

The information in this document was obtained from the Dillon Technical Support staff along with the the author's RL 550 / XL 650 reloading experience with handgun and rifle rounds since 1986. I keep a printed hardcopy as a bench reference.

## Dillon Powder Measure Accuracy

**Almost all powders break down into five basic forms:** Extruded tubular kernels, cut round flakes, cut sheet flakes, round ball and flattened ball. The density and shape of a powder effects how it will pack and flow from your powder measure's reservoir to its delivery point.

**Per Dillon's Website:** "Older powder measures were never meant to feed a fine ball/spherical powder such as W-296/H-110. The new slides are slightly larger, and the housings are broached, giving tighter tolerances. Simply call us and request a return authorization to ship your powder measure in. We'll broach your housing and fit new slides to it. Takes 3-4 days in-house."

**1: Make powder measure adjustments with the press operating handle in the [DOWN position](#).** With the handle down, the powder slide is empty and your adjustment is less likely to disturb the powder in the powder hopper. This is especially true when adjusting from a large charge to a small charge. If done with the handle up, the compressed powder will tend to push upward, disturbing the powder above the powder slide.

**2: If the powder slide does not travel fully to its limit in both directions, powder drops will be erratic.**

**3: After adding powder to a completely empty [powder hopper](#):** throw at least 10-15 "dummy" charges before you start weighing any. Cycling the press multiple times will allow the powder to settle uniformly in the hopper.

**4: Start with the hopper at least two thirds full.** Replenish the hopper before it drops below half full. Cut round flakes such as Unique tend to pack loosely within the reservoir and in the finished cartridge. To ensure a consistent charge in the ammo, a consistent "pack" in the reservoir and measure are required. Therefore, the weight of the column of powder in the measure's reservoir should also be kept consistent. Ball powders, or flattened ball (e.g., W-W 231) tend to pack the same from the weight of a full column down to a very short column of powder and should have little or no difference in the measured throw from a full reservoir to a near-empty reservoir.

**5: Don't tap on the side of the [powder hopper](#) to level the powder.** This is not needed and may cause the powder to settle differently than it does during normal cycling. If you happen to bang against the hopper, weigh a few charges to confirm you are still throwing a consistent charge weight.

**6: Cycle the powder measure or press using consistent force.** Changing the force can result in slightly more or less powder in the charge.

**7: After making any adjustment of the powder slide, throw at least 3 dummy charges before weighting any.** Obviously, the powder already in the powder slide is disturbed by the adjustment and will not be representative of the new setting. But the powder immediately above the powder slide can also be disturbed, especially if the adjustment is a large change, and will require several cycles of the powder measure to settle in to the new powder slide setting.

**8: Weight at least 3 charges to ensure you are throwing a consistent charge weight.** With most powders, the charge weight should not differ by more than 0.1 to 0.2 grains across the three measurements.

**9: To keep powder from clinging to the inside of the [powder hopper](#)** (some powders have a greater tendency to cling than others), empty and remove the [powder hopper](#), wash it, then dip it in a soapy water solution (Liquid Joy seems to work the best) and let dry completely before re-assembly.

**10: The Bowed Washer (Part No. 14041) on the Dillon Auto Powder Measure should be**

**oriented on the Bellcrank Bolt (Part No. 13904)** so that the high center of the washer is against the Bellcrank Bushing (Part No. 13848) and the low outer diameter of the washer is against the Bellcrank. Occasionally, the Auto Powder Measure is shipped with the Bowed Washer installed upside down. Correct orientation of the Bowed Washer will provide greater range of tension adjustment of the Bellcrank, which is critical to smooth movement of the Powder Slide. The Dillon press instruction manuals say to "snug" the bellcrank screw, but the powder measure operates more smoothly with the bellcrank bolt adjusted just shy of being "snug" (with just a little bit of bow remaining in the bowed washer rather than it being completely flattened). But leaving the bellcrank bolt too loose can cause in the powder slide to not reach its full travel, resulting irregular powder drop weights.

**11: Use the correct sized powder slide for the charge weight you are loading.** • Extra Small — Use for dropping less than 3 grains of powder. (.25 ACP, .32 ACP and .32 S&W)

- Small — Use for dropping 3 to 10 grains of powder
- Large — Use for dropping 10 to 45 or 50 grains of powder

**10: It is never a good idea to use a powder slide at its extreme maximum or minimum powder drop limits.** There can be quite a large overlap in powder drop weight ranges between powder slides.

**14: Clean the inside diameter of powder funnel regularly.** Inspect it about every 500 rounds.

**15: [Powder Funnel Bridging](#).** Long grained stick powders can "bridge" inside the powder funnel, especially with small caliber cartridges. You can reduce the bridging by reaming out the inside diameter of the powder funnel with a taper reamer (usually a 1/8" x 5/8" reamer) and then polish the metal. Do not over ream the powder funnel. You must stop before you ream off the shoulder that the case mouth meets.

**16: Per Dillon's Website:** Polish the upper part of the interior of the powder funnel, where the powder flows through it. Next, it should take at least one full second to move the powder slide through its' travel stroke. You want the powder to fall through the funnel, not be pushed through. Polish the interior of the powder measure body.

**17: Increase the powder level over the powder slide.** This places more pressure on the powder in the powder slide and can improve powder drop weight consistency, especially with "difficult" powders.

Hodgdon **TITEGROUP™** will stain the [Powder Hopper](#) Tube after extended contact time. It is recommended to drain this powder between reloading sessions.

**18: New brass pistol cases can stick when disengaging from the powder funnel.** The lurch when the case pops free from the die can upset powder drop consistency and even result in powder being splashed out of the case mouth. Periodically cleaning off the brass residue using a Scotch-Brite® pad After cleaning the expander, apply a wax type case lube like Hornady One Shot directly to the expander to make the neck expanding operation smoother and may reduce the frequency of cleaning needed.

**19: Regularly inspect the plastic parts on the Dillon Powder Measure.** They are the Bellcrank Cube (Part No. 13871) and [Collar Sleeve](#) (Part No. 13845). The Bellcrank Cube is critical - if it is cracked or the center hole is worn, it should be replaced. The [Collar Sleeve](#) is prone to wear or cracking. A worn or cracked Collar Sleeve will allow the powder measure to flop around, resulting in poor powder drop weight consistency.

**20: Solidly anchor the Powder Slide Spacer.** Rather than just replacing the Plastic Plug as described in #19, tap the hole in the Powder Slide Spacer using an 8-32 thread tap, then use an 8-32x3/8" screw instead of the [Plastic Plug](#). This holds the Powder Slide Spacer solidly in place, eliminating all motion. Make sure the end of the screw does not protrude below the bottom of the Powder Slide Spacer as this will scratch the top of the powder slide and cause binding.

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*Last edited by LongColt; 09-21-2013 at 02:16 PM.*