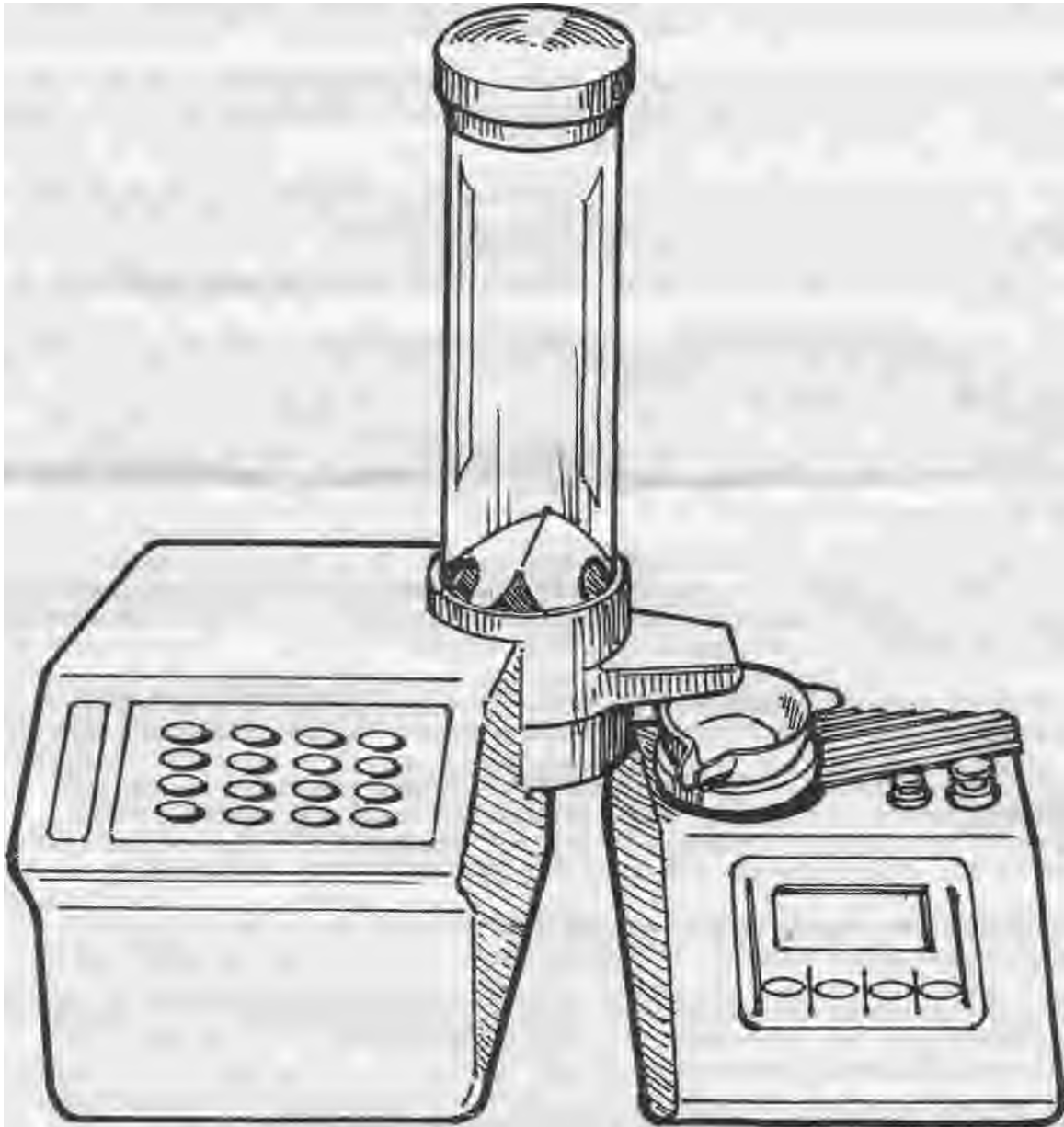


# *New PACT* High Speed Precision Powder Dispenser



Preliminary Users Manual  
August 2003

We need to get the Scale to start talking to the dispenser. Press the Calibrate/Menu button on the Scale. The Scale will ask you if you want to calibrate, tell it "NO" by pressing the ZERO/NO button. It will then ask you if you want to Print (Prnt), again tell it no by pressing the ZERO/NO button. Now the Scale will ask you if you want to go into trickle mode (tric) tell it "YES" by pressing the Grams/YES key. The Scale has now activated the Infrared Data Port. This will stay on until you power the scale down.

