

Nose First Sizing

Almost every week there is a question on one of the cast bullet sites about misaligned sizer lubricators, bent bullet noses, deformed bullet noses or gas checks not being seated properly. The answer to the problem is nearly always, "Get a Lee nose first sizer".

The Lee nose first sizer is a great tool and does the job well...*IF*.....it is the right diameter and ... *IF*... you have an alternate method of lubricating the bullet. I'll hear the comments about how you can order Lee sizers in custom sizes and I've been this route at \$25 a clip and a 2-4 week wait. Most of us casters are impatient and if we want to do something, we want to do it now. Often, after that wait, the sizer may not even be the magical diameter that we paid the extra bucks for. Now, this a quality problem at Lee and can be corrected by sending it back but who wants to wait another 2-4 weeks? My machinist friend tells me that about the best tolerance they can maintain with a Sunnen grinder is +/- .0003" so it's a quality problem, not a machinery problem and when I order something, I expect it to be in that specification range.

Another point is that probably 75% of us use either a Lyman #45/#450/#4500 or a RCBS Lube-A-Matic to size and lube with. This necessitates the procurement of an additional Lee sizer on top of the stuff we already have. Now, I'm not opposed to having more gadgets but this practice gets pretty expensive.

I'd often wondered about making an adapter to allow either RCBS or Lyman/Ideal sizer dies to be used in a Rock Chucker or other single stage press for nose first sizing.

Discussions among the faithful said it couldn't be done as the remaining die body thickness on a 7/8 X 14 T.P.I. die wouldn't hold the stress of sizing a bullet.

One day, I was puttering through the used die box at my local gun shop and came across some Herters seating dies that used a sleeve on the same principle as a Vickerman seater. The internal diameter was huge. I borrowed a Lyman sizing die from the owner and it almost fit. I grabbed three of them and headed home.

After some measuring and e-mail correspondence with Orygun Mark, I shipped two bodies out to him. We hashed it over back and forth and in a week or so, here came a package from Mark. He'd opened the die body to accept a sizer (.700"), drilled and tapped it to take a set screw to hold the sizer die in the adapter, made an adapter from a Lee shell holder and made push rods from 5/16 X 18 bolts to act as a push rod or anvil to push the bullet through the die.

I made an additional .250" push rod and threw a .259" sizer in the rig after removing the o-ring and commenced to nose first size some 25-100-FN RCBS bullets that looked fine with no distortion or bending. I placed the .259" sizer in the Lyman #450 and proceeded to lube the bullets and I was set. The plan worked well with no hitches.



7/8 X 14 die body opened to .700" and cut to 2" to accept Lyman/RCBS sizers



Lee shell holder drilled and tapped to accept 5/16 X 18 push rod



5/16 X 18 bolt modified for nose first push rod

The three components pictured above allow nose first sizing with the Lyman/RCBS sizer of your choice. Different punches can be made with 5/16 X 18 bolts from the local hardware. Normally about 6 sizes will cover the whole spectrum unless you're doing something special. I recommend: .220", .250", .300", .350", .425" and .450" sizes.

I have tried approximately 100 different sizes in this rig. Ideals and Lymans fit well. Even some old Lachmillers worked well. RCBS sizers may or may not work without modification. Some have a band about .125" wide and .015" thick right below the groove at the top. This must be ground off (down to .700" OD) and then they will fit. The removal of this band has no affect on the use of the sizer in normal lubricator operations so take it off if you make one of these.



Nose first adapter with sizer (O-ring must be removed)



Nose first sizer mounted in Rock Chucker



**Nose first sizer with bullet ready for nose first sizing
(In this case, I'm downsizing a bullet that has already been sized and lubed)**

In addition to doing nose first sizing, these tools have other applications.

The first is **downsizing**. I was recently asked for some .333" diameter bullets. The closest thing I had in the way of moulds was a Lyman #33820. I had my shooting partner hone out a sizer to .333" with a 7 degree tapered lead in on the mouth. I knew that this would probably not work due to the .339" diameter of the bullet I was using. When he made the sizer, I had him start at .340" on the bottom of the sizer and taper in to the .333" diameter. I placed the die in my 7/8 X 14 adapter bottom first, got a huge 7/8 X 14 nut at the hardware and placed it on top of the adapter and then screwed a short section of die into the nut to act as a retainer for the sizer.

After annealing some GCs, I checked a bullet and pushed it through. It came out looking pretty good. In a situation like this, it's better to size to .338" and lube first. There's less friction in sizing, less effort is required and less distortion of the bullet grooves occurs, as the lube tends to support the lube grooves somewhat.



Parts used to make up the nose first sizer for swaging through the bottom of the die.



#33820 bullets downsized to .333"

Another side benefit to this setup is **neck sizing**. I was recently attempting to make a neck sizer die for the .32-40 case. I kept getting them too large or too small. Finally, I hit upon the idea of using sizer dies. I set up my nose first sizer with the case in a normal shell holder and switched sizer dies until I obtained the proper neck tension. Then I made the die with this diameter and it has worked just fine. This will even work for limited quantities of cases if you have an odd caliber that you're trying to load for. Insure that the sizer is smooth or the neck of the case may be scratched. If it's rough...polish it out.

Over the past several years since we made the nose first sizer, I've sized thousands of bullets with excellent results. The thin die body isn't a problem as some said it would be as it's entirely supported during any stress caused by sizing.

My die body is steel but Mark is using the old aluminum RCBS die bodies as they're easy to work with instead of steel on the lathe.

So, if you're having alignment problems with your regular lubricator sizer, get someone to make you a nose first adapter and get with it. The bullets are fine.

Mark Miller/Crazy Mark and John Goins/aka beagle