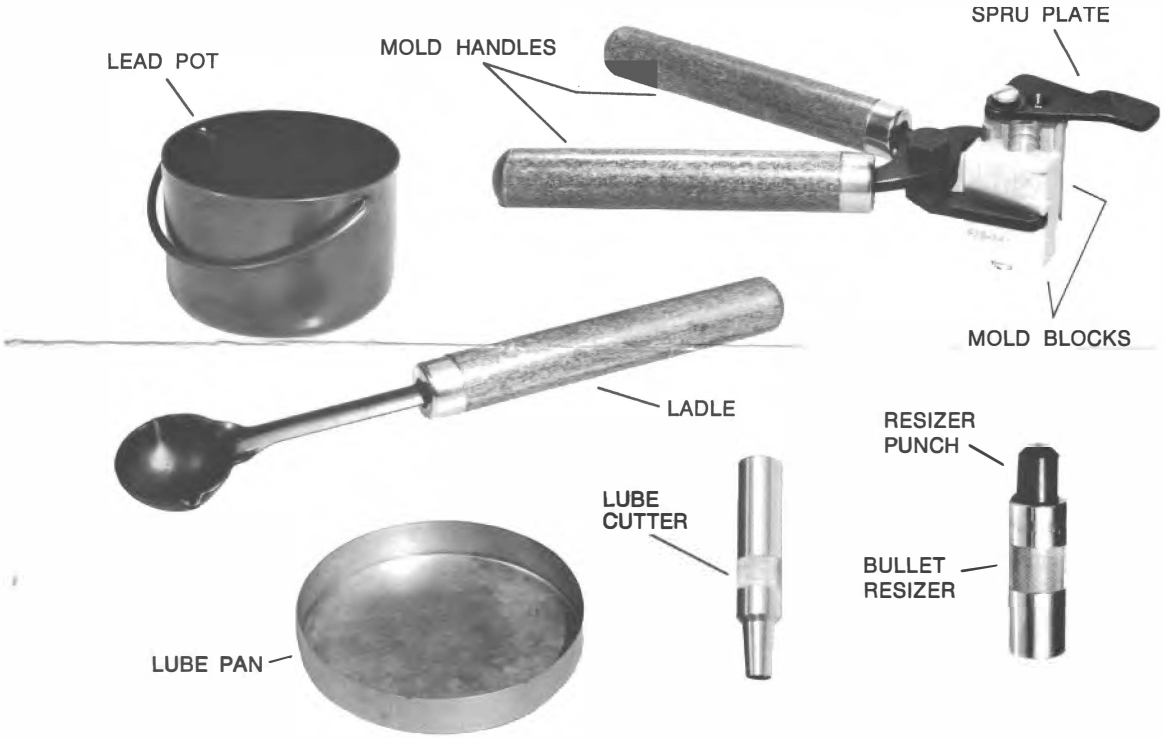
LEE Bullet Mold

INSTRUCTIONS
for
CASTING, LUBRICATING & RESIZING BULLETS



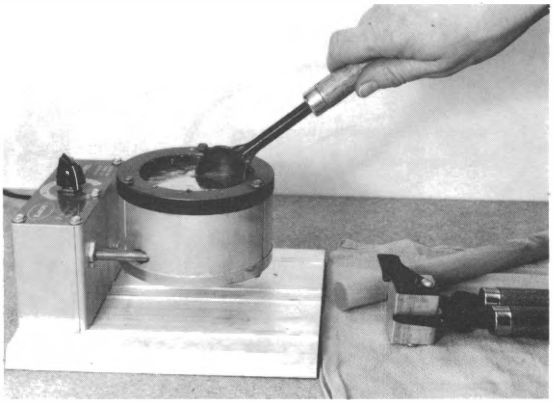
The Lee Bullet Mold represents the best utilization of modern materials and manufacturing methods to give you a better product that is easier to use.

LIMITED WARRANTY: Lee reloading products are guaranteed not to wear out or break from normal use for two full years or they will be repaired or replaced at no charge if returned to the factory. Any Lee Product of current manufacture regardless of age or condition will be reconditioned to new, including a new guarantee, if returned to the factory with payment equal to half the current retail price.

LEE PRECISION, INC. HARTFORD, WISCONSIN 53027

LEAD POT

The Lee Precision Melter (pictured) is the best method of melting your metal. Heat control is simple and your best bullets are poured with the Lee Ladle. For convenience and speed, it may be desirable to use the bottom pour Production Pot. If economy is most important, the Bullet Caster does an excellent job or even the Lee Lead Pot at $1.48 with any heat source will do nicely.



