

# Mr. Bulletfeeder®

Patent 7497155, 7549364

## PLEASE READ AND FOLLOW ALL INSTRUCTIONS

Please inspect your shipment. The standard set-up for one caliber will include:

- (a) Collator
- (b) Collator Plate – caliber specific
- (c) Bullet nose guide and attaching hardware - caliber specific
- (d) Large or Small Output Tube Assembly (output tube, output spring and spring adapter)
- (e) L-bracket stand, tube and mounting hardware.
- (f) D.C. Power supply
- (g) Bullet Dropper
- (h) powder funnel/expander (for handgun calibers only)
- (i) spare parts: 8-32 x 3/16 setscrews for dropper, expansion spring, 375 milliamp slow-blow fuse

**WARNING: Reloading ammunition is inherently hazardous. BE SAFETY CONSCIOUS AT ALL TIMES and ALWAYS USE EYE PROTECTION.** Maintain a sturdy, clean, organized re-loading bench.

**DON'T LIKE TO READ INSTRUCTIONS ? Please reconsider. You'll probably save yourself a lot of time by reading these instructions first.**

**Familiarize yourself with how the dropper operates.**



The dropper is deceptively simple. As you can see in this photo, the mechanism operates with only a slight amount of pressure. I filled this 45 cal dropper with 230 grain bullets and gently lowered it (by hand) onto a properly flared case. The weight of the dropper and bullets alone was sufficient to cause a bullet to be dropped and tamped into the case mouth. Keep this in mind when adjusting your dropper. There is absolutely no need to over-adjust the dropper depth in an attempt to obtain better tamping performance. Bullets should stay tamped into the cases when you index your press. When you try this, fill the dropper. If you only use 3 or 4 bullets, you'll use less mass and you'll have less tamping force.

**Dropper setup for Handgun calibers** (If you're installing a rifle caliber dropper, read separate instructions.)

**Before installing the dropper,** you'll need some properly prepared cases.

**Note:** I recommend using the new funnel/expander that came with your Mr. Bulletfeeder® unit, but it's always possible, that the case flare/expansion method that you are currently using will work properly. If you wish to try your existing setup...flare some cases and determine if you obtain dependable tamping performance. If the bullets tamp properly and don't fall over while indexing the press, then you can probably continue to use your existing setup. If your current flaring setup doesn't provide good tamping (as shown in photo above) the use the new funnel/expander.

**NOTE:** When using the new funnel/expander, you should adjust your powder measure die a few turns **upward** at first, since it's very likely that the new funnel is **longer** than the funnel you are currently using.

Initially, expand/flare your cases to the following specifications. **Use the smallest amount of expansion/flare that allows consistent bullet tamping.** You will find that as the funnel enters the case, at first it will provide more case mouth expansion than flare.

**9mm-38cal. / .386" to .392"**

**10mm-40cal. / .426" to .432"**

**45 cal. / .474" to .480".**



Cases can vary in length...sometimes quite a bit. Because of this, the amount of flare put on the cases will also vary somewhat. In general, it's a good idea to measure a sample group of the cases you'll be reloading and determine the average case length. Then use a few average length cases to set your flare.

The dropper is mounted to the press in the same way a die is mounted.

