

# UniqueTek “Tips” File #29: “Cleaning Brass Cartridge Cases” By Lee Love

Rev. 4; 12/2025

This Tips File was originally intended to be a simple Tip about a way of rapidly mixing polishing compound into corn cob media (It's at the bottom of page 3.). But, as I started writing it, I found more and more pertinent information that was worth including.

## Types of Brass Polishers

Brass polishers really boil down to two basic types.

- Tumble
- Vibratory

### Tumble Polishers

Tumble polishers have been around the longest and are the simplest. They have a drum that is supported on rollers or wheels that are powered by a motor through pulleys connected via a belt. The drums are usually watertight so can be used for wet processes. They also tend to be quieter than vibratory polishers. Tumblers include not only small benchtop units (similar to that shown at right), but also cement mixers that are often used by big operations that need to polish large quantities of brass.



Thumler's Tumbler B140

### Vibratory Polishers

Vibratory polishers are a bit newer to the scene but are very effective. Their one drawback is that they tend to have lower weight limits for their size. For instance, if you are using stainless-steel pin cleaning media, a load of pins and brass is far too heavy for most tabletop vibratory polishers. Also, the bowls of many vibratory brass polishers aren't designed for use in wet cleaning processes and will leak.



Dillon CV-2001

**TIP:** Do not overfill your brass polisher. Overfilling will reduce the cleaning action of both tumbler and vibratory case cleaners. See the manufacturer's instructions regarding the proper fill level.

**TIP:** **NEVER** run your vibratory brass polisher on a carpeted surface. The carpet will impede airflow to the motor ... causing it to overheat and potentially fail. **ALWAYS** place it on a smooth surface.

## Types of Media

### Organic Media

The two most popular organic polishing media are,

- Corn Cob
- Walnut Shell

They are effective and the most economical of all polishing media. They can be used in both tumbler and vibratory polishers. But, due to their very light weight, are the most widely used media for the small vibratory polishers typically used for brass.



Corn Cob Media



Walnut Shell Media

**Corn Cob**, being softer and less angular than walnut shell, leaves a higher shine on the brass. It is also absorbent and can absorb limited amounts of water and oils from the parts.

**Google AI = 14/20 mesh size. 10/14 Coarser for very dirty brass. 20/40 is finer for higher shine.**

**Dillon Precision = 10/14**

Frankford Arsenal Corn Cob = 16/20 ? Suspect Data from Midway USA

Lyman = no data

**RCBS = no data**

Sinclair International = no data

I've tried smaller grit and find it to be messy as it clings to, well, everything.

**Walnut Shell**, being harder and more angular, cleans faster but leaves a satin finish on the brass. If you are purchasing walnut shell media from a walnut shell products manufacturer you want to ask for

**Google AI = 12/20 grit size. 18/14 for very dirty brass. 8/16 is mor coarse. 20/40 is finer for higher shine.**

**Dillon = 18/40**

Frankford Arsenal = 16/20 (Both untreated and treated.) data from Midway USA

Lyman = 12/20 grit

**RCBS = 12/12**

Sinclair International = no data

Some guys like to start with walnut shell to more rapidly clean the brass and then run the brass again using corn cob to give the brass a higher shine. Indeed, some guys mix the two media together, in various proportions, to get the combination of speed and finish that they like in a single cycle of the polisher. If you decide to try this, a 50:50 blend is a good place to start.

**TIP:** I prefer corn cob for polishing most brass. But, for very dirty and heavily tarnished brass (e.g., brass harvested from an outdoor range), I use untreated walnut shell first to remove the bulk of the crud, and then follow up with corn cob treated with a polishing compound. I learned this trick the hard way after polishing a batch of dirty range brass in an almost new batch of corn cob ... and then discovering the corn cob became so dirty that I had to dump it and start fresh. As I have only one polisher, I store this batch of walnut shell media in a covered plastic container until needed.

## Inorganic Media

The inorganic polishing media fall into one of three types.

- Metals
- Ceramic
- Resin/Plastic

**Metals** (e.g., Stainless Steel Pins or chips), are the heaviest and almost exclusively used in tumbler polishers due to their weight.



Stainless Steel Pins

**Ceramics** are a bit lighter but still usually too heavy to use in vibratory polishers ... at least not the relatively low powered table-top vibratory polishers used by handloaders. Ceramic media also tend to be larger shapes that aren't capable of cleaning the corners of primer pockets or passing through flash holes.

