Round Ball Loads

I became interested in round ball loads and multiple round ball loads several years ago and experimented with them off and on for about a year in both rifles and revolvers.

**Single Ball Loads**

Single round balls can be loaded in almost any caliber without much fuss and bother with good results. Load like any other cast projectile and don’t exceed the listed starting powder charge for the lightest bullet available using a fast burning powder. In fact, this will probably be too fast and you’ll have to cut it down some. I like a small charge of light, fast burning powder and Unique is probably my favorite.

Single ball loads can be used for plinking, small game hunting, varmint control, and for just fun shooting at paper targets. I often hear people talk about sticking a few ball loads in the hunting coat pocket for taking small game while hunting big game. It just doesn’t work like that as normally you will not be shooting in an area where you’re hunting large game and also, ball loads in most cases shoot to a different point of impact than a hunting load.

As with any cast bullet, the round ball must fit the bore to get any accuracy out of it. In my experience, most round balls run undersize for their stated size so I usually bump them to the desired size to insure a good fit and to enable me to achieve reasonable accuracy.

But, being a caster, I hate wasting powder and a primer on a single round ball when I can shoot a regular sized cast bullet in almost any speed that I want so I seldom use single ball loads.

**Multiple Ball Loads**

Multiple ball loads are fun to shoot and plink with and may have an application for small game hunting and pest control.

In my experience, their effectiveness is limited to no more than 50 yards and sometimes, less due to their shape and low ballistic coefficient. They lose velocity fast. Because of shape, round balls are also prone to ricochet more easily.

**Conclusions and lessons learned:**

Multiple round ball loads may be good for small game and plinking but do not have many other practical uses. Forget defense purposes as they are not politically correct and could raise some serious questions in a court case.

* They are extremely difficult and time consuming to put together.
* For me, round ball loads tend to shoot higher than point of aim in a revolver and lower than point of aim from a rifle.
* The M die or neck expander die works well in seating both wads and round balls in assembling the loads.
* Bumping a round ball to the proper diameter is the only way to get any accuracy from them.
* Dipping in liquid alox and allowing the ball to dry enhances accuracy and prevents leading
Preparing the bullets.

You have to either cast or purchase round balls. Being a caster, I’d rather do it myself. I’m not casting buckshot but I don’t mind casting a hundred or so round balls.

I have at my disposal the following RB moulds:

.319…50.4 grains
.360 …69.7 grains
.375…79.2 grains
.424…115.5 grains
.429…122.1 grain
.451…136.5 grains
.457…142.5 grains

I can use them all in the 5 cartridges listed below.

First, cast a supply of round balls. I usually cast these from pure lead or as close as I can get to pure lead. Stick-on wheel weights and lead from jacketed bullets off the range work well and I keep it separate from my other alloy.

With a supply of the appropriate size RB, take a lubricator/sizer and bump them to the desired diameter. After bumping, you will end up with what a kid would call a “smushed ball”. It will be flat or convex on the bottom and, depending on which top punch is used, flat or round on top. The sides will show a flat around the entire ball that is the diameter of the sizing die used unless you’re trying to bump one too big and then you’ll only see a smooth circle. This operation makes the round balls more accurate but at the same time, you create a projectile that is not a true round ball. It also degrades the range potential somewhat as it decreases the ballistic coefficient. With a little practice, the sprue cut will go on top and will be formed flat. I recovered one ball fired from the .45 Colt at 50 yards and the sides were engraved nicely with the rifling so I know they exited the case and took the rifling in the same manner as a normal bullet. This was after penetrating a 2” X 10” piece of plank I was using as a target and to check penetration.

Home made flat top punches

I use a top punch for either a flat nose or one of my specially made flat top punches that I turn down from a 5/16” hex head bolt using a file on my drill press. An electric drill and a file will work just as well for making these top punches.
Place round ball in sizer, sprue up
Adjust stop on bottom of sizer until ram clears the sizer die by 1/16”

Pull down on handle gently until ram contacts top of sizer
Top and bottom of ball will be bumped flat and the sides of the ball will be the diameter of the sizer
Caution…do this slowly as here is where you normally break the sizer

.429” round ball bumped to .431”
Note shiny ring on ball on the right, which indicates .431” diameter

I use .358” for .38 Special/.357 Magnum, .451” for the .45 Colt and .45 ACP and .459” for the 45/70.