- (1) **Remove the powder measure.** This will allow you to install the dropper more easily.
- (2) Insert a piece of properly flared brass in the shell plate underneath the position where the dropper will be installed, and fully operate the handle on your press. (i.e. 650 – shell plate fully up / 1050 tool head fully down)
- (3) **Fill the dropper body with bullets all the way up to the micro-switch.**
- (4) Screw the dropper into the tool head and adjust it downward toward the empty brass case. (When the cone-shaped foot of the dropper contacts the case mouth, it will begin to operate the bullet release mechanism.) Continue turning slowly and **STOP** when you see the column of bullets fall suddenly. Make a note of this position. Now turn the dropper another 1/2 turn to give a slight amount of overtravel. Hand tighten the locknut to hold this position. The dropper should now be adjusted properly, but it's a good idea to check a complete cycle, so raise the handle of your press. A bullet should now be sitting on the brass case.
- (5) Remove the bullet from the case, re-index the case underneath the Bullet Dropper and again **slowly lower the handle**. The empty case contacts the foot of the dropper and begins to operate the bullet release mechanism. Somewhere near the end of the stroke, the column of bullets will be released and fall due to gravity. The lowest bullet will be slightly tamped into the case and should now remain in place when you index the press.  
**Remember, the dropper does not seat the bullets.**
- (6) Snug up the locknut a little, **but don't overtighten it.** Use just enough force to hold the dropper in place. The die body is relatively thin walled, so overtightening may distort its roundness. If you wish, use a few drops of low grade threadlocker if you're concerned about the nut coming loose.
- (7) Reinstall your powder measure. If you find that bullets don't drop consistently, you may need to adjust the dropper height a tiny bit lower. **Note:** Over adjustment is unnecessary. When you reach the end of each downstroke, if the dropper body is rising upward from the threaded die and stretching the expansion spring, you're adjusted down too far. The body should rise and prevent damage to the dropper foot only when an unexpectedly long case cycles through. The following photos illustrate this safety feature. As you can see, an expansion spring is connected between the threaded die and the middle dropper body section.

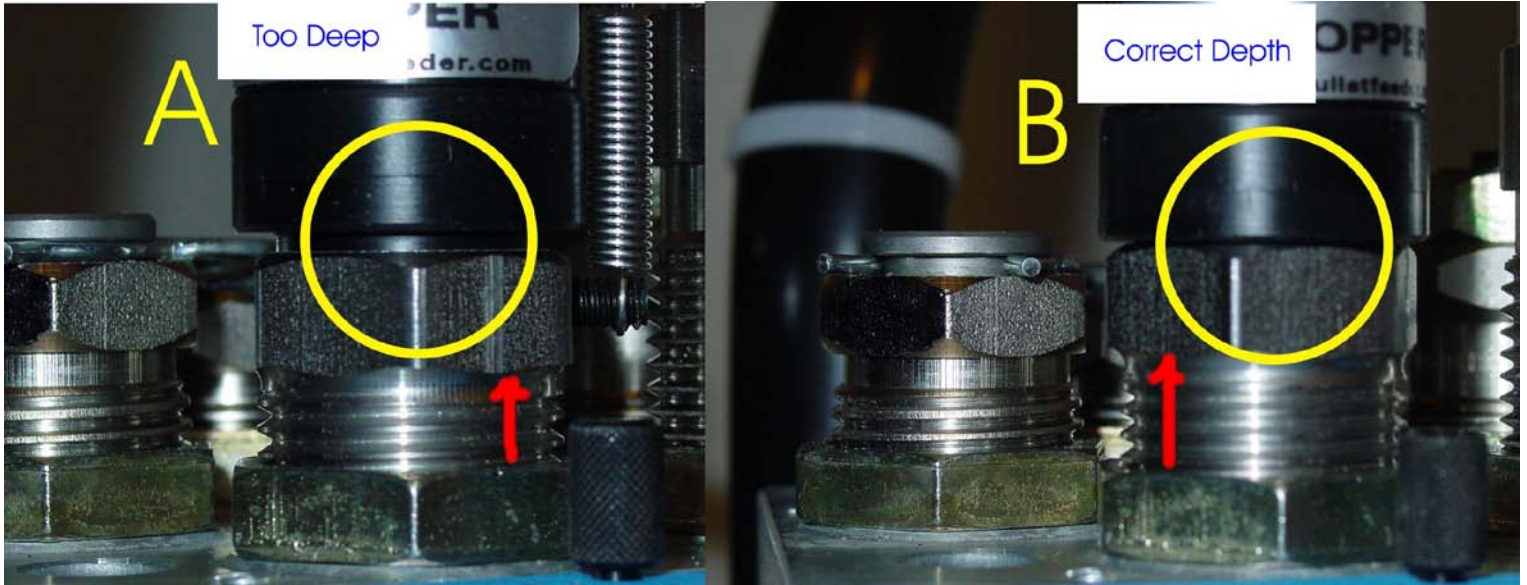
**Look at the next photo labeled A,B,C,D and E:** For example...if your dropper is set up for reloading 9mm and a LONGER case like a 38 supercomp or 9 Largo cycles through, the spring will protect the dropper foot from being damaged. (applies to any unexpectedly long case cycling through... example: shorter 40SW vs longer 10mm, etc.)

