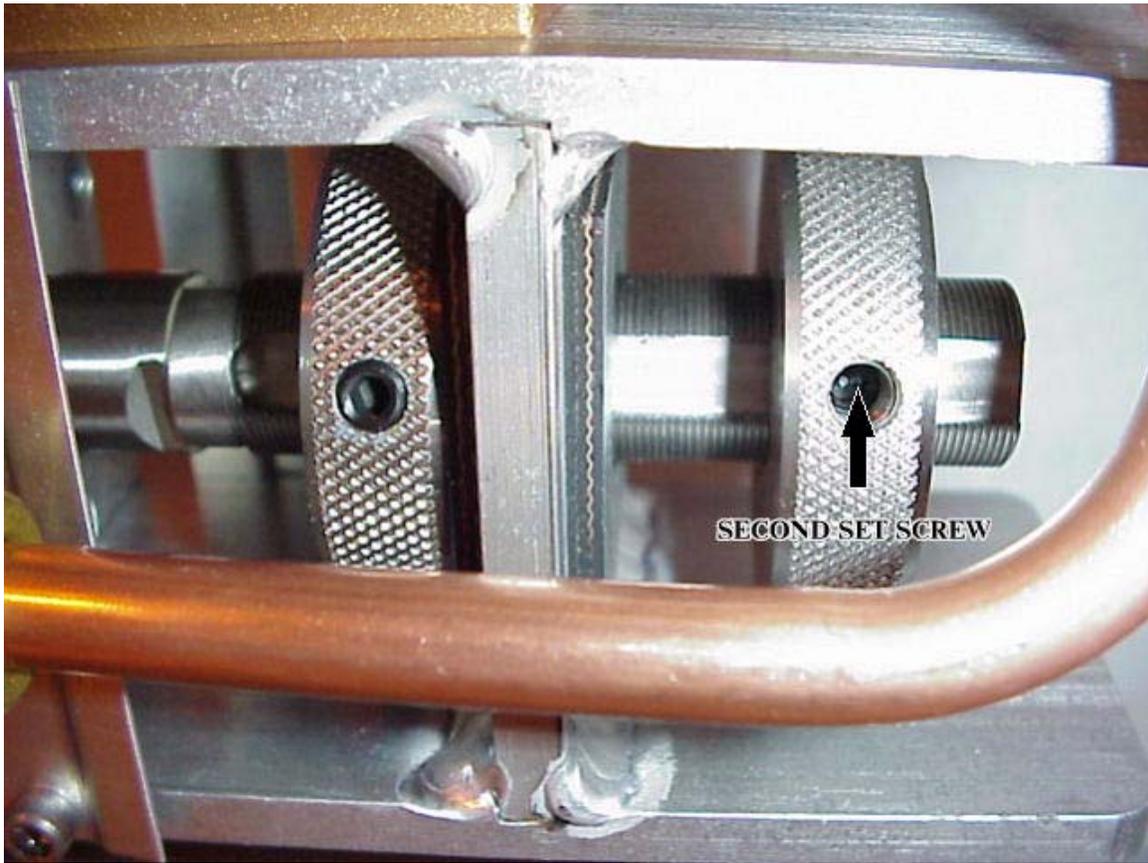
With one calibration wheel touching the center rubber bumper measure the piston stroke of the pump. The measurement should be 0.400". Measure the end adjustment, this is from the end of the shaft to the calibration wheel. The measurement should be 0.500".