BULLET METAL

Pure lead is too soft to make good bullets for all but very light loads or black powder guns. To harden lead, mix one part tin to ten parts lead. For most pistol bullets one part tin to 20 parts lead is adequate. An easily available supply of tin is in the form of bar solder. 50/50 solder contains 50% tin and 50% lead. Scrap lead should not be overlooked as a supply of bullet metal. It's very cheap and can be made to work very well.

A rule to remember is hard bullets generally work better than soft ones. Mixing wheel weights, printers' type, toothpaste tubes or bearing metal with your lead will harden the metal. Exact alloy or composition is unimportant. If in doubt, throw in some extra wheel weights to harden the metal. Be sure your alloy contains some tin. Linotype metal is an excellent bullet metal and has proved to be very accurate for rifle bullets. It's available at many print shops. It is 6.5% lighter than a one to ten lead tin mix. To find out what your bullets will weigh using linotype metal, multiply the stated weight by .935. All bullet weights for Lee Bullets are given using a one to ten lead tin mix, except round balls and Minies. These are designed to use pure lead.

Hardness Test: Take a bullet of known hardness (1 part tin to 10 lead). Place it base to base with one of unknown hardness and squeeze them in a vise. The softer bullet will compress a greater amount. Adjust your alloy to suit.

CASTING BULLETS

If you're an experienced bullet caster, forget most of what was true when using the difficult to use cast iron blocks. The Lee Bullet Mold makes casting bullets easy and fast. No need to cast 50 to 100 before you start getting good bullets. Many times the first one you pour will be good, provided you follow the simple instructions. Because the aluminum mold blocks conduct heat fast, the metal must be extra hot for good bullets.

TAKE CARE OF YOUR BULLET MOLD

Your Bullet Mold is a precision-made tool. To preserve this built-in accuracy, it's necessary to lubricate it properly. Lithium, water pump grease or bullet lubricant must be applied to the "V" ribs locating pin and sprue bushing. Lack of lubrication will cause the sprue plate to gall and the blocks to mismatch. Damage could be irreparable.

When storing for long periods, lightly oil steel parts to prevent rust.

CAUTION: Your bullet mold will be damaged and your bullets will be poor quality unless it is lubricated as in Step #4.

PREPARING YOUR METAL

Wear safety glasses and gloves. After the metal has melted it will have a grey scum on the top. Don't remove this as it is the tin that has separated from the lead. Flux the metal. Do this by placing a small piece (size of a pea) of beeswax or paraffin into the molten metal and stir with the small ladle until there is nothing but dark grey powder floating on the metal. This should be removed with the small ladle. Always flux the metal after adding to the pot or if it needs it.

The smoke caused by fluxing your metal can be ignited with a match. This will keep your work area smoke-free.

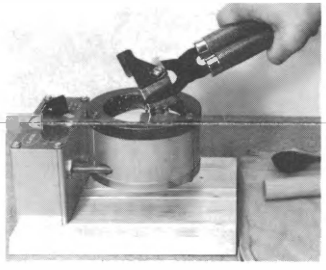
Caution: The oxides that are skimmed off the molten metal are extremely toxic and should not be permitted to accumulate in your work area.

IMPORTANT: To prevent damage to your mold or poor quality bullets, follow these instructions exactly:

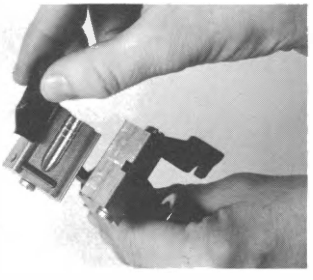
1 Remove all traces of oil. Wash mold blocks in white gas, mineral spirits or strong detergent and water.

2 Hold the flame from a match in contact with the bullet cavity so it deposits a thin film of carbon in the cavity. This is important on small diameter bullets to eliminate wrinkles.

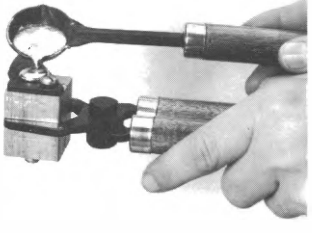
3 Preheat mold. Dip corner of mold into molten metal and hold there for eight seconds. If the lead solidifies on the mold blocks, it's an indication metal is not hot enough.



