

Loading Black Powder in Brass Shotshells

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The October 2001 Cowboy Chronicle had a letter from Waco Smith asking for an article on loading brass shotshells. Ask and ye shall receive! Certainly as more people get into CAS, the ranks of BP shooters grows as well. Shooting BP out of brass shotshells will get you some style points for sure, but there is not a lot of published info on loading them. What I have learned has been in large part from the CAS-L discussion group and the SASS Wire, as well as my own experience, and this article will attempt to provide you with as much as that information as possible. I'm afraid that I have no experience reloading smokeless shotshells, so this article concerns BP (or substitute) shotshell loading only.

First of all, where do you get the brass hulls? There are several sources. New shells in a variety of gauges were formerly available from Ballard Rifles, but they have sold this part of their business. The new owner can be contacted at RMC@vcn.com - these shells are not inexpensive, running about \$35 for 10 in 12 Gauge. I have not used any of these, but I understand that they are high quality and they use regular 209 shotgun primers. The Old Western Scrounger (www.ows-ammunition.com) sells hulls that are made in Brazil and use Berdan primers, which he also sells. These can be drilled out to use regular 209 primers if you wish (more on this later). (Update: the most recent 12GA hulls from OWS use regular large pistol primers, not Berdan, and those hulls are pretty inexpensive). The other way to get hulls is to find them used in the classifieds, which is what I did. There are a lot of old brass hulls that show up on occasion but you have to hunt for them. The most common seem to be those with a REM-UMC headstamp, as well as Winchester. These use rifle or pistol primers. There are also hulls made in Italy with ALCAN on the headstamp. These hulls look like they use 209 primers, but they don't! They use the old Remington 57 primers which have a slightly smaller diameter and are no longer available. CCI 157 primers will also work, if you can find any, but you may have to deburr the flash hole as the CCI primers are a bit taller than the Remingtons and the burr or lip just inside the flash hole will prevent the CCI primers from fully seating. I had to do this with mine, using a round file. It may be possible to drill out the ALCAN primer holes a bit to fit 209 primers, but I haven't tried it. I'll probably try it when I eventually run out of my supply of CCI 157 primers. Brass hulls can be found on e-bay, but they tend to be pretty pricey. I paid \$2 each for my various used hulls and consider that fair. (see update at end of this article about another source, Skeetshooter Brass).

I have seen several references to some commemorative-type brass hulls that can be found sometimes which are loaded with very hot smokeless loads, and these have been reported to have ruptured upon first firing. I don't recall what brand of hulls these were, but if I myself found any factory loaded brass shotshells, I would disassemble them without firing before I examined the brass to decide if I wanted to load BP in them.

Now, on to loading. Like loading plastic or paper hulls, BP shotshells are easy to make and you can use any shotshell loader or none at all! The inexpensive Lee Load-All is used by many, as are the MEC loaders. First you need to deprime and reprime. If you have shells that use shotgun primers, you can do this on the press. For the hulls that use rifle/pistol primers, you need to do a bit of southern engineering. You need something to sit the shell on that has a hole in it for the old primer to fall into. Some folks take a piece of wood and drill a small hole in it. I just use a small tabletop vice with the jaws opened about 1/2", sit the hull on top and drive the old primer down through the opening in the jaws. For a primer punch you need a small nail or pin that is small enough to fit through the flash hole and long enough for you to hold onto when it is inserted into the shell. I use a screwdriver handle that will hold a variety of bits, and I use the smallest sized torx bit that was in the driver set for a punch. You have to "feel" your way around inside the hull with your punch until you have it centered in the flash hole, then tap on it with a small hammer to drive out the used primer. To reprime, have your new primer laying on the table top, place the hull over it, and then gently tap the hull down over the new primer. I use a 3/8" hex driver to insert into the hull, as the socket will fit around the primer pocket inside the hull, then tap on the top of the handle with a hammer until the primer is seated. You could also use a proper sized piece of metal tubing or pipe for this (O.D. small enough to fit inside the hull and I.D. large enough to fit around the primer pocket). The primer is pushing against the flat tabletop when doing this and I've never had one go off, but of course you should always wear safety glasses when doing any reloading. If you have a press like the Lee, you can also just

push the hull over the new primer on the tabletop by hand and the primer will stick into the hole enough that you can place the hull into the priming station on your press and then seat the primer with your press. I have heard that these REM-UMC and Winchester hulls are supposed to use rifle primers, but these do not seat fully on my REM-UMC hulls (although they still shot fine out of my Baikal SxS). So I have been using Federal 155 large pistol magnum primers which seat a little deeper and they work fine.