The press in the photo is properly adjusted for 9mm cases. Images A, B and C show the dropper operating normally on a 9mm case. Notice that the dropper body stays held down in position by the expansion spring that connects to the threaded die and the middle dropper body. Two 3/8" long 8-32 setscrews are used to attach the spring. The lower setscrew is only threaded into the die far enough to act as an anchor point. (**Don't** tighten the setscrew since this will prevent the lower dropper body from moving up and down and defeat the purpose of the expansion spring.) The upper setscrew is screwed into the mid dropper body just far enough to act as the other anchor point for the expansion spring.

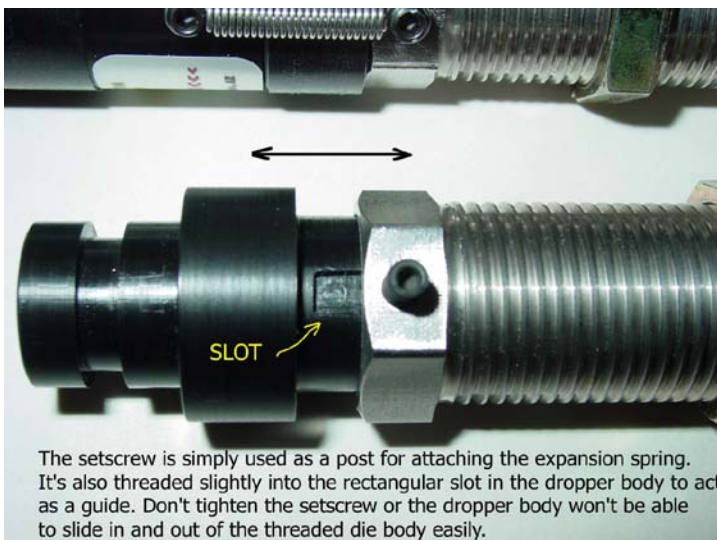
Images D,E, and F show what happens when a **longer case** unexpectedly cycles through. When the press is operated, the long case will contact and push upwards on the dropper foot, and as the press handle continues downward, the limit of travel for the dropper foot will be reached...but the press handle has not finished the downward stroke. Image E shows that when the press handle continues to the end of the stroke, the expansion spring allows the dropper body to move upward to accommodate the long case. Without this new feature, the long case would likely cause damage to the dropper foot.

**The next photo** (labeled A “Too Deep” and B “Correct Depth”) shows how you can use this feature to determine if your dropper height is adjusted correctly for the cases you will be reloading. In reality, either adjustment will work, but **Image B shows the correct adjustment**. Bullets will drop, but the dropper body will stay in contact with the threaded die throughout the cycle.

**Image A** shows that the dropper has been adjusted down too deeply. You can see that the lower dropper body has been raised upward from the threaded die when the press handle is fully down. So...*the dropper will work* when adjusted like this, but there will be unnecessary pressure applied to the foot for every round loaded. The expansion spring should only allow the dropper body to rise when an unexpectedly long case is cycled through.



Make sure that the setscrew used as an attaching post on the dropper is **not** tightened into the threaded die body. As shown in the photo, the setscrew is only screwed in **a few turns** and used as an attaching post for one end of the expansion spring, and also to act as a guide that prevents the dropper body from twisting in the threaded die body. The purpose of the expansion spring is to allow the dropper body to rise upwards from the threaded body when an unexpectedly long brass case or other object enters the dropper foot. This will help prevent damage to the foot. The other setscrew should be tightened only enough to hold the dropper sections together.



