

## OUT OF ROUND BULLETS

This condition is always due to the mold not being fully closed. Check your mold faces for a lead splash or other foreign matter.

## LUBRICATING BULLETS

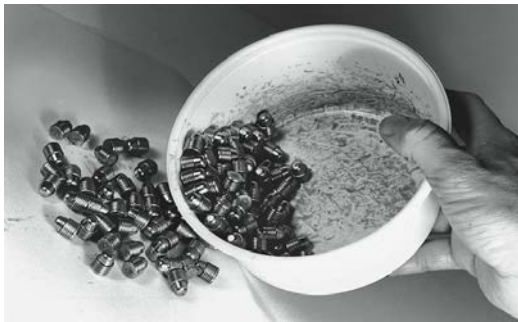
Traditional bullet lubricating methods of placing lube only in the grooves are inferior to the modern method of coating the entire bullet with Lee Liquid Alox. This places the lube where needed, on the surfaces that rub against the bore. **Lead bullets must be lubricated or your gun will be fouled with 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 bullets onto waxed paper; allow to dry overnight.

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

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 not important.
- 2** Install the bullet seating punch into the ram. This fits all rams that use standard shell holders.
- 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 3/4 full, lift the entire box off the die. Invert the box before opening.
- 6** For rifle and handgun loads, it is best to re-lube the bullets to insure the sized portion is recoated.

## Guarantee

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

LEE PRECISION, INC.  
4275 Hwy U · Hartford WI 53027  
www.leeprecision.com

COMMERCIAL QUALITY

# LEE 6 CAVITY BULLET MOLD



Handles sold separately. Order # 90005

### 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.

COMPLETE INSTRUCTIONS

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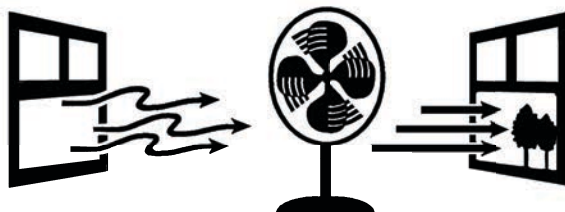
# LEE

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## 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 cleanup 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 a chance to settle. Use a lead-specific cleaner with EDTA or a high-phosphate detergent (like most sold for electric dishwashers) and bag wipes for disposal.



Use strong ventilation

## 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 metal 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 that 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 is 6.5% lighter than a one to ten lead/tin mix. To find out what your bullet will weigh using linotype metal, multiply the stated weight by .935. All bullet weights for Lee bullets are given using a 1 to 10 lead/tin mix, except Round Balls and Minies. These are designed to use pure lead.

**HARDNESS TEST** Take a bullet of known hardness (one 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 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 MOLD

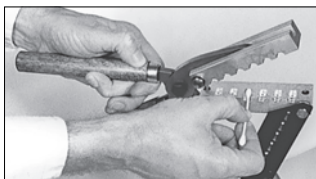
Your bullet mold is a precision-made tool. To preserve this built-in accuracy, it's necessary to lubricate it properly. NRA FORMULA ALOX BEESWAX LUBRICANT (#90007) must be applied to the 'V' ribs, locating pin and sprue bushing. Lack of lubrication will cause the sprue plate to gall and block to mismatch. 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's the tin that has separated from the lead. Flux the metal. Do this by placing a small piece (the size of a pea) of beeswax or paraffin into the molten metal and stir with the ladle until there is nothing but a dark grey powder floating on the metal. This should be removed with a 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 keeps your work area smoke-free.

**CAUTION** Your bullet mold will be damaged and your bullets will be of poor quality unless lubricated as in STEP #4.

## IMPORTANT TO PREVENT DAMAGE TO YOUR BULLET MOLD FOLLOW THESE INSTRUCTIONS EXACTLY.



**1** Save yourself a lot of time by cleaning your mold before the first use. Use any solvent to clean the cavities of the machining oils used in the manufacturing process. Alcohol, mineral spirits, even lighter fluid on a cotton swab work fine.



**2** Smoking the cavities with a match helps to cast better bullets. Don't use a candle as that leaves an oil film.

**NOTE** After cleaning and smoking your mold, make sure to have sprue plate open before closing your mold.



**3** Pre-heat your mold by laying it on top of your lead melter. Dip corner of mold into molten metal and hold there for 30 seconds. If the lead solidifies on the mold block, it's an indication that metal is not hot enough.

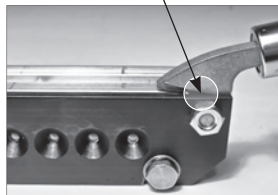


**4** Lubricate your mold using Alox Beeswax Mix Bullet Lube [Lee #90007]. **DO NOT USE Lee Liquid Alox** as it will bake on the mold surface, preventing proper closure.



**5** **Caution** Be sure sprue plate is fully closed before filling mold. Failure to do so will prevent proper cam action of the sprue level cam and cause sprue lever breakage.

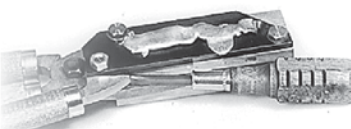
Make sure cam surface makes contact with mold block.



**6** Fill the mold and sprue plate so all of the sprues are connected.



Should you inadvertently fill the mold without the sprue plate closed, place a screwdriver point or similar device under the sprue cam [as shown] before cutting.



**7** Quickly cut the sprue by moving the sprue lever to the right. The sprue can be dropped into the pot.



**8** Open the mold and drop the bullet onto a soft cloth. (An old towel works just fine.) It may require a few taps on the handle bolt to free the bullets.

**9** Continue casting until the mold gets too hot. This will be apparent when it takes long for the metal to solidify and the bullets are frosty. Frosty bullets may be desirable when using LEE LIQUID ALOX. Our tests indicate the lube adheres better and they can be shot at higher velocities without leading.

**10** The mold can be cooled by touching it to a wet sponge. **DO NOT** immerse the mold in water as the blocks will warp. **CAUTION** Water will cause molten lead to explode violently, splattering hot lead everywhere!

## HELPFUL HINTS

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

Never drop bullets 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 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 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 DuPont's 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.

## TROUBLESHOOTING

MOLD NOT FILLING OUT	
CAUSE	REMEDY
Mold cold	Dip corner of mold in molten metal
Oil in mold	Wash blocks in solvent, 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. <b>Caution</b> 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 at left. Don't get any in the cavity
Burr at part line	Remove burr by scraping very lightly with a sharp knife inside cavity
Mold casts oversize bullets	<ul style="list-style-type: none"> <li>Nick or burr on mold face</li> <li>Splash of lead on the mold face</li> <li>No or insufficient lubrication on mold alignment pins. See step #4</li> </ul>