Choosing a Sizer Lubricator

If you're reading this, you either own a sizer and are looking at it to see what my opinion is or else you have had enough of sizing with the tumble lube or bullets sitting in lube in a pan.

I went this route as well as almost all other bullet casters have over the ages.

Right now, you have a choice in production sizer lubricators of:

1) Lyman 4500 (or used #45s and #450s of several vintages)

2) RCBS Lube-A-Matic II (or its predecessor the Lube-A-Matic)

3) Saeco

4) Star

I'll cover the ones that you'll normally encounter as there are dozens of lesser known makes out in the world.

In the beginning….

I started out sitting Lyman 311291s in the bottom of a Spam can and pouring Lyman's old messy graphite lube around the bottoms. The operation was completed by forcing the bullet nose first through a die in Lyman's 310 tool. It worked and they shot pretty well.

Then the maintenance of marital bliss forced me to find another method of lubricating and sizing my freshly poured gems. The management just couldn't tolerate black smudges on the light switches and adjacent areas from the back porch to the bathroom and yes, graphite was very hard to remove from the kitchen sinks and bathroom lavatories. This is not to mention what it does to Levi's and T-shirts.

So, I was forced to invest in a new machine to lubricate and size my prized, newly produced cast bullets.

At the time, the state of the art sizer was the Ideal #45. What a relief that was and such an improvement in both production rate and the quality of the product.

The Lyman Sizer Lubricators

Lyman/Ideal #45

I started sizing with this little gem. In reality, for a person that makes, say 1,000 or so bullets a year of the same caliber, they're not bad.

They do have some drawbacks.

The linkage is weakly designed and doesn't allow much leverage.

The locking method for the sizer dies (set screw) tends to sometimes temporarily warp sizer dies to an out of round condition in the larger diameter dies.

They tend to leak around the sizer die due to tolerance at manufacture and wear over the years.

Lyman no longer stocks parts for them.

The good news is that a machinist can usually cobble up a fix for about any part that breaks on them and get them going again. I used one for 30 years with only the complaints listed above and then some dummy knocked over the stool that I was using for a sizing bench and cracked the cast housing forcing me to buy a #450. I ain't saying who but his name starts with John.

On E-Bay, they usually run from $25-50 depending on what dies and top punches come with them.

Figure 1

Lyman/ Ideal #45

Lyman #450

Figure 1. There are more configurations of this sizer out there that I can count. There are various colors and finishes which stem from different owners of Lyman. After it's all said and done with, they boil down to two basic machines. I'll list them as **Type 1** and **Type 2.**

Lyman #450 Type 1

Figure 2. The type 1 followed the Ideal/Lyman #45. There were many improvements in the linkage over that of the #45 and it had a better pressure system. This one is about 30 years old and has been rode hard and put up wet so much that it's quite beat up. It still sizes good bullets.

Expect one in this condition to run from $40-50 used on E-Bay.

Figure 2
Lyman 450, Type 1

The weak point on the type one **(Figure 3)** is the handle linkage in the area indicated below by a red arrow. This is a solid "L" link and tends to crack. Lyman doesn't stock repair parts for them but they do stock an upgrade kit for the whole handle assembly which runs (at this time) about $18.

Figure 3
Weak point on type 1

Lyman 450 Type 2

The 450 Type 2 **(Figure 4)** is nothing more than the type one that has been upgraded with a stronger linkage. As far as I can determine, all other parts remain the same.

Expect one in this condition to run from $40-50 used on E-Bay.

Figure 4
Lyman 450 Type 2

Lyman 4500

Figure 5
Lyman 4500

The #4500 **(Figure 5)** is the latest offering from Lyman. I haven't had the opportunity to use one but from looking and reading, it is basically a #450 Type 2. It has an improved handle and linkage. The body or casting has been re-engineered to eliminate the bottom lube leak so common to the other Lyman/Ideal offerings. It has provisions for mounting a heater for use with some hard lubes.

If you purchase a new Lyman sizer/lubricator, this will probably be the model you receive unless there is old stock on hand.

