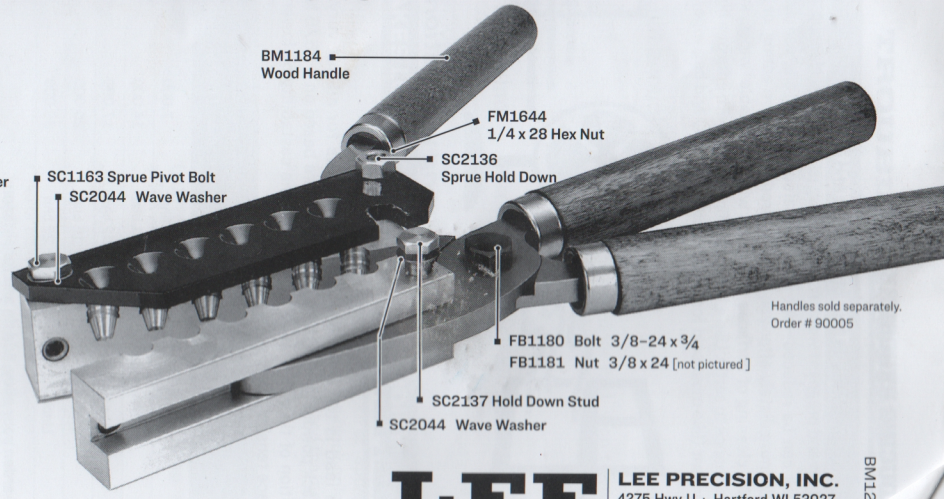
ATTENTION

DO NOT USE
DROP OUT
MOLD RELEASE SPRAY

LEE COMMERCIAL QUALITY BULLET MOLD

COMPLETE INSTRUCTIONS





WARNING Melting lead and casting lead objects will expose you and others in the area to lead, which is known to the State of California to cause reproductive harm and cancer. For more information, www.P65Warnings.ca.gov. See instructions on REDUCING EXPOSURE supplied with product.

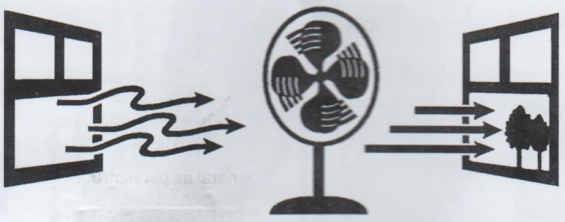
LEE PRECISION, INC.
4275 Hwy U · Hartford WI 53027
www.leeprecision.com

BM120

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. Our bullet weights are based on a 95/5 lead/tin alloy. Addition of tin to the alloy will improve the castability by lowering both the surface tension and viscosity.

Approximate hardnesses of various lead alloys and the maximum load pressures that should be used to prevent leading of the bore.

Pure Lead	5 bhn	7,000
1-10 tin-lead	11 bhn	14,000
Wheel weights	12 bhn	17,000
Lyman #2	15 bhn	20,000
Linotype	22 bhn	30,000

To harden your alloy, add tin and /or antimony.

A RULE OF THUMB FOR HARDENING LEAD ALLOYS

For every 1% of tin added to your lead you will increase the brinell hardness by .3, and for every 1% antimony you add, you will increase the brinell hardness by .92. Once you get above 40% tin, no additional hardness is obtained.

If you do not own a LEE LEAD HARDNESS TEST KIT you can check the relative hardness by taking a bullet of known hardness. 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

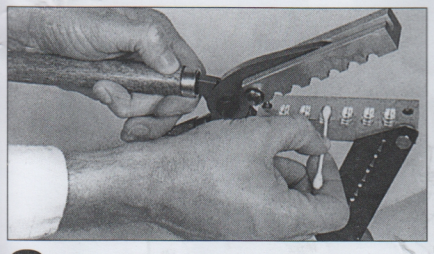
Your bullet mold is a precision-made tool. To preserve this built-in accuracy, it's necessary to lubricate it properly. Beeswax or an anti-seize lubricant must be applied to the locating pin and sprue pivot point. Lack of lubrication will cause the sprue plate to gall and damage could be irreparable. When storing for long periods, lightly oil steel parts to prevent rust. Never wire bush or contact the mold with anything hard like steel.

