

Automatic Powder Trickler

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Optimization and Troubleshooting Guide

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So you've got the trickler wired up and it works, but it's not running as consistently as you would like. There are a few key things to watch out for to make sure you are getting the most out of your trickler.

1. **Adjust the tilt of the trickler.** Whether the tube is tilted slightly upwards or downwards will affect the maximum flow rate as well as the ability to drop a tiny amount at low speeds. 2-4 paper-thin stickers on one side of the base of the trickler mount will make a difference. When properly set up, the maximum flow rate should be about 0.75 to 1 grain per second.
2. **Keep the contact between the tube and trickler body lubricated.** The trickler should run quietly and smoothly at all speeds. If the tube becomes sticky, you will see that the tube is 'skipping' rather than turning exactly in sync with the motor at minimum speed. Every 100-200 rounds or so you may need to slide out the tube just enough to clean the powder residue with a patch. I apply a drop of gun oil then wipe the excess. It works well, however some have raised the question of contaminating the powder. If you use just the right amount it should not be a problem, considering that any powder kernels that touch the oil tend to stick to the surface and not flow all the way through the tube. You might also try case lube or dry lube that will have less effect on burn consistency.
3. **Ensure there is 1-2 mm of space between the pulley and the trickler body.** Any contact will be a problem.
4. **Ensure the correct slider setting is not at the extent of its range.** The full range of the slider should easily cover fast- and slow- flowing powders. Once adjusted through trial and error, if you find you need to push the slider to the extents, it is probably because the trickler is not at the right tilt as discussed above.
5. **Use the air shields to cover two sides and the top as shown in the instructions.** Even if the doors are closed and the scale seems to hold well, moving your arms and breathing on the scale will affect it. The shields create a 'bubble' of static air that is more resilient to motion and allow you to quickly move the pan on and off the scale without too much fluctuation.
6. **Try operating the scale in units of grams rather than grains.** The scale has a higher resolution when using grams and the trickler will be more effective at finishing. The recommended procedure is to place your target weight in grains, then press MODE to switch the unit to grams, take note of the converted value in grams, then set your target and start with the PRINT key.

Here are a few tests you can run to verify that things are working properly:

1. **Ensure the maximum flow rate is about 1 grain per second.** Simply set a high target weight, run the trickler, and observe.
2. **Ensure the trickler runs smoothly at the lowest speed.** Remove all powder from the trickler and move it away from the scale. Set any target weight of powder on the scale, then remove some of the powder

to get the motor running. Now manually add powder to the scale until you are exactly 0.05 grains below the target. Ensure the motor and the tube are turning in sync.

3. **Repeatedly start and finish to test consistency.** Set a target weight of 3 grains or so, then let it run. Each time the trickler finishes a charge, press RE-ZERO to reset the scale and the trickler will run again. Adjust the slider and find the sweet spot.

Hopefully following these steps will have your trickler running smoothly and consistently. If you still have trouble, contact me at adamjmac@gmail.com. If it's practical, send me a video of what you find and I may be able to diagnose the issue.

If it's running well however you still feel the need to perfect each and every charge exactly to the kernel, rest assured – you don't have to. +/- 1 milligram is enough accuracy to be sure that powder weight is an insignificant source of error. Accept any weight in this range and get on with it.

Reload safely and enjoy!