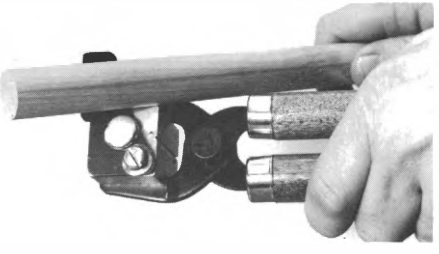
4 Lubricate your mold. Very lightly touch bullet lubricant to the sprue bushing, "V" ribs and locating cross pin. Lithium or water pump grease also works fine. **WARNING: Do not start casting bullets until your mold has been lubricated.** Repeat this every 3 to 5 thousand bullets or as required.



5 Pour molten metal into mold blocks through sprue plate. Some bullet shapes tend to trap air at the nose. This can be eliminated by pouring the metal on the sprue plate chamfer instead of directly into the hole. This causes a swirling action that better fills the mold.

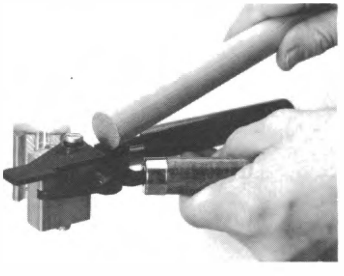


6 Just before complete solidification of the metal in the sprue plate, strike the sprue plate with a wood dowel to cut the sprue. Move plate 90° to clear the base of the bullet.



7 Open handles and tap handle hinge pin to shake bullet onto soft cloth.

WARNING: Do not strike core pin holder of hollow base or hollow point molds as it will misalign the core pin and damage the mold. To free the bullet, heat corner of mold in molten metal.



HELPFUL HINTS

Always drop cast bullets onto a soft cloth of several thicknesses to prevent damage to the hot, relatively soft, bullets.

Never drop bullet directly from the mold into the lead pot. Metal will splash onto the mold faces and prevent complete closure.

Be extremely careful to not get any water into the molten lead. Even a small drop will explode into steam and violently spatter hot lead a surprising distance.

Glasses and gloves are recommended when handling molten metal.

Do not exceed 1,400 F.P.S. velocity with plain base bullets. This means most pistol loads can be loaded without gas checks.

Do not exceed 2,200 F.P.S. velocity with gas check bullets. This means high velocity rifles must have reduced loads. Many calibers, such as the 30 M1, 30/30, 30/40, 35 Remington, 45/70, can be fired with full loads as their velocity is low enough to accept lead bullets with gas checks.

Modern trend has been to use very fast burning powders for cast bullets in rifles. It's been our experience that the medium burning powders, such as Du Pont's 4227, 4198, 3031, usually give better accuracy.

More bullets from Lee molds can be used as cast. Sizing should not be considered as an absolute necessity. However, all cast bullets must be lubricated.

Light target loads for handguns need lubricant only in the bottom groove. This greatly assists in keeping indoor ranges cleaner and has no detrimental effect on accuracy.

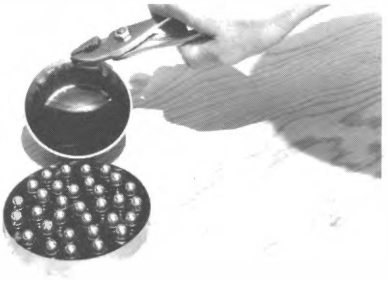
TROUBLESHOOTING

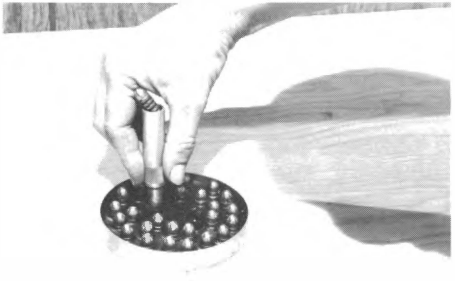
PROBLEM	CAUSE	REMEDY
Mold not filling out	Mold cold	Dip corner of mold in molten metal 8 seconds.
	Oil in mold	Wash blocks in solvent, carbon tetrachloride, white gas, mineral spirits, etc.
	Metal not hot enough	Increase heat.
	Alloy no good	Sometimes an alloy just won't work easily. It's best to start with a new batch and blend it to use it up.
	Metal needs fluxing	Flux the metal as per instructions.
	Mold not smoked	See Step #2
Takes long for metal to solidify	Mold too hot	Touch mold to moistened cloth or sponge. Caution: Don't get water in the blocks or lead as it turns into steam instantly and the metal spatters with explosive force.
Mold does not line up or closes with difficulty	Need lubrication	Apply a very light coat of lithium or water pump grease to "V" ribs and steel pin. Don't get any in the cavity.
Mold does not release bullet	Burr at part line	Remove burr by scraping **VERY** lightly with a sharp knife inside the cavity.