PREPARING YOUR METAL

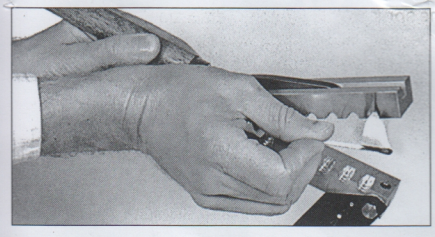
Wear safety glasses and gloves. After the metal has melted, it will have a grey scum on the top. Don't remove this as it's the tin that has separated from the lead. Flux the metal. Do this by placing a small piece (the size of a pea) of beeswax or paraffin into the molten metal and stir with the ladle 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. The wax may burst into flame so be cautious to prevent a burn.

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

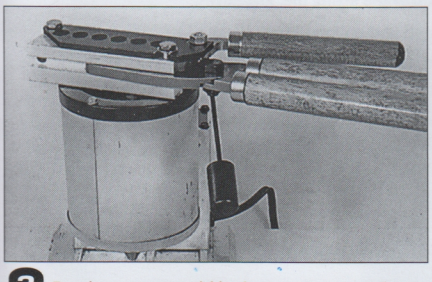
IMPORTANT TO PREVENT DAMAGE TO YOUR BULLET MOLD FOLLOW INSTRUCTIONS EXACTLY.



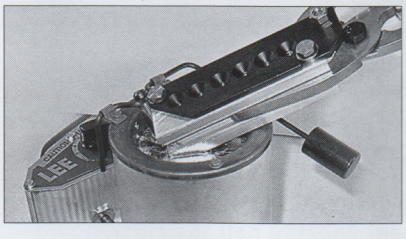
1 Save yourself a lot of time by cleaning your mold before the first use. Use any volatile solvent to clean the cavities of the machining oils used in the manufacturing process. White gas/cigarette lighter fluid on a cotton swab works well.



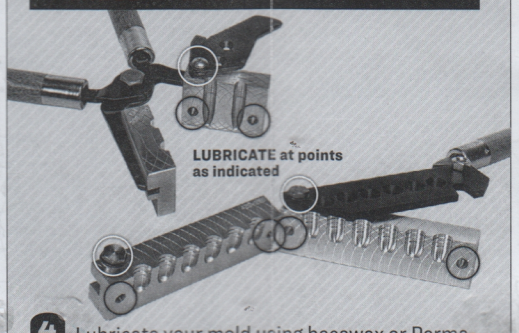
2 Smoke the cavities with a match, bees wax candle, or a butane lighter. The smoke provides a micro insulating layer in the cavity allowing easy fill out and easy release from the mold. Smoke the cavities whenever the bullets begin to stick when casting. You will find that after some use the mold will become "seasoned" and smoking will not be required as frequently or at all. **Do not use** Drop Out Mold Release Spray



3 Pre-heat your mold by laying it on top of your lead melter or dip the corner of mold into molten metal for at least 30 seconds. If the lead sticks and solidifies on the mold block it's not hot enough.

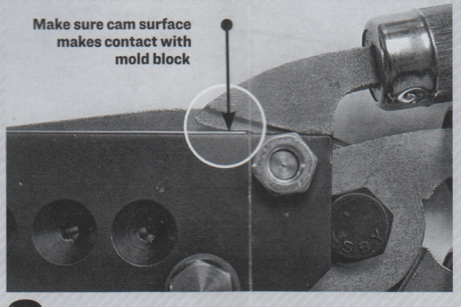


THESE STEPS ARE CRITICAL

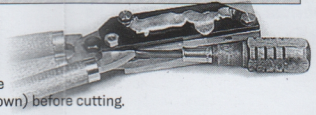


4 Lubricate your mold using beeswax or Permatex® anti-seize lubricant or equivalent. **DO NOT USE** Lee Liquid Alox as it will bake on the mold surface, preventing proper closure. **DO NOT USE** paraffin wax as it does not provide adequate high temperature lube and tends to migrate to the cavities, causing wrinkled bullets.

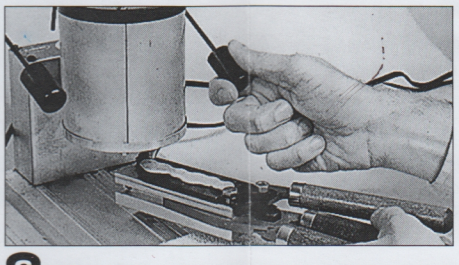
Lightly touch the preheated mold alignment pins and the sprue pivot point screw. It will instantly wick into the sprue plate pivot area and allow gall free operation of the sprue plate. As soon as you feel the sprue plate bind, touch the now hot sprue pivot point with lube.