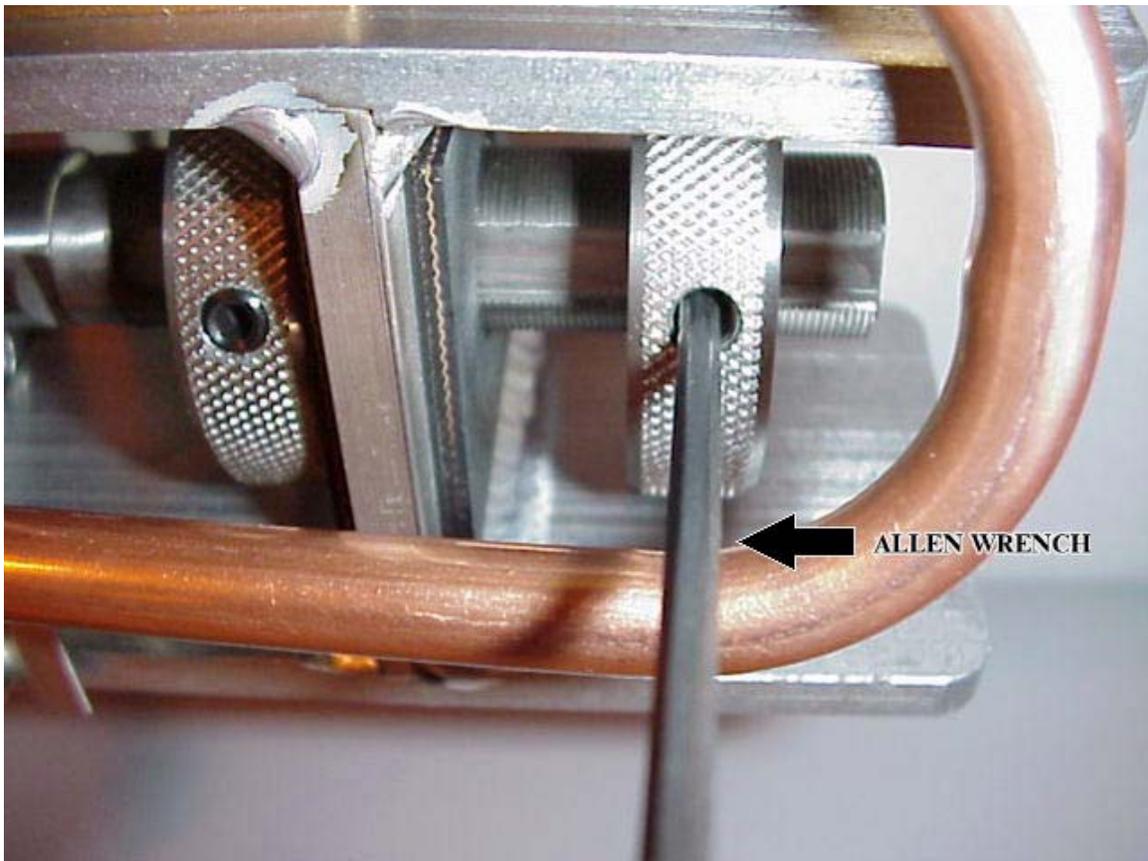
If the measurements for the piston stroke or the end adjustment are not correct the calibration wheels will need to be adjusted. Remove the four set screws from each calibration wheel.