Over at the dispenser the SCALE light should have changed from blinking to solid on. If it is still blinking it is not receiving data from the scale, either because the scale is not in "tric" mode as described above, or the LED next to the power jack on the scale is not lined up well enough with the receiver (the small hole) on the side of the dispenser. Or possibly the wire is blocking the LED.

The SCALE light on the dispenser must be on not blinking - for the dispenser to operate. If the Dispenser is not receiving data from the Scale the SCALE light will blink and the dispenser will not function.

**WARNING:** The Dispenser and your Scale are designed for use with smokeless powder only. Do not use Black Powder - the type used in muzzle loading firearms with these products! If Black Powder comes into contact with an electrical spark an explosion will result killing or maiming you and everyone around you.

Go ahead and check the calibration of your scale and re calibrate if necessary. Make sure the scale is in Grains mode and zero it with the powder pan **on the** Scale platen. Pour some powder into the dispenser. Some powder may splash into the pan, just pour it back into the dispenser and put the empty powder pan back on the scale.

You are now ready to Calibrate the Dispenser. This will take thp, Dispenser about two minutes to complete. During this time the dispenser will start and stop several times -. **DON'T MESS WITH IT OR THE SCALE!**

With the Scale zeroed with a powder pan on it and the SCALE light on the Dispenser on, press the Calibrate button on the Dispenser. The CALIBRATE light on the dispenser will begin to blink. After a few seconds the motors will come on. During the course of the calibration cycle the dispenser will start and stop itself several times. As long as the CALIBRATE light is blinking the Dispenser is still working, have patience. After around 150 or so grains have dispensed the motors started and stopped several times the Calibrate light will change from flashing to on. Empty the powder pan into the dispenser and return it to the scale. The dispenser is now ready to use.

Your Scale should now be reading 00.0 with a empty powder pan on it. Your dispenser should have both the SCALE and CALIBRATE lights on. Press 25.0, ENTER. The MEMORIZE light should now be on.

With the MEMORIZE light on press the DISPENSE button. The DISPENSE light will begin to blink and the dispenser will check the scale to make sure it is stable. Once the status of the scale is confirmed the Dispenser will begin to operate.

As we discussed, the first load is a "sighter shot." The dispenser is making an educated guess about how fast it can go, without over shooting. If the load is over, don't recalibrate the scale. Just dump it back in the hopper and press dispense again. The second and subsequent loads should be at your target charge weight + - .1 grains.

You'll notice that as the Scale gets closer to the target weight the Dispenser will begin to slow down. When the dispense light stops blinking and goes out the Dispenser is done. However, as you've learned if you've ever trickled powder onto the Scale, it takes a

Your new PACT High Speed Digital Precision Powder Dispenser, working in conjunction with your PACT Digital Precision Powder Scale, will greatly speed the process of producing "hand trickled" charges. While you don't really need to know how all this works in order to use the product, we've found that most shooters like having some understanding of how their equipment operates.

Your scale, when you have put it in "tric" mode, is constantly transmitting its' weight readings over the infrared data port (the little "eye" next to the power plug). The dispenser reads the data sent by the scale and uses it to learn the drop characteristics of a given powder and as well as using the weight information to monitor things as the powder is being dispensed. This allows the dispenser change the motor speeds and shut down at precisely the right time.

This is a one way deal, no data is sent from the Dispenser to the Scale. Which is to say that the scale is completely independent from the dispenser, and the dispenser is completely dependent on the scale. We like it that way.

With our original Dispenser, our design goal was never go over the target charge weight. Our idea was that if the load was at or a tenth under the target, you could use it. But most shooters don't want the weight over at all; so a load that was a tenth over was a throw away. In order to accomplish this we were very very slow about the dispensing of the powder.