I use Lee’s Liquid Alox and mix lighter fluid with it until it’s fairly thin. Then, using tweezers, I dip each bumped ball and place it on hardware mesh with a newspaper underneath. They’ll dry fairly well over night but will still be tacky. They’re now ready to load.

Making Wads

I use wads with my loads. I have shot them without wads but prefer to use them. Fred Cornell makes a first class wad cutter that fits in a single stage press and turns out precision wads from whatever material is on hand with each swing
of the handle. The cheap way to go if you want a few wads is to sharpen a case mouth and cut them with a drill press or electric drill against a piece of wood. Drill out the primer pocket with a .190” drill and use a 10-32 machine screw to chuck in the drill press. File or grind a small hole in the side so the wads can be punched out after cutting. Normally, I’ll use cardboard off the back of tablets or the plastic tops off coffee cans. If you happen to be in the military and have access to an aerial gunnery loading point, 1/8” thick high density cardboard comes packed between 20mm, 30mm and 40mm ammo. It’s first class wad material and I’d not be disappointed if 50 pounds or so showed up on my doorstep some night.

Cornell Wad Cutter

This unit, made by Frederick Cornell, Custom Shooting Accessories, RD #2-14 Stover Acres, Sayre, PA 18840 (this one in .458”) makes cutting wads fun. With the proper material, a wad is produced at each stroke of the press handle. Cost was $65 several years ago but is a first class unit with excellent workmanship.

Home Made Wad Cutters

Making wads need not be expensive. These two wad cutters, one for making .452” wads and the other for making .431” wads can be made from the appropriate shell casing. De-cap case and then drill through the primer pocket with a drill of sufficient size to accept a #10-32 screw. Use a screw approximately 1 ½” long and place through the case with the head of the screw inside the case. Secure with a self-locking nut to prevent the screw from loosening. Then the screw shaft is chucked into a drill or drill press and the case mouth sharpened outside with a file and the inside sharpened by chamfering with a chamfering tool.

Cutting Wads with Home Made Cutter

The hole in the side of the cutter is to allow the wads to be punched out once they have been cut. A hex wrench
worked well for this process. I was able to cut 5 with the .431 before removing.

**Loading**

Once you have wads, your cases are prepared in the same manner as for a cast bullet with a belled mouth. Before loading, chamfer the mouth of the case or a small ring of lead may be removed during crimping.

Decide what your powder charge will be and dump it in the case. Then, seat a wad and using the expander plug on the M die or neck expander die, push the wad down over the powder until it’s approximately ¼” in the case. This depth is chosen in order that the wad is in contact with the ball at all times as you don’t want an air space between the wad and the ball. This practice has been known to cause “ringing” in older, softer barrels. Inspect to be sure it is seated straight. If not, pull it out and use another wad.

For **single balls**, seat the ball and using the plug, seat it about 2/3s of its diameter down into the case. In the case of single balls, you then use your normal crimp, wipe the alox off and you’re ready to fire.

If using **two balls**, seat the first ball until there’s about ¼” of case space at the case mouth. Then seat the 2nd ball about 2/3” of the way in the case and crimp. Then wipe the alox off and store.

If you’re going whole hog and using the **3 ball 45/70 “hockshop” load**, seat the first two balls until they’re ¼” below the case mouth, seat the 3rd ball 2/3s of the way in the case and crimp.

Loads prepared in this manner are fairly stable as far as being carried in your pocket and, due to the alox, fairly resistant to light rain.

**Individual Cartridges.**

**Standard disclaimer – These loads were fired safely in my guns with no problems or signs of pressure. Use at your discretion.**

I selected these six cartridges as I figured they were the ones most people would be interested in loading. I’ve tested 2 ball loads in the 38/55 and it gave me the best accuracy of any of the cartridges I tested. Three rounds went into about a 6” cluster at 50 yards and the group was centered and slightly low.

I tested each load for penetration on 2” X 6” blocks at all ranges that I tested loads for accuracy. I determined that this was adequate penetration and power for small game. Every load penetrated the blocks for me during these tests.

**38 Special**

![Image of .38 Special cartridges](image)

Model 15 Smith and Wesson, 4”

2 - .360” Balls – 139.4 grains total payload
.38 Special Case S & B Unplated
1 - .040” Card Wad
4.8 grains WW231
Velocity…996 FPS
15 Yards – 100% hits on 8” X 10” target…2” group
25 Yards - 100% hits on 8 X 10” target….5” group

This load is very good for general woods carry and is adequate up to 50 yards.

