Making Your Own Bullets
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With the variety of bullets available on the market why would you want to make your own? Bullet swaging is a time consuming procedure that requires attention to detail in order to make quality products. Depending on what type of bullets you want to make the cost can be from about $100 to hundreds of dollars or even more. With the basic set ups a heavy duty reloading press can serve okay with some dies. They can cost about $75 or so for a set of two to make jacketed handgun bullets. More sophisticated dies that require a special press that starts at several hundred dollars. They are capable of making rifle bullets of various designs including boat tails. If you are a machinist you could make your own dies and shape them to the bullet you want to make. That would save you a lot of green besides getting exactly what you want in a bullet.

Let’s start with the basic stuff. A real simple bullet to make is one that is swaged in one step. The die shapes the bullet and puts on a zinc washer on the back. The only other thing is you need a slug of lead. You can mold it in a core or a regular mold depending on what weight you want. There are different diameter core molds and they can be adjusted for weight. It is important that the slug is pure lead or it will be very difficult to swage especially in the bigger calibers and heavier bullets. A company called Sportflite sold the dies and washers and they came in most popular calibers. I haven’t seen anything from them recently so I don’t know if they are still around. Corbin sells the dies and base guards made from copper. They work okay but have the same limitations as the zinc base bullets. Also the back of the bullet has to be extruded through the washer in order to hold it on the bullet. The washer’s purpose is to cut down on leading with these soft bullets. I have shot quite a few of these and as long as you keep the velocities down they work fine and are accurate. I don’t see any advantage to them unless you want low velocity expansion. If you make these bullets and don’t load them too hot they make fine target loads as they are very accurate.

I have a one step die from C4 that makes 30 caliber bullets. It works in a standard press and is very easy to use having the same advantage as the Sportflite dies. I use a Rockchucker press for most of these bullets. If I need more leverage then the Ammomaster press comes into play. The cores weigh from about 50 to 90 grains depending on the jacket length. If you already have regular bullet molds for 22,6mm or lighter 25 caliber bullets then that’s a good source for cores. Just put the cores in the jacket put it on the stem upside down and operate the press as normal. After it’s adjusted to your liking it’s a snap to make those low tech bullets. It’s meant for lighter bullets and short jackets as opposed to the more sophisticated bullets. It does its best work making 60 to 100 grain plinker style pills. They work fine in most 30-caliber weapons including the 30-06. I use them with light loads and they are very accurate and effective on small game. The Ruger Blackhawk in 30 carbine is an excellent place to shoot these light bullets. Some of them can be driven at high velocity as long as there isn’t too much lead exposed. They make nice varmint pills in some rifles and high performance pistols.
Another way to make some bullets is to swage down an existing bullet to a smaller diameter. There are limitations on that operation however. Excess swaging is very difficult and will ruin the bullet. Usually about .005 or so is as far as you can go. A good example is taking the .323 bullets and sizing it to a 318 diameter for the old Commission rifle. The Hornady 170 grain round nose and the 321 diameter flat point is good for that rifle as it sometimes won’t feed the pointed bullets though they can be used as a single shot. Another upside to those two bullets is they will expand at the velocities that are safe in that gun making it a fine hunting rifle. Both C4 and Corbin make the die and a good standard press will work. Be sure you lube them well with a quality product or the bullet may lodge in the die. I use a good case lube and roll them on a lube pad and that does the trick for me. Sometimes you can take them down a little more but it may require two or more steps. When you reduce a bullet diameter by too much the lead core has to go somewhere and will extrude out the front. That frequently ruins accuracy as it may unbalance the bullet. Since you are reducing the diameter of the bullet you are reducing the area for the core. Each diameter and weight is engineered to have a certain size core to match the jacket. If some lead does extrude out the front sometimes you can carefully remove it with a file. That takes an extra step but sometimes you can salvage the accuracy of the bullet. You will have to try them out to see if they will maintain their accuracy. The problem is in the balance because the lead won’t extrude evenly. In extreme cases the copper jacket will extrude from the rear of the bullet. That’s a sure sign that you are taking it down too much and the bullet is almost certainly ruined. Either you will have to figure out a gentler way of making that bullet or start from scratch and make it a different way. If you need some .356 diameter rifle bullets for some of those old European calibers I can’t think of a better way of getting them then making them from .358 diameter bullets. Reducing them .002 is easy and won’t distort them at all. Other good examples are the 32 auto 71 grain full metal jacketed bullets at .312 in diameter. I reduce those to 308 and use them in the 7.65 French long pistol as well as the 7.62 X 25 Mauser in the CZ 52 pistol.