I have no experience priming or depriming the Brazilian hulls with the Berdan primers, but here is what was posted to the CAS-L list regarding drilling the hull to fit 209 primers: Use a 15/64" bit to drill out the primer hole, inserting the bit through the inside of the hull. There is a dimple in the center of the primer pocket which helps to center the bit. Then chamfer the opening to the pocket in the bottom of the shell with something like a 5/8" or 3/4" bit so the flange of the 209 primer has someplace to go.

Now, on to loading! Basically, at this point you can use almost any load that is suitable for plastic or paper hulls, but you don't have to worry about exact combinations because you don't need an exact column height in order to get a good crimp like you do with plastic hulls. I started out using the exact same load I used in AA or STS hulls, with the addition of a glued-in overshot card. That is, about 65-70 grains of Goex FFg (Lee 4.3cc dipper), then a red Winchester plastic wad, then 1 oz. of 7 1/2 shot, then the overshot card. I cut my first overshot cards out of styrofoam meat trays using an empty brass hull for a cutter, but now I use Circle Fly cards. I have also started using a 1/8" overpowder card between the powder and the plastic wad. It may help cut down on the plastic fouling a bit, but it really isn't necessary. You can use a little more powder and/or shot if you want more knockdown power, or use a little less for lowered recoil. Smaller shot size may help if you are trying to hit clay birds.

I use the Lee press for compressing the load and dropping the shot, but not for dropping the powder. BP should not be used in plastic powder hoppers due to static, so most of us use Lee dippers or any other dipper that will hold the correct amount of powder. If you don't have a loading press, you can use a wooden dowel to compress the wad over the powder (the amount of compression is not critical, just "lean into it" – people with MEC presses say they use 30 lbs. or so of compression). Then you can use the same dipper to load your shot. Conventional BP shotshell wisdom recommends using the same volume of shot and powder. If you don't have the Lee dippers, 65 grains of FFg BP by volume is just about the same as 65 grains of weight on your scale, so if you create a dipper that throws 65 grains by weight, you will be close enough.

Purists will complain about using plastic wads and talk about plastic fouling in the barrels (whether using brass or plastic hulls). They say you should use fiber wads, often recommending wads that have been treated with lube. Yes, you can do this if you wish, but I have not found it necessary and I use no lube in my shotshell loads. As for the fouling, most of us have found that the plastic fouling cleans out of the barrels with ease. Perhaps a rough bore may be harder to clean. I used to spray a 10% ballistol/water mix into the barrels, let it soak 10 minutes, then wad up 1/2 of a paper towel into each barrel and shove through with a rod. Most if not all of the fouling comes out of the barrel with one application. Lately I have started waiting until I get home, and then I take the garden hose with a plastic spray nozzle on it and spray into the barrels. They come sparkling clean in just seconds, ready for the bore lube of your choice (I use Bore Butter – if you shoot BP you already know to avoid petroleum based lubes). My thoughts on plastic versus fiber wads are this: With my short barreled coach gun with no choke, the shot cup in the plastic wads gives me a little bit tighter pattern, which is better for stubborn knockdowns. I do load up some shells with 1/8" nitro overpowder card, then a 1/2" fiber wad instead of the plastic wads that I save for the occasional clay bird target. Nobody can see what type of wad is inside the shell, and I doubt if most of the naysayers are wearing period correct underwear under their duds either. I got all of my card and fiber wads from Circle Fly (www.circlefly.com), and they recommend 11 Gauge wads for thin 12 Ga. Brass hulls (like Rem-UMC and Win) since there is a little more space inside them than a plastic hull. Thicker hulls like the Rocky Mountain Cartridge type might be able to use 12 Ga wads. Call the nice folks at Circlefly and they will tell you what size are needed for various hulls. Wads are also available from Ballistic Products (www.ballisticproducts.com) and Dixie Gun Works (www.dixiegun.com).

