

# UniqueTek “Tips” File #27: “Cleaning Powder Funnels”

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**The Powder Funnels** used on Dillon presses and the Powder Through Expanders (PTX™) used on the Hornady Lock-N-Load® AP™ press do require periodic cleaning ... both inside and out. Just how often cleaning is required depends on many factors. But the recent popularity of wet brass cleaning processes, that clean the inside of the case to an “as new” condition, has increased the need for frequent cleaning due to galling (transfer of brass to the powder funnel tip).

## Outside Cleaning:

Cleaning the tip of powder funnels can significantly reduce case sticking by removing the accumulation of brass residue that has smeared off the cases and onto the powder funnel. This is particularly common with new brass and with brass that has been wet cleaned. Previously fired brass that has been cleaned in corn cob media still has carbon residue on the inside that acts as a lubricant ... virtually eliminating sticking. The photo at right shows a .45 caliber pistol powder funnel with heavy brass accumulation from loading wet cleaned cases.

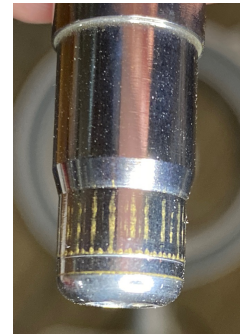


Photo courtesy of Peter vK.

Dillon Precision recommends cleaning powder funnels with fine steel wool or Scotch-Brite™. But cleaning by hand is a tedious task ... especially if the brass buildup is as heavy as that shown in the photo at right. You can greatly speed up the cleaning process by spinning the powder funnel in an electric drill. The only problem is that the OD of both Dillon and Hornady powder funnels is too large to fit in a 1/2" drill chuck. Of course if you own or have access to a drill press with a 5/8" Chuck, or a lathe, you are good to go. Short of that, there are only a few options for getting the job done.

## The DIY Approach:

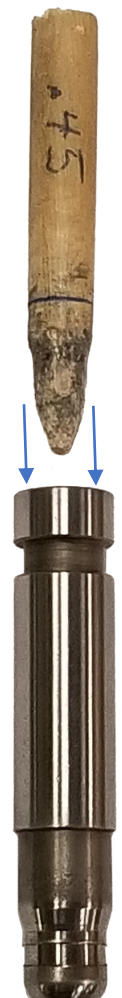
The photo at right shows an arbor I made some years ago next to a Dillon .45 caliber Pistol Powder Funnel. I cut a 2.5" length of 3/8" wooden dowel and sharpened one end in a pencil sharpener. I chucked it in an drill and jammed the powder funnel onto it. You can see how the wood has compressed a bit and taken on the shape of the powder funnel interior. I drew a line on the arbor to show how far it inserts into the powder funnel.

Unfortunately, wood just can't get much grip on the steel. And, because the wood compresses, the arbors typically won't grip after just one or two uses. Applying a single wrap of “Friction Tape” or “Grip Tape” to the sharpened end can help get some traction. Note: The friction tape was removed from the arbor shown at right to better show its shape in the a photograph.

In the final analysis, this got the job done but left a lot to be desired ... especially if the powder funnel needs frequent cleaning. Or, worse yet, multiple powder funnels need cleaning as you'll need a to make a new arbor or each caliber.

**TIP:** Clean the inside of the power funnel before inserting the arbor. Any powder residue on the inside of the powder funnel will greatly reduce the grip that the arbor can attain. Note: Cleaning the inside of powder funnels is addressed later in this Tips file.

**TIP:** Just in case the powder funnel slips off the arbor, always place something soft beneath to catch it.



I did investigate other materials including polyurethane rod. But I couldn't find a polyurethane formulation that had the right combination of grip and stiffness. To get better traction requires a soft (low durometer) material but to keep it from flopping around requires a more rigid and harder (high durometer) material.

### The Off The Shelf Approach:

I could find only two off the shelf products that would get the job done. Both are far better than the wood arbor approach. Of course if you happen to have a lathe (or access to one), you won't need a holder as most small to medium size lathes will have jaws with enough range to hold both Dillon and Hornady powder funnels.

### 5/8" Drill Chuck Conversion:

I found this 5/8" Jacobs Chuck and Drill Chuck Arbor that, together, would allow you to simply mount a 5/8" chuck in your drill's existing 1/2" chuck. But the Drill Chuck and Powder Funnel assembly adds at least 4-1/2" which may be a bit long to use in a small benchtop Drill Press. Of course you can swing the Drill Press Table out of the way to give you more room.



If your drill press happens to have a Jacobs #3 arbor (JT3), you could simply replace your 1/2" drill chuck with this 5/8" chuck ... in which case you don't need the Arbor. But the 1/8" minimum drill diameter the 5/8" chuck can hold is a drawback. HHIP does make a 1/32" to 5/8" Drill Chuck but it's almost double the cost.

Chuck: HHIP 1/8" to 5/8" JT3 Drill Chuck (HHIP #3700-0105) = \$24.38

Chuck: HHIP 1/32" to 5/8" JT3 Drill Chuck (HHIP #3700-0105) = \$41.95

Arbor: HHIP 1/2" to JT3 Drill Chuck Arbor (HHIP #3700-0178) = \$10.63

The main advantage with this approach is that, the 5/8" jaws will allow you to polish both Dillon Powder Funnels (0.555" OD) and Hornady Powder Through Expanders (0.620" OD). One limitation is that the JT3 Drill Chuck Arbor is not available in 3/8", so you must have a drill with a 1/2" chuck.

