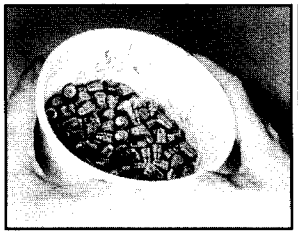
Lubricating Bullets

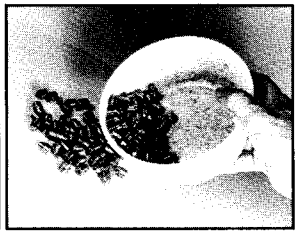
Traditional bullet lubricating methods of placing lube only in the grooves are inferior to the modern method of coating the entire bullet with Lee Liquid Alox. This places the lube where needed, on the surfaces that rub against the bore.

Lead bullets must be lubricated or your gun will be fouled with lead and accuracy will be poor.

1 Place bullets in plastic container and dribble some Lee Liquid Alox onto the bullets.



2 Gently shake the bullets in an orbital motion to coat the bullets. If they do not coat completely, add a little more lube.



3 Spread the bullets onto waxed paper and let dry overnight.

4 Load at least one bullet into a case and check to be sure it easily chambers in your gun. If it fits tightly, you must resize the bullets before loading.

Bullets can be sized after they have been lubed. However, for best results, we recommend bullets be relubed after sizing to be sure the sized portion is coated with Lee Liquid Alox.

Sizing Bullets

All lead bullets must be lubricated, but it is not absolutely necessary to size all cast bullets. Bullets must be sized if they are so large that they expand the case too much to freely enter the gun's chamber. Sizing sometimes helps accuracy by making the bullet uniform in diameter. This insures uniform start pressure and better accuracy.

1 Screw the sizing die into any standard reloading press. Exact depth is unimportant.

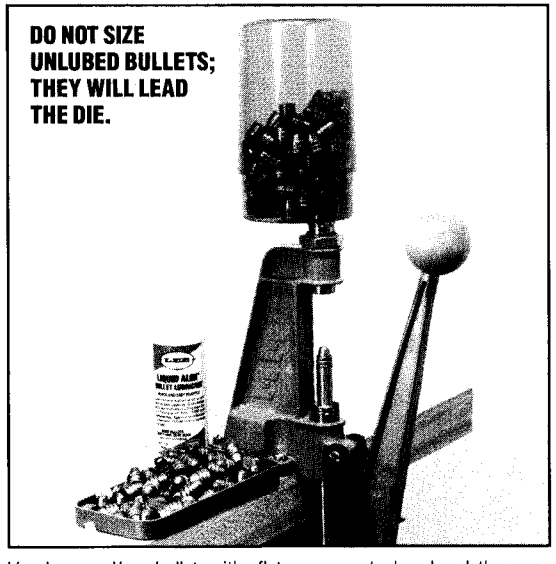
2 Install the bullet punch into the ram. This fits all rams that use standard shellholders.

3 Place the red box on top of the sizing die as shown.

4 Place bullet on the punch and push bullet through die.

5 When box is ¾ full, lift the entire box off the die. Invert the box before opening.

6 For rifle and handgun loads, it's best to re-lube the bullets to insure the sized portion is recoated.



Very large and long bullets with a flat nose may stack and push the cover off the box. A washer under one edge of the press base will tilt the press sufficiently to prevent stacking.

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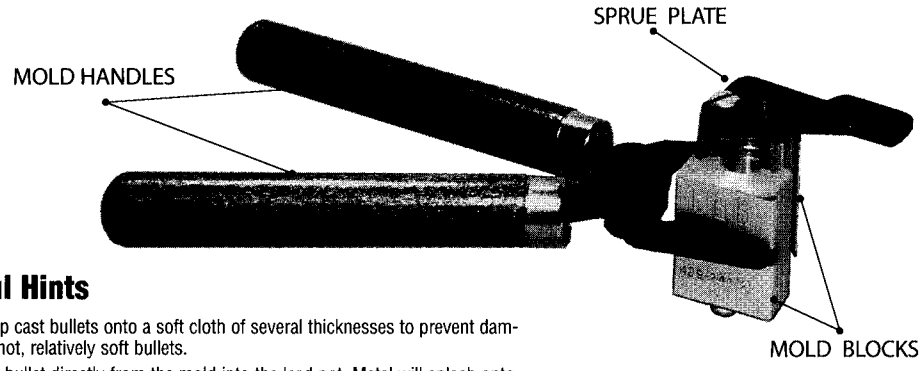
LEE Bullet Mold INSTRUCTIONS



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 not to 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 1400 FPS velocity with plain base bullets. This means most pistol loads can be loaded without gas checks.