Problems with the #450s

The items pictured below **(Figure 6)** are one of the problems in the Lyman 450s (both Type 1 and type 2). This is the retaining nut for the sizer die (on left). It has an extremely fine thread and as you can see by the picture on the right, it gets clogged with lube. Often, this causes problems as you're trying to thread a grease filled fine threaded nut into a threaded casting which is also grease filled.

My solution to this was to purchase several of the locknuts from Lyman and after each use, I drop them into a parts bath and use a new, clean locknut for the next session.

Figure 6

L-R: Lyman's locknut, locknut installed

Another problem with Lyman sizers is that they leak lube out from the bottom. This is inherent in the beast. This can be cured by attaching the lubricator sizer to a short section of 2 X 6 with lag screws. Before attaching, insert a piece of rubber over the casting hole in the bottom of the sizer. Then, tighten the lag screws down. This acts as a gasket and seals any leakage. Rubber can be a piece of old inner tube (try and find one now) or even a large o-ring that is slightly bigger than the hole in a casting.

Now, fellows, the item pictured below **(Figure 7)** is a gas check seater. Most of us when we get a sizer tend to throw this in a drawer in the heat and passion of sizing our first bullets and forget about it. It works and will fit on either a Lyman or RCBS sizer. When all else fails, read the directions.

Figure 7
Gas Check Seater

RCBS Lube-A-Matic

The RCBS Lube-A-Matic **(Figure 8)** is a very popular sizer. It is well made and performs the tasks of sizing and lubricating quite well.

The version pictured below has the older handle on top for pressurizing the lube chamber. In this version, two plastic balls were threaded on to a rod. This allowed direct pressure to be placed on the lube. In later versions, this has been replaced with a ratcheting wrench similar to that used on the Lyman sizer lubricators.

Either version works but the balls on the handle of the older version keep coming off during operation and bouncing across the loading room floor and rolling under things.

Either the Lyman 450, Type two or the RCBS sizer is my choice for the cast bullet loader going about his normal loading. I have three #450s and a RCBS and I can't tell any difference between them for my use. Sizer dies and top punches are readily available and interchangeable. Probably the offsetting feature for the RCBS is the warranty. RCBS products have a lifetime warranty and a simple call to their customer service will get a replacement part in the mail free. The Lyman people are not this customer friendly.

Figure 8
RCBS Lube-A-Matic

(Older version)

Figure 9
Saeco Sizer Lubricator

Saeco Sizer Lubricator

The Saeco lubricator sizer **(Figure 9)** is a well made piece of equipment. Of all of the sizers, it is probably the most precision as far as alignment goes and is the most precisely made. The mounting system for the sizing dies and top punches eliminates much of the alignment problem found with both Lyman and RCBS sizer lubricators. It's been 40 years since I used one on a regular basis and they were nice back then and from all reports have improved in the interim.

It is a pleasure to work with and does a fine job on both rifle and pistol bullets.

It's drawbacks are the common availability, expense and lack of interchangeability of the sizing dies and top punches.

Star Sizer Lubricator

Figure 10
Star Sizer Lubricator

The old Star sizer lubricator **(Figure 10)** brings back memories from when I first started casting. I had access to a unit owned by one of the Army's Marksmanship Training Units. They had tooling for .38s and .45s and the lube was provided. I'd cast my bullets and size and lube on their machine.

It has the ability to nose first size and drops the lubed bullets out of the bottom with a distinct "pop." It takes some getting use to at first as the handle is used to activate a poppet valve to port the lube to the bullet. Once this feature is mastered, you can turn out a pile of sized, lubed bullets in a very short time.

It is probably the best machine on the market for sizing/lubing large quantities of bullets. It works particularly well on plain based pistol bullets. Rifle bullets with GCs takes a bit of adjustment and tinkering to set up but once it is set, they do well also.

The drawback of the Star is the high cost and availability of sizing dies. The dies are not as easy to change as the other sizer lubricators and the adjustments from bullet style to bullet style are more time consuming and complicated. They are a little more costly than the other machines currently in production.