LUBRICATING THE BULLETS

Bullets must be lubricated or the barrel of your gun will be fouled with lead.

1. If gas checks are required (usually only for higher velocity rifle loads) install them first and lightly tap them home.
2. Stand all the bullets in the lube pan, base down.
3. Pour melted lubricant until it covers the grease grooves. For low velocity loads, lubricant in bottom groove only is sufficient.





4. After the melted lubricant cools, the bullets are then cut free with the lube cutter.

5. Place the bullet point first into the resizer and drive it through the die with the resizer punch. **Do not resize bullets that have not been lubricated.**

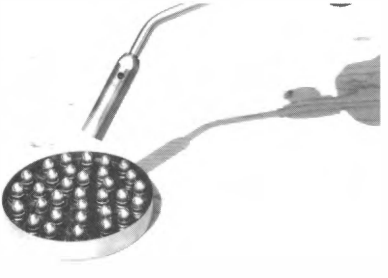
SPECIAL NOTES ON GAS CHECKS

Because some gas checks may be a tight fit, it's sometimes necessary to apply a little force to seat the gas checks. A very effective tool can be made from ¾" wood dowel 3" long. Drill one end to accept most of the bullet loosely. This tool is then slipped over the bullet and, using a small mallet or hammer, tap the bullet into the gas check until it's firmly seated. The wood quickly forms to the bullet point and protects it from deforming.

If gas checks tend to loosen when sizing the bullet, drive the bullet through base first. Use a wood dowel instead of the flat steel punch so the bullet point will not be damaged.

HELPFUL HINT:

After cutting the first batch of bullets from the lube pan, place new bullets in the holes left in the lube. Gently play the flame from a torch on the lube to melt it into the bullet grooves. Be careful to not get the lube too hot or it will burn.



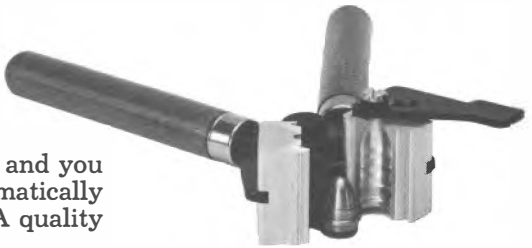
FINE QUALITY BULLET MAKING EQUIPMENT

THE EASY TO USE BULLET MOLD

Once you've cast bullet with aluminum mold blocks you'll never be satisfied with any other kind. Complete with handles.

MINIE BULLET MOLD

NEW AUTOMATIC CORE PIN MOLD



Open the mold upside down to empty. Close it and you are ready to cast the next. The core pin automatically centers in the mold. Easily cast 200 per hour. A quality mold built to last as long as your rifle.

Complete with handles & automatic core pin .

LEE LEAD POTS

Steel pot holds 4 lbs. of lead, enough for over 150 average bullets. Flat bottom makes it stable and provides good contact with heat supply.

LEE LEAD LADLES

Convenient size ladle for bullet casting. Works well for right or left handers. Handy for skimming and stirring metal.

LEE LUBRICATING AND SIZING KITS

Everything needed for lubricating and sizing your bullets, including NRA formula bullet lubricant.

BULLET LUBRICANT

NRA formula Hodgdon brand in 2 oz. hollow stick. For use with Lee lubrication kits or press type sizers ...

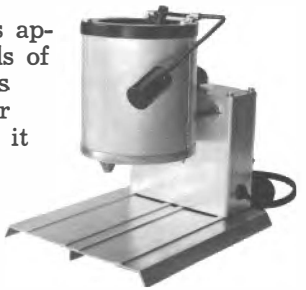
LEE BULLET CASTER

Holds over 4 pounds of lead. The perfect melter for single and double cavity molds. Maintains adequate heat for all bullet alloys. 275 watts. Guaranteed 2 years.

LEE PRECISION MELTER

High speed melter with an infinite heat control for the serious shooter. Easily handles 4 cavity molds. Takes less than 15 minutes to melt four pounds of metal. 400 watts. Guaranteed 2 years.

LEE PRODUCTION POT



Large, deep pot holds approximately 10 pounds of lead. Melt time is less than 20 minutes. Pour spout up front where it belongs so you can see what you're doing. Infinite heat control. Guaranteed 2 years.

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