The new system that you have takes a somewhat different approach to dispensing the powder. Basically, we throw powder as fast as we can, right to *just shy* of the charge weight, slam on the brakes and trickle the last little bit. First the dispenser is calibrated in order to learn the basic characteristics of the powder you are using. Then, **when you first dispense** a charge, the dispenser takes what **amounts to a sighter shot**. Using the information learned during calibration, it has a pretty good idea of the fastest way to get you to, say, 50.0 grains.

The first time you dispense a load the dispenser may **over shoot**. This will not happen every time, or even most of the time - but it will happen. When it does, just dump that load back in the hopper and press dispense again. Now the dispenser has some good data to zero in on and will constantly strive to refine it's process for the load you are dispensing.

In other words, the dispenser is constantly refining its' understanding of the powder drop characteristics - which vary constantly - and keeps adjusting itself for optimal performance.

NOTE: You must place the metal powder baffle **in the clear plastic powder** tube and orient it correctly. This is shown on the cover of this manual It is **a** vital part of the system. The point of the baffle should be up, with the pitched "roof line" pointed toward you - not at the scale. This really does make a difference. Not an option.

NOTE: The power supply for the dispenser is different from that of the scale. The Dispenser requires 9 Volts DC. The Scale **requires 12 Volts AC**. **Don't** mix them up!

Arrange the Dispenser and Scale as shown in drawing, put the powder pan on the scale and plug both units in. Make sure the powder baffle is oriented correctly. The Scale light on the Dispenser will slowly blink and the scale will read "00.0."

**SAFETY:** Always keep in mind that it can't do better than the Scale, upon which it is dependent for accurate information. Be sure to carefully follow all of the instructions in your scale manual to the letter. Check the scale calibration before you calibrate your dispenser. Check the scale calibration periodically during your loading session.

few seconds for the Scale to register small slow changes. You'll find the weight displayed on the Scale will usually go up a tenth of a grain or two a few seconds after the dispenser stops and should finish up within a tenth of what you asked for.

### **ALWAYS CHECK THE SCALE TO VERIFY THE CHARGE WEIGHT!!!**

If the charge weight is under what you wanted by a tenth or two you can press the DISPENSE button. The slow speed motor will rotate very slowly for as long as you hold the button. This allow you to "bump" the reading up. As you know, with some powders, a couple of kernels will equal a tenth of a grain. Every now and then they clump up in the tube with the result that the weight goes over the target by a tenth. If you can live with a tenth over fine, if not, it's probably quicker to reject the charge and dispense another one.

NOTE: If you switch powder you'll need to re calibrate the dispenser

To empty the hopper, hold your finger over the powder tubes when you're pouring the powder out of the dispenser and into your can. When the hopper is empty, dump the tubes out. Give it a few taps to make sure, then:

SAFETY: Powder can hide under the powder baffle. After you have dumped all the powder out, remove the clear powder tube and check the bottom of the hopper to make sure you got all the powder out.

Really do check that!

### Tips and Tricks

The Dispenser would rather be just under your target weight then over it. So if you tell it 50.0 and it sees that it is just a hair under 50.0 it will stop - and the scale will show 49.9. So if you set 50.0 you'll get mostly 50.0 and some 49.9's. A clump will get you the occasional 50.1.

Even though this new dispenser is very fast, If you're dispensing really large charges, you might use your manual dispenser to throw the bulk in allowing the Dispenser to finish the charge off for you.

Different powders have different challenges. The extruded powders dispense the fastest (except for the "sticky" ones), but some have such heavy kernels that it is very hard to hit the load to the tenth. Ball powders dispense the slowest, but they are easy to be precise with.

We have found over the years that the extremely fine ball powder such as H1 I 0/W296 can jam between the powder tubes and their bushings preventing their rotation. While we're not recommending against using these fine ball powders, you should keep an eye out for this problem.

We have seen flake powder clump up in the powder tubes and block them on occasion. Very rare. Again, no reason not to use them, just keep an eye out.

One very odd thing we have noticed is that if you let the dispenser sit for a while, some powders will settle quite a bit in the hopper. When this happens the first load out will be over the mark. Subsequent loads will be fine. More of issue with extruded powders - but if you see it, just dump the load back in the hopper and press on. No need to re-calibrate.