If you're looking at sizing large quantities of a few styles of bullets, the Star is the route to take. It's probably not the machine for us home cast bullet "tinkers."

Sizer Dies

Here things get interesting and we branch out into a subject that is probably one of the bigger factors in making a decision as to which brand of sizer/lubricator to purchase. This factor is the interchangeability of sizing dies.

Rules of interchangeability for sizing dies:

Dies for the Ideal, Lyman, RCBS and Lachmiller will interchange in the Ideal, Lyman, RCBS and Lachmiller.

The same rule goes for top punches.

Dies and top punches for the Saeco can only be used in the Saeco.

Dies and push rods for the Star can only be used with the Star.

Figure 11
L-R: Old Lyman/Ideal die, present production Lyman die

The older type die on the left **(Figure 11)** is an original production Ideal or early Lyman sizer. Note the lack of a o-ring at the top. This type die will have a beveled opening at the top or mouth and it is very difficult to get bullets that are sized straight with it. They tend to size heavier on one side or another.

The present production die **(Figure 11, right)** will have an o-ring to prevent lube leakage during use and it will have a tapered leade in the die mouth.

Often, the older dies will be encountered at gun shows and on E-Bay. They are perfectly useable if you have access to a machinist who can modify the leade and also cut an o-ring groove. I have ten or twelve that I've modified and they work well. They will usually be found in some discontinued size that you may need so they're well worth looking at and having modified in this case.

I have modified many sizing dies over the years. You'd expect them to be hard but they usually are soft and not heat treated. I have seen several that were heat treated so I'll not make a blanket statement on that.

Dies by Lachmiller Engineering Company and RCBS are shown in **Figure 12**.

Figure 12
L-R: Lachmiller, RCBS
Sizer Dies

Lachmiller dies are marked: L.E.C.

Figure 13
Saeco sizer die

As can be seen by the picture in **Figure 13**, Saeco dies will not interchange with either RCBS or Lyman/Ideal sizers. They have a different mounting method.

Figure 14
Star/Magma Sizer Die

Pictured in **Figure 14** is a sizer die for the Star lubricator (now Magma). As you can see, the physical differences keep it from interchanging with the Saeco, Lyman and RCBS. These dies are more costly in the used market and you see them for sale less frequently than the Lyman and RCBS sizers. They are available new from Magma.

Other sizers you may encounter:

A search of E-Bay over a period of time will uncover a great many different makes and models of old and downright

antique sizer lubricators.

Some work fairly well and will give you many years of good service….and some are down right dogs that you can't find parts or dies for and are better left alone.

Of all the older sizer lubricators on the used market, I consider only the Lachmiller **(Figure 15)**worthy of purchase over any of the others if sustained use is anticipated. Without exception, all of their equipment was well engineered and designed for long use.

Figure 15
Lachmiller

Which sizer lubricator do I choose?

I guess my preference goes to the Lyman 450 Type 2. I presently own two of them, a Lyman 450 Type 1 and a RCBS. I just traded off a Star.
For ease of use, availability, interchangeability of dies and top punches, I like the Lyman slightly over the RCBS model.

The Saeco and Star are fine but usually cost more money and us lead pourers are cheap.

I choose the Lyman 450 Type 2.

So pull up E-Bay and start browsing. Order up your choice and when it arrives, take the wife's hair dryer and melt the old lube out, inspect it, add new lube and happy sizing and lubricating.

Sources of Information on sizer/lubricators:

Lyman's website for parts and equipment descriptions is at:
http://www.lymanproducts.com/

The RCBS website is at:
http://www.rcbs.com/default.asp?menu=1&s1=1
Their Customer Service number is: 1-800-533-5000

Redding Reloading Equipment
1089 Starr Road
Cortland, NY 13045
http://www.redding-reloading.com/pages/lubrisizer.html

Star Lubricator Sizers and parts are available through:

Magma Engineering Company
P.O. Box 161
Queen Creek, AZ 85242-0161
http://www.magmaengr.com/star.html

John Goins/beagle