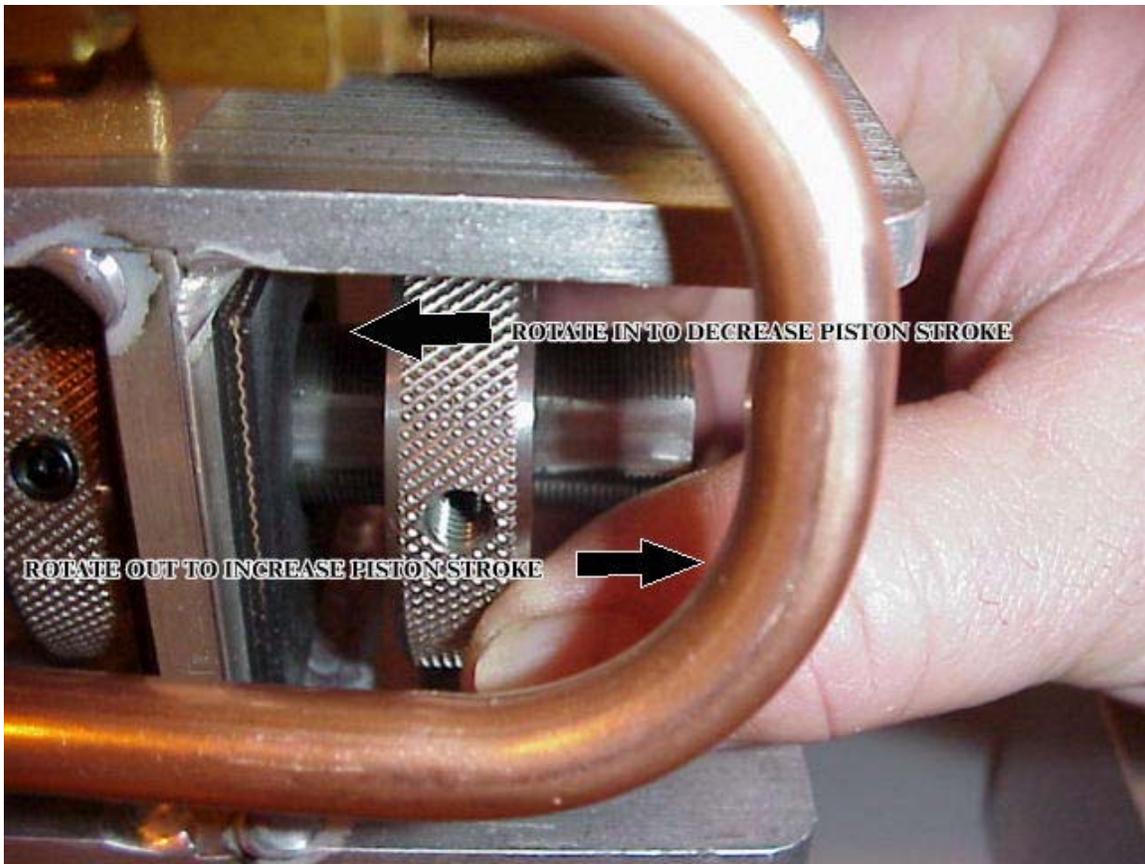




There are two set screws in each of the two threaded holes in the calibration wheels.

Both need to be removed to make any adjustment.





To increase the stroke, rotate the calibration wheel away from the center bumper.

To decrease the piston stroke, rotate the calibration wheel toward the center bumper.

Set the end adjustment first, then set the piston stroke adjustment.

Both calibration wheels should be adjusted.

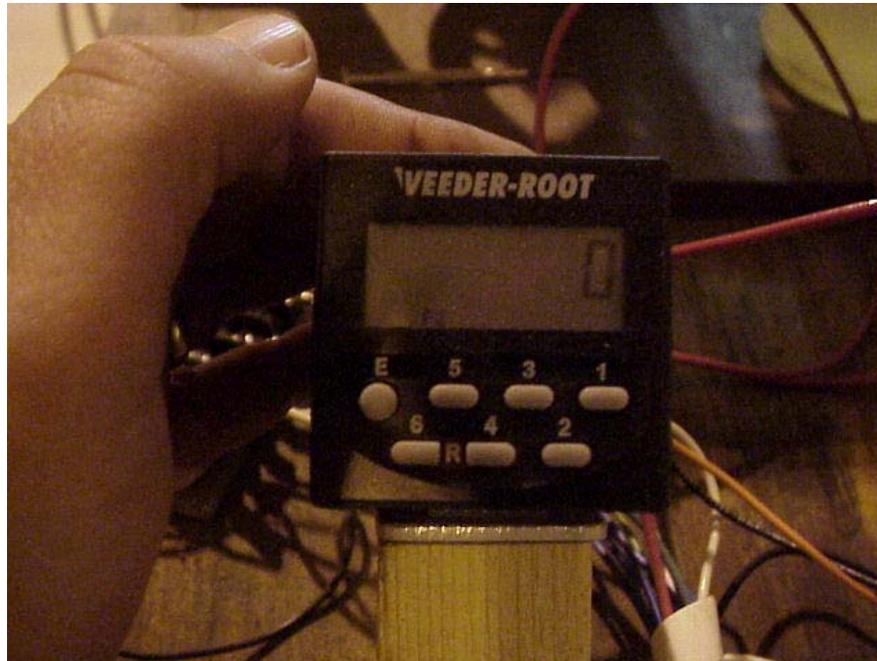
Be sure to align the set screw holes with the two flats machined in the shaft.

Reinstall and tighten the set screws in each calibration wheel.

Reinstall the calibration wheel cover.