### Powder Funnel Cleaning Adapter:

In August 2021, UniqueTek launched the Powder Funnel Cleaning Adapter. It is an all metal part that fits any 3/8" or larger drill chuck and securely holds a powder funnel for cleaning. Instead of jaws it uses a brass set screw to secure the powder funnel. It is both less expensive and more compact than the Drill Chuck Conversion but is available in only one size to hold Dillon Powder Funnels.



UniqueTek Powder Funnel Cleaning Adapter: Item # T1758 = \$24.95

Although both of these products are far more expensive than the DIY approach, I consider them to be much better choices because;

- 1) One size fits all caliber Powder Funnels.
- 2) They'll last forever so you won't need to make bunches of Arbors.
- 3) You won't have to worry about the Powder Funnel coming loose during cleaning.
- 4) Considering the cost of replacing just one damaged powder funnel that falls off an arbor, they'll essentially pay for themselves in just one or two uses.

## Cleaning the Powder Funnel:

1. Install the Adapter, Chuck Conversion or Arbor into an electric hand drill or drill press.  
**TIP:** When using a hand drill, you may want to clamp the drill in a vice or other fixture so that both your hands are free to do the polishing.
2. Insert the Powder Funnel.
  - Adapter: Insert the powder funnel and tighten the set screw.
  - Drill Chuck Conversion: Insert the powder funnel and tighten using the chuck key.
  - Arbor: Jam the powder funnel firmly onto the tip of the wood dowel.  
**TIP:** Just in case it slips off the Arbor, place something soft beneath to catch it.
3. Turn on the drill and set to a medium speed.
4. Hold fine steel wool against the tip of the powder funnel until all traces of brass are gone.
5. Follow up with some Flitz or similar metal polish.
6. Lastly, wax the tip of the powder funnel with Imperial Sizing Die Wax (or equivalent).

## What About Chemical Cleaning?:

Multiple sources on the web describe using Easy Off Heavy-Duty Oven Cleaner Spray (which contains sodium hydroxide – aka Lye) to strip brass plating for DIY projects. Just apply to the tip of the Powder Funnel tip, let stand a couple of minutes, then scrub with steel wool. You can use it in conjunction with the procedure described above to accelerate cleaning. But be sure to rinse thoroughly with plenty of water after cleaning (Step 4) and before polishing (Step 5) or applying wax (Step 6).

**Caution: Wear safety glasses, rubber gloves and have plenty of ventilation when using!!!**

## What About Using Sand Paper Instead of Steel Wool?:

I do not recommend using any type of sand paper as it will inevitably scratch the powder funnel. And any scratches will result in faster brass residue build up. Since the goal is to remove only the brass and other residues, steel wool is the safer choice ... although it will take longer.

## Inside Cleaning:

Powder residue can and does accumulate on the inside of powder funnels. The amount of accumulation isn't usually much but keeping it cleaned off can improve powder flow. How frequently you need to clean will depend on both the type of powder and the quantity of ammo loaded.

Fortunately cleaning the inside is easy. I simply use some ammonia-free window cleaner sprayed onto a bore patch and push it through several times until it comes out clean. Glass cleaners often contain some isopropyl alcohol, which seems to aid cleaning as well as speeding up drying once finished.

## What About Ultrasonic Cleaning?:

Even an ultrasonic cleaner is unlikely to remove any brass residue but will do a great job on removing powder residue from the inside of the powder funnel. It is also an excellent way to do a final cleaning after performing all the cleaning steps previously described. Don't forget to apply wax to the powder funnel tip after ultrasonic cleaning (as described in Step 6).

### More Relevant Tips:

Below are a few tips I found repeated many times on various forums. How well any of them work is open to question, but they are worth exploring.

**TIP:** Run all new brass and wet cleaned brass through your tumble or vibratory brass cleaner filled with clean corn cob that has been charged with a liquid brass polish (e.g., Dillon Rapid Polish 290 or Flitz® Tumbler/Media Additive). These two polishing products (and possibly some others) contain silicones that leave a thin film on the brass to retard tarnishing. But the silicone film also acts as a lubricant that can help reduce powder funnel sticking. With new brass, this additional cleaning step also removes any residual brass particles left over from the manufacturing process.

**TIP:** Lubricating the tip of the powder funnel frequently ... especially when loading new brass or wet cleaned brass ... can significantly reduce sticking and brass buildup. Simply keep a tin of Imperial Sizing Die Wax (or equivalent) at your press and apply to the tip of the powder funnel every so many rounds. Just how frequently will depend on many factors so you'll need to determine the correct frequency by trial and error. If there is already brass residue on the powder funnel you must first remove it for any wax to be of much help.

**TIP:** Lubricate the tip of the powder funnel with "Lampblack" (aka Soot) from a candle. Light a candle and hold the tip of the powder funnel within the flame.

**NOTE:** This is the most recent one I've heard of and I haven't tried it yet. But it makes some sense as carbon is an excellent lubricant. But lampblack is soft and unlikely to adhere well to the metal, so you will likely need to repeat application frequently. And, since fire and gunpowder don't mix, you'll need to remove the powder funnel and apply the lampblack far away from your reloading bench. So, the inconvenience may outweigh any potential benefit.

Disclaimer: UniqueTek, Inc. assumes no liability for damages or personal injury that may be incurred as a result of using the information contained in this document. It is your responsibility to ensure that your reloading equipment is properly assembled, is maintained in proper working condition, and is used according to the manufacturer's instructions and safe reloading practices.