Now for the crimp. Originally many of the brass shells were loaded with a wad combination that would bring the column height to just below the shell mouth, then an overshot card was inserted and the mouth

was roll crimped to hold the card in place. I think you can still find roll crimpers that can do this, but it will wear the mouth quickly and you will start getting splits. Most of us just glue the overshot card in place at whatever position it ends up inside the hull. Some use Elmers glue. I found that their wood glue was a little thicker than the regular white glue and worked better. But you have to wait for it to dry and take care to get the glue "wetted" to the sides of the hull or you will have voids in the glue after it dries and shrinks and you will need to add more glue. Also, the glue residue can get goeey and messy when you soak your fired hulls. So now I use "water glass" (sodium silicate) for a sealer around the edges of the card, which dries very quickly after being applied with a cotton swab. Sodium Silicate can be a little difficult to find, but I found mine on the shelf of an old-time local pharmacy. Most pharmacies should be able to order it for you. I've heard of a few guys using hotmelt glue, and heard of one guy that then fills the empty space from the card to the shell mouth with melted beeswax. This would certainly provide plenty of bore lube, but again is not necessary.

A word regarding sizing of brass hulls. If you use these hulls in one shotgun, you shouldn't have to resize them. If the case mouth gets a little out of round, you can press them against the side of a table while eyeballing them and get them back round again. I do have some old hulls that will not go back to round. I can make them round but then they spring back to their old shape. I believe that these are "work-hardened" and need to be annealed for best results, but I haven't done so. Before loading, I take the clean hulls and use the chamber of my shotgun as a go/no-go gauge. I slide the hulls all the way into the chamber and see if they fall out. Those that stick and have to be pulled out are marked with an "X" on the bottom. I load these and then use them only when a stage ends with shotgun, as the last two shotgun rounds are unloaded after the clock has stopped and I can pull them from the chambers at my leisure. If you do wish to resize your brass, I believe that dies are available but they are not inexpensive. I have had a few hulls to start splitting at the case mouth after 10 or so loadings (that I loaded – I have no idea how many loadings they may have had before I owned them). I have continued to use them and the small splits don't seem to be getting any worse.

You should be able to use any of the BP substitutes with these same recipes if you wish. I use BP, Cleanshot, and Clearshot in various pistol calibers, but I will always use regular BP for the shotgun because it is much cheaper, fouling is not an issue, and the SxS shotguns are so darned easy to clean.

Clean your fired brass hulls the same way you would for your other BP brass. Drop them into a jug of water with a little soap in it then when you get home rinse them, dry, and tumble if you like them shiny.

I hope this has been a help to those of you wanting to load BP in brass shotshells. Smoke 'em up!

April 29, 2002 - Here is an addendum concerning sizing of brass hulls. Even if you shoot the hulls in the same gun, they occasionally get a little out of round, and if you obtain them used they may need sizing before you can use them. I shot the brass hulls for over a year without doing any sizing. This was Rem-UMC (and a few Winchester) and Alcans. The Rem-UMC were the thinnest. They often had a tendency to get a little out of round at the mouth. I would push them against the side of my bench, eyeballing them to get them round again. This worked pretty well, but still I had some hulls which wouldn't slide in or out of the chambers with ease. They had to be plucked out of the chambers after firing. The hulls that failed the "slide in and out of the chamber test" after loading were marked with a red line across the base. These I would only use when the stage ended with shotgun, since the last two rounds could be extracted by hand off the clock. All of my hulls were obtained used, and I had a few that were just unusable including the handful of heavy duty Ballard's (RMC) hulls. The sizing ring on my Lee Load-All was too tight. Might have worked with a drill press but I think I would have just broken the Lee press if I'd have tried it on there with the brass hulls. Nate Kiowa Jones came to the rescue and sold me a sizing tool he had made. Here's a picture: [12Ga Sizing Tool](#). It is a 1/2" thick slab of steel with two holes, .790" and .795". The holes are chamfered on one side to aid in starting hulls. Hulls are lubed and then hammered through the opening with a rubber mallet (I lay the tool over the open jaws of a vice and pound the hull down through the opening). Then turn it over and put a wooden dowel or something (I use a 5/8" nutdriver) inside the hull to pound it back out of the tool. I use the .795" for most sizing, only follow that with the .790" for tough cases because you don't want the hulls sized too narrow or the chamber won't be sealed. I was able to make nearly all of

my "problem" hulls usable with this tool. Once sized, I rarely have to do them again. I only size them again if they fail to slide out of the chamber with ease before they get reloaded.

Update 2 August, 2002: SASS shooter "Skeetshooter" is now manufacturing shotshell brass using 209 primers. Looks like good stuff, probably comparable to Rocky Mountain Cartridge, but somewhat less expensive. See <http://www.skeetshooterbrass.homestead.com/>

Hope this helps.

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