For what its worth they can be launched at about 1600 feet per second in the CZ. The 30 Luger as well as the Broomhandle Mauser can also use those bullets to good effect. They work perfectly and shoot well because the shape is similar to the original military bullets. Various military bullets can be reduced in diameter a little and used as target bullets. A 311 can be reduced to 308 with little effort and some lube. I have a bunch of 311 diameter bullets that I had to pull from some 303 British ammo because they were duds. Since they can be reduced to 308 or left as is I have quite a few uses for them. They make perfect bullets for 7.7 Jap machine gun ammo. They make good target bullets in most 30 caliber rifles and usually cost very little. Another bullet that I make by necessity is a 114 grain slug for the 8mm French Lebel revolver. The diameter is an odd .330 and buying a mold is almost impossible and expensive so I have a die that swages them. It’s also hard to find a commercial cast bullet to buy for it. They are very accurate and practical for the old warhorse according to the people who have tested them. The 32 Colt requires a bullet of .300 for best results. I take a 30 caliber or a 32 S & W bullet and reduce the diameter using a bullet reducing die. Bullets should weigh around 80 grains for good results. The end benefit is to get the old Colt shooting again and that’s one of the ideas of bullet swaging. I also use the same method for making heavier bullets for the 7.35 Carcano. As long as the velocity isn’t too high they are very accurate.

Not very often you may want to bump up a bullet a little. You can get dies for that operation if you feel the need. I can only think of one that I do. I bump up a 40 caliber to a 41 and it shoots very well in the 41 A & E and 41 magnums. In the 41 magnum I make it with a blunt frontal area for good results on small game. The A & E round have a sharper point to facilitate feeding. The bullets that I make are full metal jacketed which facilitates feeding especially in the 41 A & E. It might also be a way to solve a vexing problem getting a real odd diameter bullet. When you bump up a bullet it has to be done in such a way that all the side expands evenly in order to have an accurate product.
For simple handgun and 30 caliber rifle bullets with jackets the C4 Tool and Die sells dies that work on a standard press. They are two die sets and you can make hollow point or flat nose bullets. You have some control as to the shape of the nose that you want. Besides the dies you need jackets and a core. The core can be molded or cut from a wire spool. If cut from the spool then you need a core cutter in order to cut precise cores. Most of the time you can make the cores two or three grains heavier then needed because the die has a bleed off which helps in controlling the weight. The first step is to expand the core into the jacket by turning it upside down and pushing up in the die. The core should drop down into the jacket for best results. It should be a caliber or two smaller then the jacket so that when you swage it there are no air pockets in the bullet. The core will be sticking out of the jacket a little depending on how much lead you want exposed in your finished product. A light coat of lube on the jacket can prove to be helpful especially with the high-pressure bullets as done in the Corbin dies. Then tap it out and its ready for the finish die. Be sure to use the right stem in the press, which is the one that is bowl shaped. Then change the stem and put in the finish die in. Push up the bullet and adjust the die until you get the shape that you want. You have to use some force in order to insure that the bullet is the proper diameter. Too little pressure and the bullet will be too small but don’t over do it or the bullet may stick in the die. Measure the bullet with a micrometer to insure the proper diameter before you make a bunch. Sometimes the first step will leave the bullet .001 or so too small but the finishing step will bring it up to the desired diameter. Also you are better off using a softer alloy especially with the larger slugs in order to avoid excess pressure in making them.