**Resin/Plastic** media can be lighter than ceramics but still may be too heavy for small vibratory

polishers, as well as being too large to clean primer pockets or flash holes.

Also, inorganic media are more commonly used in wet, rather than dry processes. But I will not get into the details of wet processes in the remainder of this Tips File.

## Adding Polishing Compound to Organic Media

In the old days, it was common to use untreated organic media to polish brass. But it was found that adding a polishing compound would greatly speed up the cleaning process as well as leaving a higher shine on the brass. Originally, simple jewelers rouge (contains finely ground iron oxide) was added as it was readily available. Now days, there are many brass polishing compounds available that are specifically formulated for polishing cartridge brass.

I've had many customers ask for advice regarding how much polishing compound needs to be added to the media. Reading the bottle label is usually a good start as different brands of polishing compound may require different application rates. Application rates may also vary depending on the type of media.

But, sometimes, this information is more elusive. For instance, the initial charge rate for Dillon Precision Rapid Polish 290 is found only in the user manual for Dillon Vibratory Case Cleaners and not on the bottle label or in the Dillon Instruction Manual for Case Preparation Tools & Reloading Accessories. When in doubt, call the manufacturer of the polishing compound.

### Initial Charge

When starting a new batch of media, you need to add quite a bit of polishing compound to “charge up” the media. Below are just a few examples.

- [Dillon Rapid Polish 290](#): “Dispense up to 1/3 of a bottle or 80 ml of Dillon Rapid Polish 290 ...”
- [Frankford Arsenal™ Quick-N-EZ™ Brass Polish](#): “To activate media for the first time, mix 3tsp polish to 1lb media.”

But Berry's, FLITZ® and IOSSO® do not appear to differentiate between an “Initial Charge” and “Rejuvenating” and I was unable to find any information to the contrary. But I suspect that the “Initial Charge” still needs to be higher and you will get better performance if you add more polish than indicated with a fresh batch of media.

- [Berry's® Brass Bright](#): “Add 1 cap full of polish per pound of media...”
- [FLITZ® Tumbler/Media Additive](#): “Use 1oz per pound of media.”
- [IOSSO® Case Polish](#): “Add 1oz per pound of corn cob. 1/2oz per pound of walnut shell.” †

† You will notice that IOSSO® recommends adding their polish at 1/2 the rate when using walnut shell compared to corn cob. But they fail to mention why. I believe that it is because walnut shell is harder, less porous and less absorbent. So, the polishing compound isn't absorbed very deeply into walnut shell. If that is indeed the reason, it follows that it would also be true for most other polishing compounds. If using a different polishing compound, you may wish to test this assumption when using walnut shell.

NOTE: These are just a few polishing compounds that I happened to have access to during the writhing of this Tips file. There are many more polishing compounds and their absence here is in no way a dismissal of their effectiveness.

## Rejuvenating

Before each cycle of your brass polisher, you'll need to add a little more polishing compound to "rejuvenate" the media. This information seems to be much easier to find and is typically 1 to 3 capfuls depending on the capacity of the polisher.

## Mix the Polishing Compound into the Media

Regardless of the polishing compound you are using, or if you are adding an initial charge or rejuvenating the media, you must allow it to thoroughly and uniformly blend into the media before adding brass. Adding brass too early can result in stains on the brass and even clumps of wet media stuck inside of the brass. When adding the "initial charge" to a fresh batch of media, you may need to run the polisher for as much as an hour. When "rejuvenating" the media, you may need to run for only 3 to 10 minutes.

**TIP:** Recently, when polishing multiple back-to-back batches of brass, I got frustrated with this waiting time ... especially the long wait for the initial charge of polishing compound to mix into a new batch of corn cob media. So, I got creative...

I rummaged through the kitchen looking for an electric hand mixer but came up empty. Then I found a wire whisk. I striped off the handle and chunked the whisk in my cordless electric drill. I started up the vibratory polisher and then worked the whisk around the polisher tub. It is a 2-speed drill so I set it for Low and didn't squeeze the trigger to full speed as I didn't want to throw any media from the bowl. It worked like a charm! It rapidly broke up the blobs of polishing compound and helped blend it into the corn cob in just a few minutes. But I found the whisk to be a bit floppy due to the flex of the wire handle. I now have a whisk that was designed for an electric hand mixer (see photo at right). It has a rigid metal shaft that isn't floppy.