3 - .319” Balls – 151.2 grains total payload
.38 Special Case S & B Unplated
4.8 grains WW231
1 - .040” Card wad
Velocity…1072 FPS
15 yards – 67% hits on 8” X 10” target
25 Yards – 33% hits on 8” X 10” target

This load would be great for what I call a “fishing” load where snakes may be encountered. It will be good for very short-range applications but accuracy falls off very quickly.

.357 Magnum

Ruger Blackhawk, 6”
3 - .360” Balls – 139.4 grains total payload
.357 Magnum Case
7.0 grains Blue Dot
1 - .040”Card wad
Velocity…1047 FPS
15 Yards - 100% hits on 8” X 10” target ….2” group
25 Yards - 100% hits on 8” X 10” target….2” group

Makes a good woods load up to 50 yards for varmints, small game and general fun shooting.

44 Magnum

Ruger Super Blackhawk
2 - .429” Round balls – 244.2 grain payload – bumped to .431”

.44 Magnum case
8.0 Grains, Unique
1 - .040” cardboard wad
Velocity…1211 FPS/1184 FPS single ball
15 Yards - 100% hits on 8” X 10” target…4” group
25 Yards - 100% hits on 8” X 10” target….5” group

Good woods load for the .44 Magnum. I tested at 50 yards by plinking and also at 100 yards and it provides adequate accuracy for plinking at both ranges.
I ran out of balls for the .44 Magnum and ended up with about a dozen single ball loads. These were very accurate at 100 yards…almost as well as cast bullet loads.

45 ACP

I’ll bet I got some strange looks when I listed the 45 ACP. I guess you’d wonder how I got two .451 balls in a .45 ACP case. I didn’t. I took two .424 balls and bumped the bottom one flat and then bumped another set using a #374 top punch to give a round ball with a flat bottom and a kind of flat round nose.

Ruger Blackhawk convertible, 5 ½”
1 - .424” ball bumped to .452 (bottom ball)
1 -.424” ball bumped with a #374 top punch to give a rounded point
5.0 Grains of Unique
1 - .040” cardboard wad
Velocity…847 FPS
15 Yards – 50% hits on 8” X 10” target
25 Yards – 50% hits on 8” X 10” target

This was a load that I wanted to try just to see if I could do it. It appears that it will feed and function in a M1911A1 but I didn’t test it in one. Use would be limited to very short range only.

Some were plinked at 50 yards after the tests. The round nose bullet appeared to hit fairly well close to point of aim but the bottom ball dispersed badly.

45 Colt

Ruger Blackhawk convertible, 5 ½”
2 - .451 Round Balls – 273 grains total payload
.45 Colt Case
6.5 grains, Unique
1 - .040” cardboard wad
Velocity…771 FPS
15 Yards – 100% hits on 8” X 10” target…2” group
25 Yards – 100% hits on 8” X 10” target…3” group

This is a very good load for woods loafing. There was adequate accuracy at 50 yards to make this a quite interesting load out to that range. I’d recommend a .454 ball for use in the .45 Colt over the .451 if available.

45/70
M1895 Marlin (Ballard rifling)
2 - .457” Round Balls (Bumped to .459”) – 285 grains total payload
.45/70 case
12.0 grains Unique
1 - .040” Card wad
Velocity…1198 FPS
25 Yards – 100% hits on 8” X 10” target
50 Yards - 25% hits on 8 X 10” target

3 - .457” Round balls (bumped to .459”) – 427.5 grain payload
.45/70 case
12.0 grains Unique
1 - .040” Card wad
Velocity…1112 FPS
25 Yards – 100% hits on 8” X 10” target 6” pattern
50 Yards – 67% hits on 8” X 10” target

The load would be handy to have for pests up to 50 yards. The accuracy was not there for me at 100 yards to make it useable past 50 yards. Initial tests made with the .45/70 using 2400 powder provided better accuracy with a lower velocity. Keep this in mind when developing a load for your rifle.

Summary

Round balls in single or multiple loads have good applications for the woods loafer or in varmint/pest control as well as small game hunting.

The straight walled pistol cases do well with multiple loads and single ball loads can be loaded in almost any caliber that you have a RB mould for.

Being a caster, I’d rather shoot a good cast bullet design as long as I’m expending a primer or powder but your needs may dictate that you use these loads.

Get a mould as close to bore diameter as you can find and develop a load. These are only a starting place based on my experiences. Perhaps, your results will be better.

Good loading.

John Goins/akabeagle