Do not exceed 2200 FPS 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 and 45/70 can be fired with full loads as velocity is low enough to accept lead bullets with gas checks.

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

Most 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.

Guarantee

Lee 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 factory list price.

WARNING: Melting lead and casting lead objects will expose you and others in the area to lead, which is known to cause birth defects, other reproductive harm and cancer.

BM1206

LEE PRECISION, INC. 4275 Highway U 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 is desirable to use the bottom pour **Lee Production Pot.** If economy is most important, the **Lee Lead Pot** 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, 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, printer's type 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 proven 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 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.

Bullet diameter will be stated size +.003 –.001 depending on alloy and casting temperatures.

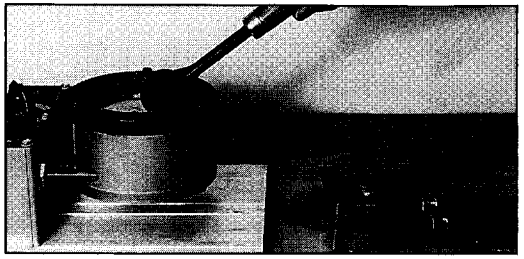
Hardness Test: Take a bullet of known hardness (1 part tin to 10 lead). Place it base to base with one of unknown hardness and squeeze them in a vise. The softer bullet will compress a greater amount. Adjust your alloy to suit.

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 to 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 Mold

Your Bullet Mold is a precision-made tool.To preserve this built-in accuracy, it's necessary to lubricate it properly. Silicone 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 blocks to mismatch. Damage could be irreparable. When storing for long periods, lightly oil steel parts to prevent rust.

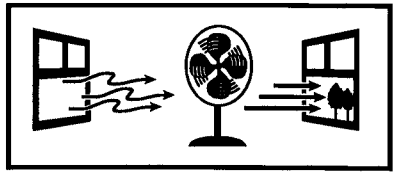
Preparing Your Metal

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 pea) of beeswax or paraffin into the molten metal and stir with the 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 cause by fluxing your metal can be ignited with a match. This will keep your work area smoke-free.

Reducing Exposure

Lead contamination in the air, in dust, and on your skin is invisible. **Keep children and pregnant women away** during use and until clean up is complete. Risk can be reduced — but not eliminated — with strong ventilation; washing hands immediately after use of these products before eating or smoking; and careful cleaning of surfaces and floors with disposable wipes, after lead dust has had a chance to settle. Use a lead-specific cleaning with EDTA, or a high-phosphate detergent (like most detergents sold for electric dishwashers) and bag wipes for disposal.



Use strong ventilation

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

WEAR SAFETY GLASSES

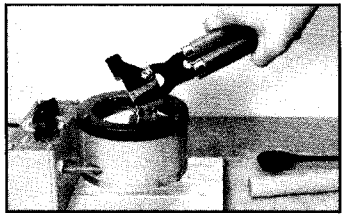
IMPORTANT

TO PREVENT DAMAGE TO YOUR MOLD OR POOR QUALITY BULLETS, FOLLOW THESE INSTRUCTIONS EXACTLY.

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

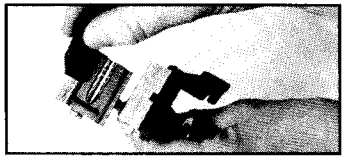
2 Hold the flame from a match in contact with the bullet cavity so it deposits a thin film of carbon in the cavity. This is important on small diameter bullets to eliminate the wrinkles.

3 Preheat mold. Dip corner of mold into molten metal and hold there for 15 seconds. If the lead solidifies on the mold blocks, it's an indication metal is not hot enough.

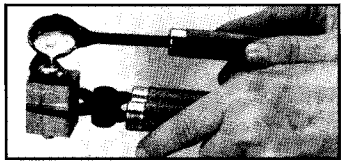


4 Lubricate your mold. Very lightly touch bullet lubricant to the sprue bushing, "V" ribs and locating cross pin. Use LEE BULLET LUBE #90007. Do not use LIQUID ALOX as it will bake onto surface and prevent proper closure. Lube Core Pin on Minie and H.P.

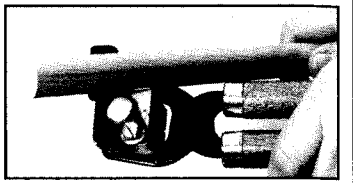
WARNING: Do not start casting bullets until your mold has been lubricated.



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 bolt to shake bullet onto soft cloth. If mold doesn't open easily, gently tap the aluminum block near the bottom while applying light pressure to open the blocks.

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 block or lead as it turns into steam instantly and the metal spatters with explosive force.
Mold does not line up or closes with difficulty	Needs lubrication	Lubricate your mold as in Step #4 above. 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.