NOTE: UniqueTek has now added this to our product offerings. Item No.: [T1788](#)



## Changing Polishing Compounds

**NEVER** mix polishing compounds. When changing polishing compounds, always dump the existing media, thoroughly clean the polisher bowl, and start with fresh media. I once had a bad experience with this, and it resulted in dark gummy deposits on the brass. I had to wipe down each piece of brass and the vibratory polisher bowl with mineral spirits to remove the residue, and then start over with fresh corn cob media.

## Pretreated Media

There are now many suppliers of both corn cob and walnut shell media that is pretreated with some type of polishing compound. But, being pretreated, it assumes that you won't be "rejuvenating" the media after each batch of brass. Instead, you periodically dump part of the media (typically about 15% of the load) and "replenish" with fresh pretreated media. This can extend batch life but, eventually, you will need to dump the entire batch and start fresh. It is also a good practice to periodically remove the media, clean the bowl and then return the media to the bowl.

**TIP:** When "replenishing" pretreated media, it is good practice to spread it out around the bowl as well as letting it run for a few minutes to mix in before adding brass.

I prefer to use untreated media and add polishing compound as I feel it gives me more control. Also, I had a bad experience with one particular brand of pretreated media that contained WAY too much polishing compound. So much in fact that it left polishing compound caked onto the brass. But that company is no longer in business, and I have never heard of a similar incident with any of the current manufacturers.

### When to Change the Media

With corn cob, it is easy to judge just by color. When it gets very dark it is usually time to change it. But also change it if it smells foul or acidic, if you see staining on the brass, if it is leaving residue on the brass, or if there is a heavy buildup of residue on the rim of the polisher bowl.

With walnut shell, it is a bit more difficult as it is naturally a darker color. But the same general rules apply.

Similar to the technique I mentioned for replenishing pretreated media, some handloaders like to periodically do a partial replenishment of the media by scooping out several cupfuls of media, adding the same number of cupfuls of fresh media, and then adding a bit more polishing compound than usual. After a few cycles of this, you end up with a steady state in your polisher where every batch of brass sees the same media quality. And you need to dump the whole batch of media much less frequently. But I find this difficult to manage and prefer to just change out the entire batch of media as needed.

## Reconditioning/Reusing Organic Media

**Corn Cob** media gets worn out and absorbs too much crud. So, it simply cannot be cleaned and reused. Just dump it and start with fresh corn cob.

**Walnut Shell** media is harder and much less porous. So, it is possible to wash and reuse several times. The washing procedure outlined below was sent to me by a customer.

### Walnut Shell Washing Procedure

- 1) Put the media in a 5gal bucket.
- 2) Add 1/2cp of DAWN® dishwashing liquid and hot water.
- 3) Stir with a rubber gloved hand.
- 4) Pour off the dirty water.
- 5) Rinse with fresh water about 4 times until it looks clear and all the soap is washed out.
- 6) Repeat Steps 2 through 5 once more.
- 7) Pour off all the water.
- 8) Cover with liquid bleach and let sit overnight. Cover tightly or set bucket outside to avoid fumes.
- 9) Rinse thoroughly with water.
- 10) Drain off as much water as possible, then spread media on a tarp and let dry. Stirring occasionally will speed drying.

Robert P. - Bluffton, SC

**CAUTION:** Remember that, even after washing, the media will still be contaminated with lead residues. So, don't be tempted to accelerate drying by spreading in on a cookie sheet and putting it in your kitchen oven!

I asked Robert about the bleach step and he said, “I don’t know if it affects the cleaning of the media, other than whitening it up and making to look cleaner. I never tried leaving that step out.” So, I would consider it to be optional. Or try it both ways and see which you like better.

I haven’t yet tried this cleaning process, but I think I’ll test it on that batch of walnut shell media I keep just for cleaning really dirty range brass. It can collect a lot of dirt in just a single use!

## Removing Case Lube

Many handloaders take advantage of the absorbent properties of corn cob media to remove case lube after loading cartridges. Unlike polishing cases, you’ll want to use fresh, clean corn cob without any polishing compound. Not adding polishing compound ensures the maximum absorbency of the corn cob media. As with the batch of walnut shell media mentioned earlier, I keep a separate container of corn cob media just for this purpose.

Note: Walnut shell is not absorbent enough for this use and would leave a satin finish on the brass. To accelerate removal of lanolin and petroleum-based case lubes, some like to add a few tablespoons of mineral spirits to the corn cob. But I am hesitant to recommend this due to the flammability and since none of the case polishers are designed to be explosion-proof.