The setscrew is simply used as a post for attaching the expansion spring. It's also threaded slightly into the rectangular slot in the dropper body to act as a guide. Don't tighten the setscrew or the dropper body won't be able to slide in and out of the threaded die body easily.



## Other Tips Regarding Dropper Operation...

**Use the threaded body that came with the dropper.** If you have a caliber conversion, I recommend using the threaded body that came with it. Don't leave one threaded body in the tool head and simply replace the dropper components. Why? During manufacture, dropper components are matched for best fit. Due to slight variations in part dimensions, there is always a possibility that the parts of a different caliber dropper may not operate correctly due to a poor fit. That being said, if you check and find that one threaded body fits well with your different caliber dropper parts, then it's OK use.

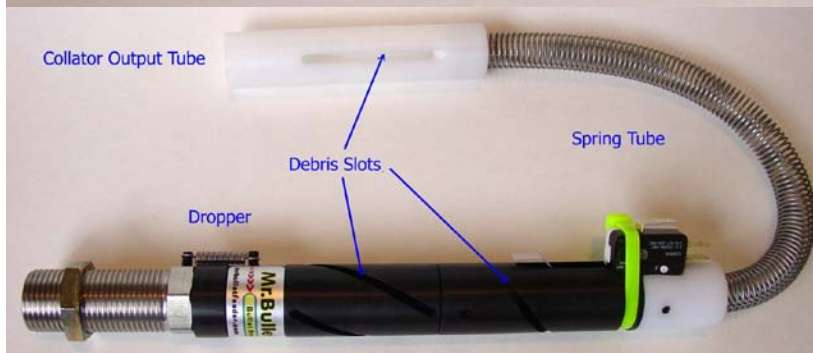
**DO NOT over-adjust** the dropper. Remember, the dropper does **NOT seat the bullets**. It simply allows gravity to act upon the column of bullets. When an empty case moves the dropper foot to the release point, the column of bullets falls and the bottom bullet gets tamped into the case. An analogy is...when you squeeze the trigger far enough, the hammer falls and the gun goes BANG ! Squeezing the trigger further won't do anything. Similarly, adjusting the dropper excessively past its release point won't help. The column of bullets has already fallen.

**DO NOT operate the dropper onto a case that already has a bullet on it.** That may sound silly, but people have damaged their droppers when they double stroked their press for some reason. Damage like this is very obvious, since the bullet that is forced up into the dropper will contact the torsion spring and bend it upwards. Also, the end of the dropper tube may become cracked or broken off.

### A Few Operational Notes:

The Bullet Dropper was designed to be fairly tolerant of jamming due to foreign material (i.e. tumbling media), but if you ever have a bullet stuck in the dropper body, you may be able to dislodge it via the debris slots. If you try to free the bullet by inserting a narrow rod upwards through the foot, be very careful not **DO NOT BEND or DAMAGE** the torsion spring. If you find that it's necessary to disassemble the dropper to free the bullet, simply remove the 8-32 x 3/16 setscrew and the dropper components will slide out. When reassembling, make sure the torsion spring rides on the angled portion of the foot. Do not over-tighten the setscrew...just snug it in 1/8 of a turn or so. When cleaning and reassembling the mechanism, lubrication is not required. If you decide to lubricate it anyway, use a dry Teflon powder type spray and use it sparingly.

The modular dropper body sections can be turned as desired for viewing the bullet column, wire alignment, etc. When you have your dropper oriented the way you like, snug up the setscrews to hold position. Don't overtighten the setscrews... just tighten enough to hold position. **Over-tightening the setscrews may deform the dropper body enough to cause the bullets to hang up inside the body.**



**When using the system on a press like the 1050** (where the toolhead moves up and down), mount the collator high enough to avoid forming a “trap” in the output tube. If there is too much slack in the output tube spring, a trap can occur when the toolhead is in the raised position. As bullets fill up the spring tube they will jam in the collator plate... eventually resulting in a blown fuse. **It’s best to mount the collator just high enough to avoid forming a trap.** **With the toolhead lowered, the output tube spring should be fairly relaxed or perhaps stretched only slightly.**



Also, on the 1050, bullet tamping will be improved somewhat by using the swage back-up rod/expander in the swage station. (see photo, above right) You don’t need to actually swage the primer pockets if you don’t want to...simply remove or disable the lower swage rod. There should be instructions for properly adjusting the swage back-up rod/expander in your Dillon manual. **Another alternative:** many owners report excellent results by using a **Lyman “M” Die** for neck expansion instead of the swage back-up rod.