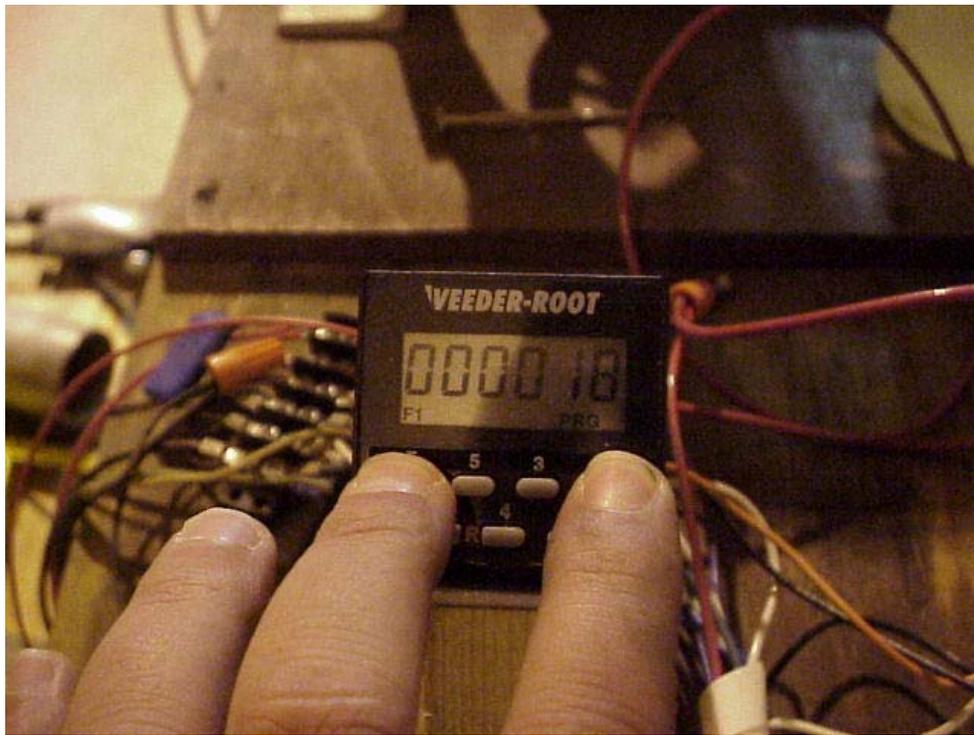
Your system should now be adjusted to inject 256 parts per million of additive.

Calibration can also be done using the digital counter that controls the Viper pump. The pump was factory set to inject additive once for every 18 liters of fuel that is pumped. This section will explain who to use the digital counter.



Turn on the power to the counter. The display will show a number.  
This number represents a number of Liters of fuel pumped.  
Press the number 4 and 6 buttons at the same time to reset the counter to Zero.