With water soluble case lubes (e.g., Redding Reloading Imperial Bio-Green), it stands to reason that adding a little water (just enough to lightly dampen the corn cob) and a drop or two of liquid dishwashing detergent (e.g., Dawn®) may similarly accelerate case lube removal.

**TIP:** If you try this, it is recommended to mix the liquid dishwashing detergent into the water before adding the water to the media. This will ensure that the detergent is rapidly and uniformly distributed.

I know that some handloaders will caution against this practice due to a fear that the powder grains will be broken resulting in changes in burn rate, chamber pressure and velocity. But I know many others who have chronographed cartridges before and after cleaning and measured no statistically significant difference. Keep in mind that you are running the case cleaner for a much shorter time than when polishing brass ... maybe only 40 min or as little as 20 min if adding mineral spirits.

NOTE: Dillon Precision recommends not running loaded cartridges for more than 15 to 20 minutes. But there is no mention of anything relative to the potential of altering powder grain structure.

“While this does work, remember to not exceed 15-20 minutes of tumbling time. We have found that lead bullets or exposed lead on jacketed bullets becomes dirty black and are not easily cleaned.”

- CV-2000 & CV-500 Vibratory Case Cleaner Instruction Manual, 2007, page 5.

## Controlling Dust

Brass polishers generate lots of dust that contains lead. Of course, good ventilation and a dust mask are very helpful, but you can also take actions to minimize dust generation.

**ALWAYS** operate your case cleaner with the lid securely attached to keep the toxic dust contained. If your lid is missing, cracked or the gasket needs replacing, you should immediately obtain replacement parts from the manufacturer.



If using a cement mixer as a brass polisher, the mouth of the drum should similarly be covered. Although most cement mixers don't come with a drum cover, inexpensive disposable elastic drum covers (that look like large shower caps) are available from multiple suppliers including Grainer® and ULINE®. They come in sizes to fit 55 gal drums, 30 gal drums and even 5 gal pails.



Disposable Elastic Drum Cover

### Media Separators

You should also take precautions to minimize generating dust when using a media separator. Most older media separators don't have a cover. But many newer models do have covers (e.g., Berry's, Cabella's®, Graf & Sons, Hornady®, Lyman® and MEC™). If your media separator has a cover, make sure it is closed when in use.



Berry's SKU 47869  
(Covered)



Dillon CM2000  
(Not Covered)

Regardless if your media separator has a cover or not, a little technique can go a long way to minimizing the generation of dust.

- 1) When transferring the contents of your case polisher to the media separator, pour slowly and gently.
- 2) Spin the drum slowly. Spinning fast won't significantly increase separation efficiency but will be more likely to toss dust into the air ... even with a covered media separator.
- 3) Spin the drum a couple of turns in one direction and then a couple of turns in the other direction. This back-and-forth method has always seemed to be the most efficient. And the fewer turns it takes to separate the media from the brass, the less dust will be generated.
- 4) With a covered media separator, pause a minute or so before opening the cover to allow the dust inside to settle a bit.
- 5) Clean the tub thoroughly and then spray the inside of the tub with an anti-static spray (e.g., Static Guard®). This greatly reduces the tendency of corn cob and other small particles from being expelled from the tub. This coating will need to be refreshed periodically.



### TIP: Use Your Media Separator for Washing Brass and Shotshell Hulls!

This tip was sent to me by a customer. In all my years of handloading, I never thought of doing this!

"I have the blue separator from Dillon [CM-2000 Case/Media Separator] which is open. I have found that once the brass cases or shot shells are corralled in the blue separator cage, one can wash the cases or shells with soap of choice and water - rinse in the backyard with the hose - and let dry, tumbling every now and then. Then put the brass cases in the tumbler with media. The media and polish last a lot longer. And washed shot shell cases are a lot easier to reload. And the dust gets washed off."

John H. — Eagle Idaho

My only comments would be to tumble continuously during rinsing and to insert the garden hose into the tub, as the continuous flow of fresh water and continuous rotation would ensure faster and more thorough rinsing.

### Vacuuming Up Spilled Polishing Media

Vacuuming up spilled polishing media sounds like a great idea to control lead dust. But the lead dusts created when cleaning brass are very fine and can pass through disposable vacuum cleaner bags and exhaust filters. Ideally, you'd want a



Fine  
Dust  
Bags

HEPA Exhaust Filter

vacuum cleaner that uses “Fine Dust” disposable dust bags and has a HEPA Exhaust Filter. Some wet/dry shop vacuum manufacturers (e.g., Shop-Vac®)\* have optional HEPA exhaust filters and “Fine Dust” Bags that fit some models they manufacture (see photo at right). I expect other manufactures will have similar bag and exhaust filter upgrades. Also look for disposable dust bags for “Drywall Dust”.

