Casting Hollow Point and Hollow Base Bullets
(Including sabots for shotguns)

I see many questions on the cast bullet sites about how to cast hollow point and hollow base bullets….and shotgun slugs as they’re a basic variation of a hollow base.

I look at these questions and wonder what I’m doing right as I’ve never had any trouble casting either type of bullet. My mould cabinet currently hold about 75 different hollow point and hollow base moulds including a 12 gauge sabot mould for the 12 gauge. I’ve never had any problems casting bullets with any of them.

The key to casting hollow point bullets, bevel base bullets and shotgun sabots is HEAT in the proper quantities to make the mould perform.

Casting hollow point bullets.

Casting hollow point bullets is like casting any other bullet. The only difference is there’s a couple of additional steps such as inserting the HP pin before pouring the lead in the mould and after the lead is set up, rotating the HP pin assembly and withdrawing it to form the HP cavity. It takes a little extra time but sometimes, this works to your advantage as it lets a mould cool down before the next bullet and makes better bullets.

I always start by preheating these moulds while the pot is warming up by placing the mould on a piece of hardware mesh suspended over the melt. This gets the mould pretty close to casting temperature and usually unless the mould has grease in it, you’ll start throwing good bullets within 8-12 casts.

Don’t worry about heating the HP pin assembly as it will heat when the first hot lead hits it.

After that, it’s a matter of heating the mould to the proper temperature by casting and getting the process of inserting and removing the pin down in your mind. Yes, I have forgotten to insert the pin before but it’s no great catastrophe….just a little mess.

Normally HP bullet moulds of .22-.25 will allow you to cast as fast as you can perform the operations. Not as much hot lead going in these moulds and you can really turn them out. On .30 HPs and above, sometimes, you have to slow down the casting tempo to get good bullets as you’re dropping a bunch of hot lead in them and the mould blocks have to work to dissipate it and allow good bullets to be made.

Occasionally, you’ll get flashing in the form of whiskers on the sides of the bullets, flashing around the nose cavity or in the case of .44 and big .45 bullets, incomplete band fill out. In these cases, your mould blocks are getting too hot and you need to “cool it” a bit. This can be done in several ways. One is to slow down the casting tempo and allow more cooling time between casting cycles. Another is to pour a smaller “puddle” on top of the sprue plate. The third is to move the mould farther away from the lead source and allow more “drop” from the dipper or spout to the mould. The fourth is to use some artificial means of mould cooling. This can be in the form of a small fan or a damp cloth on the sides of the mould halves. I have a small 4” fan from Radio Shack that I almost always use when casting big .45 bullets for the .45/70 as many of the Lyman designs are in small mould blocks which don’t dissipate heat very well.. This small fan is designed to cool the electrical components of a computer and is quite inexpensive and they come in various sizes. Mine’s about 4 inches square.

One of the casting problems that you seldom encounter with hollow point moulds is improper venting. The HP pin assembly seems to allow additional venting and I have never encountered this problem with casting HP bullets. If you’re getting incomplete fill out on your bullets, look for excess heat.
So casting HPs can be easy. It takes a little more time but in an afternoon, you can easily turn out 3-400 good hollow point bullets.

Casting Hollow Base bullets.

Again, as in casting hollow point bullets, casting hollow base bullets requires a couple of additional steps. Mainly, inserting and removing the hollow base punch at the proper times.

All hollow base moulds I have ever encountered are of the nose pour style. This means that the nose will sometimes be rough dependent on how smooth your sprue plate cuts the sprue. Can’t do much about it except insure that the cutting edges are sharp on the sprue plate. A smooth top punch will normally iron out any rough places during sizing and lubing anyway.

The art of casting hollow base bullets has about gone away as the moulds that require this operation are few and far between. Many people loading for the .41 Colt use these moulds and a few that use the old Lyman 358395 hollow base .38 wad cutter moulds use them still but that’s about all. The old Keith classics such as the 429422 and 358431 are collector’s moulds and you’ll work hard and dig deep in your jeans to acquire one of them. If you are lucky enough to own one, they’re good shooters. Of course, the people casting minie balls for black powder rifles and some that cast hollow base bullets for black powder revolvers will use them also.