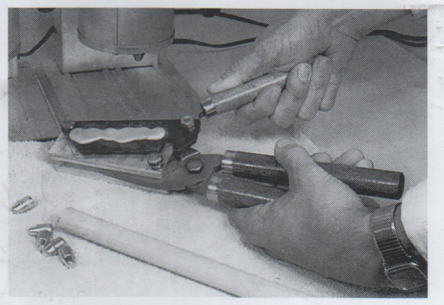
5 If you are using a six cavity mold be certain the sprue lever cam surface is in contact with the mold block side and there is a gap between the edge of the sprue plate and the formed stop on the sprue lever.



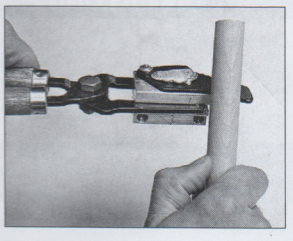
Should you inadvertently fill the mold without the sprue plate closed, place a screwdriver or similar device under the sprue cam (as shown) before cutting.

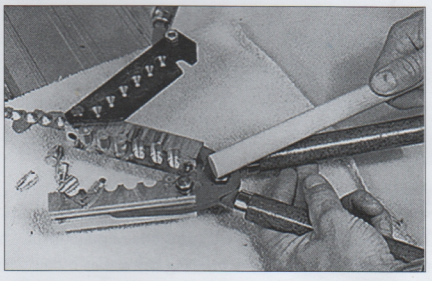


6 Fill mold through the sprue plate, puddle enough so all of the sprues are connected. Leave a ¼" to ½" gap between the sprue plate and the nozzle when filling the mold cavities. **NOTE** Resting the sprue plate on the bottom pour spout while filling will pressure cast the cavities and may push molten material into the vent grooves, causing flashing on bullet.



7 Immediately after sprue solidification operate the sprue lever if equipped or rap the sprue tang with a wood dowel. (A frosted surface will appear on the sprue puddle upon solidification).





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

9 Continue casting until the mold becomes too hot. This will be apparent when it takes too 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. CAUTION Water will cause molten lead to explode violently, splattering hot lead everywhere!

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 raised nick. A tiny burr or lead splash as small as .001 will cause out of round oversize bullets.

[See **TROUBLESHOOTING** next page]

HELPFUL HINTS

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 MANDATORY when handling molten metal.

LOADS SHOULD NOT EXCEED 34000 PSI with plain base bullets. This means most pistol loads can be loaded without gas checks.

BULLETS FOR MODERN CARTRIDGES will be stated size to plus .003 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.

WHEN USING a hard alloy like linotype multiply the listed bullet weight by .93 to obtain your approximate bullet weight.

TROUBLESHOOTING

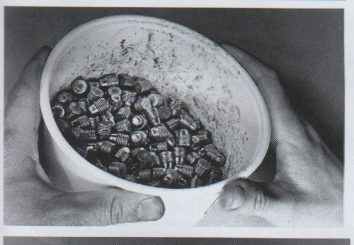
MOLD NOT FILLING OUT	
CAUSE	***REMEDY***
Mold cold	Dip corner of mold in molten metal
Oil in mold	Wash blocks in white gas or any volatile solvent
Metal not hot enough	Increase heat
Alloy no good	Sometimes an alloy just won't work easily. It's best to start with a new batch and blend it to use it up
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 at left . Don't get any in the cavity
Mold casts oversize bullets or out of round	• Nick or burr on mold face • Splash of lead on the mold face • No or insufficient lubrication on mold alignment pins. See step #4

LUBRICATING BULLETS

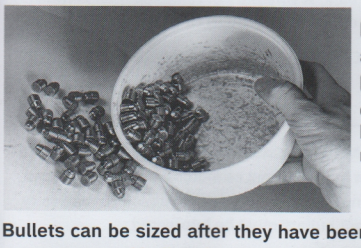
Traditional bullet lubricating methods of placing lube only in the grooves are inferior to the modern method of coating the entire bullet with Lee Liquid Alox. This places the lube where needed, on the surfaces that rub against the bore. ***Lead bullets must be lubricated or your gun will be fouled with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

Suggested sizing diameter is .001 over the standard jacketed bullet diameter.

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.

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