\* I have no affiliation with Shop-Vac® and their mention here is not intended to be an endorsement.

## Dirt Grabber Cloths

I’ve received more than one customer email about this, as well as having seen this posted in multiple forums...

Microfiber cloths comprise many tiny fibers that have a knack for capturing and removing small particles. If you place a strip of microfiber cloth in your brass polisher (either vibratory or tumbler), much of the dirt and other particulate residues generated during the polishing process will be captured in the cloth ... thus extending the life of the media.

Note: There are also multiple forum postings that mention using used drier sheets. The general consensus seems to be that the thicker “fabric” type works the best. But I think that the microfiber cloths have a distinct advantage.

### For Vibratory Polishers

Based on the information I’ve been able to collect, I’d recommend cutting strips of microfiber cloth about 3”-4” wide. As most microfiber cloths are only 12” to 16” long, you will need to use several strips and distribute them evenly around the bowl. The idea is to have enough cloth strips to cover one full diameter of the polisher bowl. This will collect residue uniformly around the entire bowl. Even a small vibratory polisher bowl will require 2 or 3 strips of cloth to get 360° coverage.

### For Tumble Polishers

With most tabletop brass tumblers, just tossing in a single 12"x12" cloth may work just fine. But it may be that the towel will wad up and so not collect as much residue. It is also possible that some of the brass will get wadded up in the towel and not get polished. So, cutting the microfiber cloth into strips may still have an advantage.

### General Recommendations

- 1) Microfiber cloths with a terrycloth weave are preferred as the loop pile provides more surface area to collect residues.
- 2) Add clean cloths each cycle of the polisher.
- 3) Do not add cloths until after any polishing compound you have added is completely dispersed and absorbed into the media. If using pretreated media, this is not a concern.
- 4) To avoid scattering dust, store dirty cloths in a covered container until they can be washed.
- 5) Wash the cloths after each use. ‡

**CAUTION:** Remember that they will be contaminated with lead residues. So, don’t be tempted to wash them in your laundry washing machine! Instead, hand wash them in a utility sink or bucket. Likewise, do not dry them in your laundry clothes dryer. Remember to wear gloves and a dust mask.

**TIP:** Got an ultrasonic cleaner? Do a final wash and rinse in your ultrasonic cleaner. The ultrasonic energy will help dislodge more particles from deep within the cloth’s fibers.

- 6) Be sure cloths are completely dry before adding them to polisher bowl or drum.



‡ Of course, if you can get microfiber cloths cheaply enough, you can simply discard them after use rather than expending all the time and effort to wash them. Or relegate used microfiber cloths (e.g., used for washing your car) to your brass polisher before discarding.

## A Few Handy Accessories

Since publishing this Tips file, I've received a number of suggestions for accessories that make cleaning brass easier. Here are a few ...

### Quick-Release Knob for Vibratory Polishers

One of the handiest accessories for vibratory polishers is a Quick-Release Knob for the cover. When cleaning lots of brass, spinning the knob up and down the threaded spindle becomes a real pain ... especially when it spins off and falls under your bench! This eliminates both problems. It simply drops over the spindle and then just 1-1/2 turns are needed to tighten or loosen.

They are available for 1/4-20, 5/16-18 and 3/8-16 threads.

UniqueTek ([Item # T1750](#))



### Drip Tray for Tumble Polishers

If you do wet polishing, it isn't a matter of if, but when, the drum will leak. So, a drip pan to contain the leak is a great idea. There isn't a specific product available for most tumble polishers, but it is quite easy to find a tray of the right size to place the tumble polisher upon. A tray with enough depth to contain the entire contents of the drum is recommended. You can easily find something to work either online or at home improvement stores. A few examples include...

- Deep Sheet Cake Pans (inexpensive and very easily found).
- Trays to catch snow melt from winter boots [my personal favorite].
- Clothes Washing Machine Drip Pans (more expensive and maybe too large).

## Final Thoughts

This is by no means a complete discussion on brass polishing. Indeed, it is already in its 4<sup>th</sup> revision, and I'll continue expanding it. Please keep the suggestions coming!

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