Once you get the hang of it and get the die set up correctly these bullets are easy to make. You now have a cup and jacket bullet and it can be used for most handgun uses. For revolvers you need to put a cannelure on the bullet in order to put a crimp in it. Failure to do so and the bullets will come out of the case during shooting especially with a heavy recoiling caliber. When you put the cannelure on the bullet be sure it isn’t too deep. If it is it will affect accuracy and may cause the bullet to separate upon impact. About .002 or so is about how deep you want to go. If not sure measure a similar factory bullet for cannelure depth with a depth gauge. You can put a cannelure on a rifle bullet but it’s generally not necessary if the case neck is properly sized. One exception would be a straight case round such as the 45-70 or 444 Marlin. For auto loaders you can adjust the finish die to some extent so it will feed. Of course some pistols won’t feed those so you may have to get a custom set of dies if you are willing to pay the tab. Years ago I had a couple of sets made by a guy in New Jersey for the 9 mm and 45 auto and they work fine. That was several years ago and I don’t know if he is still around. They feed perfectly in my auto loaders though I make special design bullets only. It’s pointless to make standard bullets with these dies when they can be purchased at such reasonable prices. Quite honestly if you can’t find a commercial bullet that you like then either you are picky or like to make your own. I make shot filled bullets and heavy hunting bullets for my 45 Win mag LAR Grizzly I also make bullets for the 454 Casual and 44 magnums for various purposes. You have the option to make full metal-jacketed bullets also though I am not sure what the advantage would be. Another possibility is to make bullets filled with compressed bb shot. They are fairly easy to make with the C4 dies and make splendid self-defense bullets as well as varmint pills. They are usually lighter then standard so can be driven at high velocities. I can drive a 115-grain in the 444 Marlin at 3300 feet per second. Talk about an explosive varmint load! Another favorite is a 115-grain in the 35 Remington at 2800 feet per second. Accuracy while not outstanding is good and will hit a groundhog at a hundred yards or more. If you can find them you can make nice half jacketed bullets with these dies. Adjust the finishing die so none of the lead touches the barrel and you can drive them at high velocities if you want to. I make one in 44 caliber that weighs 170 grains finished. The components are a 38-caliber wad cutter bullet as a core and a 44 caliber half jacket that weighs in at 22 grains. The bullet is used in a 44 special because it expands at low velocities and have used it in the 444 Marlin at velocities exceeding 2700 feet per second. It will expand at 800 feet per second, which gives the lightweight 44 special an effective self
defense bullet with low recoil. The 41 magnums uses a 155-grain version of that bullet to good effect. The only problem with the 41 calibers is jackets aren’t generally available so you have to reduce 44 jackets. Both CH www.ch4d.com and Corbin make jacket-reducing dies for that task. At one time Speer, Hornady and Sierra offered bullet jackets but they dried up years ago. Herters also offered them for the bullet maker along with many reloading products. Occasionally you may stumble upon some at a gun show or yard sale. I bought thousands of them some years ago and probably won’t use them all unless I live 160 years or so. Just as a note CH no longer offers any jackets though dies are available. I communicated with Dave at CH and he said that getting the jackets was more trouble then its worth. They make a lot of loading dies and other equipment and the jackets only comprised about 1 & ½% of their business when they did offer them. The idea of making your own bullets is to design something that you like and is unique to you. You can start by making conventional bullets until you learn the trade then let your imagination roam.

You can make super lightweight bullets if you want something with a minimum amount of penetration. Years ago I made some 60 grain bullets for the 45 auto. They were filled with plastic and were driven at 1900 feet per second. The idea was to have a projectile that didn’t penetrate much but would still deliver a blow to an intruder. At ten feet they would not go through a 2 X 4 but that’s what I wanted in that particular bullet. They functioned in my pistol ok and were accurate enough for their purpose. I also played with 38 calibers weighing 25 to 30 grains. How practical are they? For most things they weren’t but the idea is that you can design a specific bullet to suit the purpose. One possible use would be inside an airplane to prevent a breech of the body. Another idea I tried was to make a bullet that can be shot front or back words. The frontal loading showed more or less a conventional lead tip while backwards it is a full metal jacketed projectile. I made them in the 357 and 44 calibers. They shoot ok either way but I am not sure how practical they would be. You could alternate them in a magazine one type then the other to get penetration with one shot and expansion with the other. You could also load a cylinder with alternate tips.