Some of the older Ideal moulds have the older system where the hollow base pin is held captive to the mould by a screw through the side. After casting, open the mould and the tap of a wooden mallet loosens the HB punch and the bullet falls off. I have one of this type in the 429422, the 358431 and also in the 358395 configuration. The 358431 I have has one end of the punch milled flat and two screw holes. In effect, by switching screws, you’re able to produce either a hollow base or a flat base bullet similar to the 358429. Moulds of this type cast very fast as there is no removal of the HB punch required and when the mould handles are closed, the HB punch indexes itself and you’re ready to pour again.

With the newer type hollow base punch, you’ll have to insert and remove it each time and casting is somewhat slower than the old type. A good machinist can convert the newer type to the older type if you really have to shoot hollow base bullets. It does speed up production quite a bit and is probably worth the effort if you have a good machinist handy.

Hollow base bullets cast the same as any other bullet. You have to insure than any with breaks or wrinkles in the skirt of the hollow base are discarded. This skirt is the key element in the use of hollow base bullets and expands to fit initially the case, the chamber and after the jump across the cylinder barrel gap, the throat and rifling. It holds all of the propelling pressure and any breaks in it can cause a break and a gas leak which results in loss of velocity and inaccuracy when it gets out of the barrel and is on its own. Be very careful to make a critical inspection of this area. A cold mould or HB pin causes wrinkles in this area. Usually, after 10-12 casts, this area will start to fill out.

Again, as with HP moulds, I have never encountered a case of poor venting due to their construction due to plenty of venting around the hollow base pin assembly.

Once you have the mould up to proper casting temperature it will flawlessly make good bullets.

Making slugs and sabots.

In the past, I have made slugs for my 12 gauge shotgun. Early on in my casting career, these were the old Foster type hollow base “punkin’ balls”. We cast them and then swaged the rifling on the outside. Very labor intensive and results were ho hum. Many of them, we shot without swaging the rifling grooves on the outside. These were loaded with card wads and felt wads and closed with a special fixture used in a drill press or electric drill.

Later on, when Lyman brought out its sabot mould, I bought one of them. This is used every couple of years to cast 2-300 and I’ll break out the old MEC and run 6-8 boxes which are used for occasional shooting in the old Remington
Model 870.  Accuracy is “minute of gallon can” at 100 yards. These make fairly easy loads to assemble, as I’m able to use a plastic wad and also use a folded crimp. The sabots are much easier than in the old days with the Fosters.

Casting is a little different with this mould. I and most other folks casting them use pure lead or as close to it as they can come. I normally use cable sheathing and cut it with a bit of tin.

To get complete fill out without wrinkles, you need to cast HOT. The lead needs to be hot. The flow must be pretty wide open and the hollow base punch needs to be hot. I usually start with a cold mould and just start throwing slugs. After about 15 casts, I start getting good slugs. They’re all thrown into a can and later I’ll inspect and discard the rejects. Many folks use a propane torch to heat the hollow base plug but I’ve not found this necessary if you cast fast. Casting sabots is not as critical as with hollow base bullets as the skirt of the slug is not dependent on sealing as it’s enclosed in plastic all the way through the barrel and has no sealing function. Still, I discard any with base defects as the skirt does serve an aerodynamic function after it leaves the barrel and sheds the wad.

If you’re casting the old Foster type, the skirt does have a function as it expands against the barrel so you must inspect these more critically if you’re expecting any kind of accuracy from them. I’ve shot this type as both rifled and as smooth sided and in truth, I can find no difference in the accuracy.

**In conclusion**

Casting hollow point bullets, hollow base bullets and shotgun slugs is no different than any other casting operation.

The only problem with casting this type of projectile is that it is more temperature sensitive than other casting…..

And, you have to be semi-coordinated and remember to place the plug in the mould each time before you pour lead.

With a little care and a good mould, you can easily make these type bullets. If I can, anyone can.

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