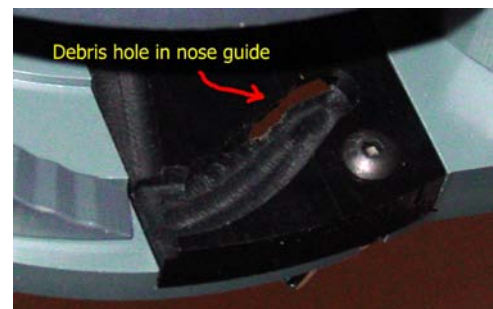
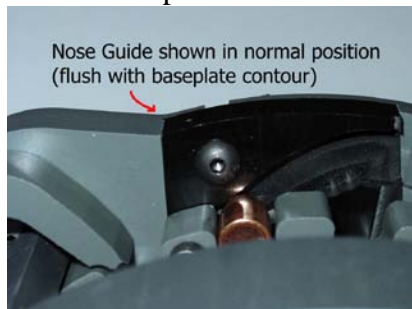
**Normal collator operation is as follows:** Bullets enter the collator plate slots, either nose up, nose down or partially inserted. As the collator plate turns, partially inserted bullets are knocked back into the pile by the spring-loaded bullet dislodging arm. Nose up bullets simply slide over the exposed ledge of the nose guide and continue to the output tube. When a nose down bullet moves over the guide, the nose falls into the slot and the bullet begins to rotate. Then it rides up the flip ramp into the nose up position and continues to the output tube.

**Adjustments:**

The nose guide can be easily adjusted to accommodate various bullet profiles. Adjusting the guide inward will make it easier for nose down bullets to fall into the slot. Adjusting it outward will expose more of a ledge for nose up bullets to slide across. Your collator has been adjusted to operate correctly with most bullet profiles of the caliber you selected, but it’s a good idea to check its position in case it was moved during shipment.

For best results, **do not overload the drum.** Overloading will generally make it more difficult for bullets to fall into the collator plate slots. Filling the drum with no more than approximately 250 bullets at any one time will result in very dependable operation.

The purpose of the spring-loaded bullet dislodging arm is to knock partially inserted bullets out of the plate and back into the collator. If you wish, the arm can be disabled by inserting an object between the arm and the collator tub. A bullet works great for this as you can see in the photo below.



The **bullet nose guide** is held in place by a wingnut and is easily adjustable. The normal position for the **bullet nose guide** is flush with the front edge of the baseplate. Most bullet profiles will collate properly with the guide set in this position. The nose of an inverted bullet will drop down into the slot of the nose guide and then be flipped over into the correct position as the collator plate rotates. There is a debris slot in the nose guide which will allow small debris to fall clear of the nose guide slot.

If you haven't overloaded the collator drum and **some bullets are being collated upside down, you may need to adjust the bullet nose guide slightly inward or outward, depending upon the profile of the bullet you are collating.** If nose-down bullets **don't flip over consistently**, you may have to adjust the bullet nose guide slightly inward. This will allow the nose of the bullet to enter the guide slot more easily. Conversely, if nose-up bullets are flipping to be upside down, you may need to adjust the guide slightly outward. This increases the exposed ledge area of the guide that the flat bottom of the bullet slides over. Find what position works best for the bullet you're using.

The **flip ramp** may be adjusted by rotating both inwards /outwards or sliding left / right, as shown in the photos below. The oblong flip ramp slot allows for the left to right adjustment. This offers a range of adjustment that will facilitate flipping bullets of various lengths.