For more complicated bullets especially rifle bullets the Corbin system is a good way to go. It is a lot more expensive because the dies are more and you need a special press in some cases, which isn’t cheap. With that set up you can make some serious hunting or target bullets if you pay attention to detail. The settings are very critical and if you don’t have a lot of patience perhaps you better consider buying your bullets. Like the others you need jackets and cores. Jackets are available from Corbin and are available in various lengths. Some custom jacket makers are around and the best way to find them is on Corbin’s web site. www.corbins.com. You can also find many other bullet making products there. Like loading dies you need a set for every caliber that you do and in some cases the bullet style. For best results the jackets length should match the weight you want. The jackets generally measure from 1” to a bit over 1 & ½” the same as the finished bullet. The cores are generally a couple of calibers smaller then the finished product so they can be put in the jacket and swaged properly. For regular cup and core bullets 2 dies will suffice. When you put the core in the first die will expand the core to fit tightly inside the jacket. You need to make it tight for consistency and to eliminate any air bubbles. Do not over do it or the bullet will stick into the die and it’s a pain to get out. Bullet making presses have a lot of leverage so keep that in mind when doing the first step. If you do boat tails or other high tech bullets then 3 to 5 dies are necessary and they will run several hundred dollars. I make all my 30 caliber hunting bullets weighing from 155 to 205 grains depending on what I want to use it for. I generally use the 2 die set as I don’t see any advantage to boat tail bullets in most hunting situations. One I do is I put a hard core in then 2-6.5 gas checks acting as a partition then a smaller core up front. I also dip it in the bonding chemical prior to swaging it. You can also use a single core for that operation and they perform just fine. After dipping the bullet has to be heated to bond the core to the jacket. Corbin offers a ceramic block that you can drill holes to your needs. You need a small
propane torch to melt the cores then let cool. Form your bullet as needed and thoroughly clean. It is a very time consuming bullet to make but it works well on elk. The finished product weighs in at 205 grains and I use them in a 30-06 though they work in most 30 caliber weapons. The bullets are thoroughly cleaned after heat-treating so I don’t get corrosion on the cases or in the powder. To clean them boil them in baking soda for a minute or so and let dry. You can polish the bullets in a rotary tumbler filled with newspaper for about an hour or so. While not necessary it will make them look a lot better. Most of the bullets I make are the standard type and they work well on deer and pigs. My stepson and I went to Texas a few months ago using some 185-grain bullets in 30-06’s. We both took rams and pigs and the bullets performed admirably. Would store bought bullets have done the same thing? In all probability but the point is the hand made bullets worked. In some cases you can reverse the jackets by inserting it bottom first in the die and make military style bullets though I am not sure of the justification for that. I have dies to make 22 caliber bullets but seldom do so as they are a pain to make. I also have a die that can make 22 caliber jackets from 22 rim fire cases. For the price of 22 bullets it’s just not feasible to make them unless you have lots of time on your hands. Most caliber bullet making dies can be bought as well as shotgun slug dies. Like anything else if you are willing to pay the tab someone will make you the necessary equipment. Making bullets can be a rewarding past time if you are willing to invest the time and money required. Another fascinating way to make bullets is to use non toxic cores such as powdered tungsten or atomized copper. Those bullets while not inexpensive to make could be welcomed at indoor ranges that frown on lead type bullets. Plastic bullet balls can be used by themselves or in conjunction with a metal core to determine the weight and balance of the bullet. The best place to obtain these materials and the necessary equipment is at Corbin’s. They have the products plus the know how to make these specialized bullets.

If you really want to get into it you can purchase tools to make your own jackets. Corbin sells the items and copper sheets needed to accomplish this task. Unless you have the time, money and space it’s just not practical for 99% of us. If you are considering a bullet making business then that along with an automatic bullet making machine may be for you. For that type of machinery you better be able to come up with some serious cash. One advantage to making your own jackets is you can determine how long and how thick you want the jackets. You may also want to sell your products to help absorb the cost of the equipment. Most of your bullet makers today such as Speer and Hornady started as garage type of operations and they developed them into multi million dollar businesses.

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