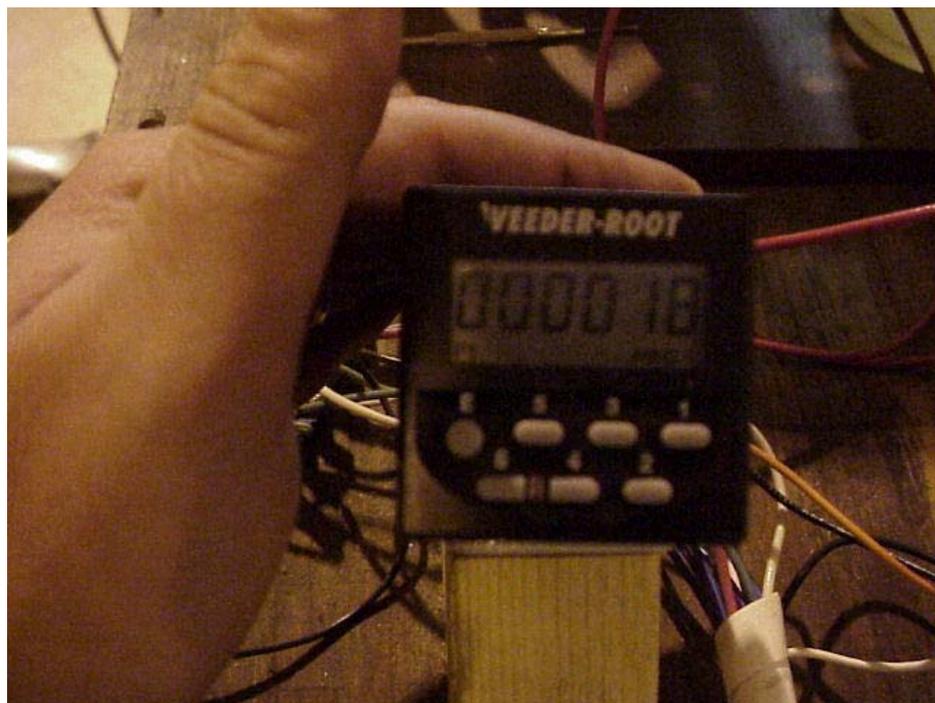


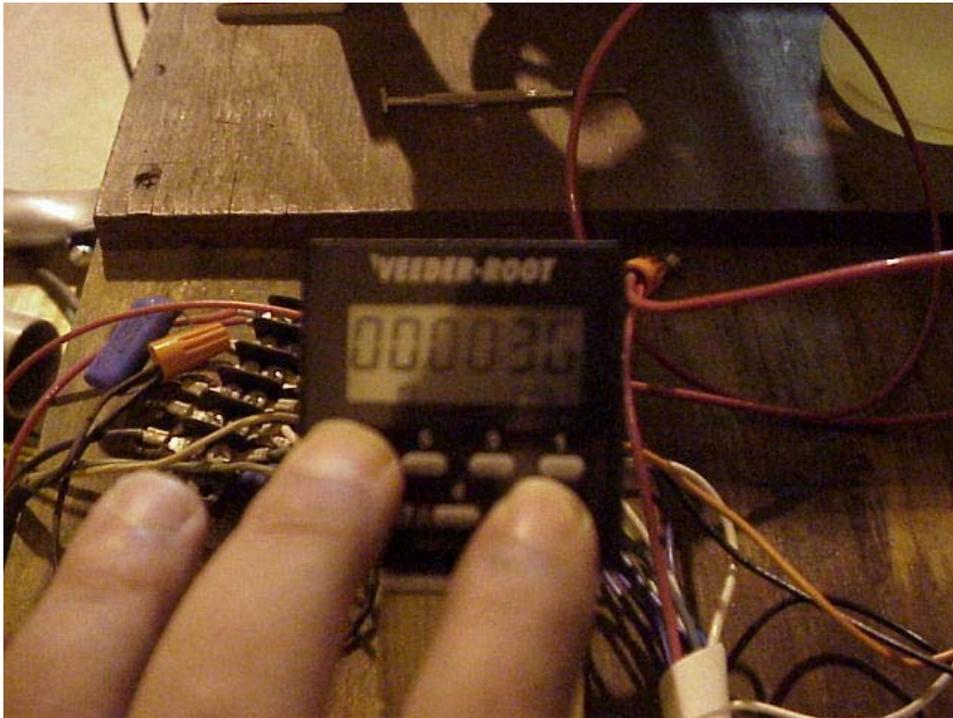
Press the letter E button and the number 1 button at the same time.

The display will now show preset number 1.

There were two different styles of pulse transmitters used on the meter registers. One was a 10 pulse per gallon and the other was a 1 pulse per gallon. The presets on the counters differed because of this. The presets will either be 18 and 36 or 180 and 360. We will show 18 and 36.

If 18 is not showing, the preset will need to be changed. Use the number buttons to change the preset number. Press the 4 and 6 buttons at the same time. The preset number will change to zero. Press the number 1 button until the display reads 000008 now press the number 2 button until the display reads 000018. Now press the letter E button to enter the preset number.





Press the letter E button and the number 2 button at the same time.

The display will now show preset number .

If 18 is not showing, the preset will need to be changed. Use the number buttons to change the preset number. Press the 4 and 6 buttons at the same time. The preset number will change to zero. Press the number 1 button until the display reads 000006 now press the number 2 button until the display reads 000036. Now press the letter E button to enter the preset number.

