WILSON® Tools Gages
FOR ACCURATE UNIFORM HANDLOADS

3745 5th Street NE
East Wenatchee, WA
98802 USA
509-782-1328

BUSHING TYPE FULL LENGTH SIZING DIE

Congratulations on your purchase of the Wilson Full Length Sizing Die! The Die is made using a reaming method, which maintains the alignment we consider necessary for good case preparation while allowing choice of neck diameter. Both the case and the sizing bushing fit closely and do not float. Below we have outlined how to properly set up the die and enjoy years of use. The Wilson FLD as normally packaged contains the die body, top cap, extra de-capping rod, extra pad and screw of lock nut and a 3/32" hex wrench. The sizing bushing or bushings, if ordered at the same time, are packaged separately.

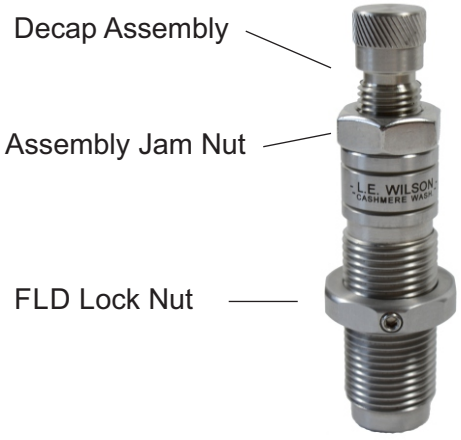
First Steps and Installing the Bushing:

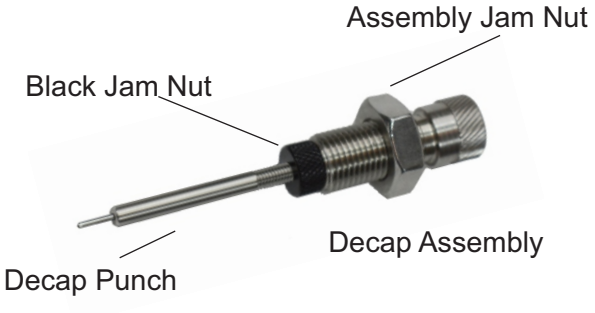
1) Wipe off shipping oil from exposed surfaces
2) Remove the de-cap assembly from the top of the die to reveal the bushing recess.
3) Rinse excess oil in the case chamber and the bushing recess with solvent and a brass brush. Wipe the remainder out with a clean patch and clean cloth.
4) Make sure the bushing recess and the mating surfaces of the cap and body are clean and insert the sizing bushing (Sold separately, see back for instructions on how to find bushing size) with the size marking up, exposed. It fits very closely and must be aligned properly to go in, but should slide in freely to just below the de-cap assembly threads. Do not force it, if clean and undamaged, the recess will accept the bushing easily.
5) If the bushing does not go in far enough, remove and clean again. A wooden dowel or brass rod works well to remove the bushing from the recess.
6) With the bushing in place, set the de-cap length assembly next to the die and adjust the punch length by un-threading the punch from the cap tighten the black jam nut against the top cap to hold the punch in place. The de-capping pin should protrude about 1/16 to 1/8 of an inch from the bottom of the die. If not, remove the de-cap assembly and adjust as necessary.
   **Note when threading the assembly back into the die you should set the black jam nut slightly above the bushing say about .002" to .003" of an inch. Do Not set black jam nut with too much pressure on bushing.
7) With the punch adjusted properly, snug jam nut on top assembly.

Best Practices for Using the Full Length Sizing Die

- Make sure all cases are properly cleaned inside and out before resizing. An ample amount of lube should be used on the first few cases to be sized, this will help "break in" the die
- Always use a high quality Neck Lube and lightly coat the outside of your cases with a case sizing lubricant.
- Be sure to separate your brass by brand and by gun. This will give you a more consistent size. If you are pulling from a mixed batch of brass, then be sure to separate into groups using head-space, (Below min, over max and in-between min/max) brass manufacture, and case neck wall thickness as your designations. This will help you to achieve a better result when forming spent brass from other chambers.
- To maintain consistent high quality rounds clean the die after each use before storing it away.
- A little light oil such as W-D 40 between uses is a good idea.
- If the push out rod is loose remove de-cap assembly and tighten black jam nut.
- Be sure the correct bushing is installed. There is no standard size, use the formula on page 2 to check for correct bushing size.
- DO NOT punch out live primers!!
- If the sizing bushing won't enter its chamber even when everything else is clean, check the chamber for dents at the entrance and bushing for "bruises" which even hardened steel can get when dropped or bumped against something else as hard or harder. Both the bushing and its chamber are well protected when assembled, but in the open, both can be damaged. A last cause of bushing non-entry is an oversize bushing, which we try to prevent, but realize might happen. A good micrometer should show the bushing to measure not over .5017".

CONTINUED ON BACK...





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Adjusting the Die

- Use appropriate shell holder (not provided) and set so it makes firm contact with the die when the ram is in the uppermost position.
- Take one of your AS-FIRED cases from the gun you will be loading for, and measure it in your Wilson Case Gage. If you do not have a Wilson Case Gage, you will need to measure you cases head-space to properly set up your Wilson Full Length Sizing Die. This is the before snapshot.
- Now size the same case that you measured in step 2.
- For a bolt gun you will want to see about a .002" drop in head-space and on a semiautomatic you will want to see about .004" drop.
- Adjust die as necessary by turning clockwise (more sizing) or counterclockwise (less sizing). Then secure in press with the Lock Nut.
- If you do not see a drop in head-space and your die is maxed out, then you may have an extremely tight chambered gun. You will need to make an adjustment on either the die body or the shell holder to get the die to size more. Usually it is a minimal modification.
- On the flip side, if your cases are being sized too much, then you may have an oversized chamber and we will need to open up your die to suit your guns chamber. Contact support@lewilson.com
- After sizing be sure to check your case lengths to make sure you are within tolerance. This can also be done using the Wilson Case Gage.

Using as a Body Die

- You may also use with the bushing removed to size just the body and push the shoulder back on your cases. If you choose to do this make sure case neck does NOT run into the punch assembly or black jam nut.

Bushing size selection:

- Option 1 Measure a Loaded Round:
- The easiest way to tell what size bushing you need is to measure your loaded rounds at the neck. The micrometer reading will indicate bullet diameter plus twice the wall thickness of the neck. The bushing diameter must obviously be less than this, and we select .003" smaller. Figuring the springing back of the neck after sizing, it would give about .002" "grip" on the bullet.

- Option 2 Measure Wall Thickness x 2 add Bullet Diameter:
- .223 + (.012 x 2) = .247 Now subtract .003 = .244 Bushing

How are L.E. Wilson Inc. Bushings Different?

Reloaders who want a firmer grip on the bullet or who have harder brass in springing back more would select a smaller bushing. We make our bushings in .001" increments. The size marked on them refers to the middle of the bushing, which is reamed with a .003" taper. Since the case neck only reaches the middle, a slightly tighter sizing can be achieved by turning the bushing over, with the marking facing toward the case or down inside the bushing. This is mainly an emergency step to be taken if the brass has hardened, springing back more, and will no longer hold the bullet; or for fine-tuning the sizing to provide less additional "squeeze" than using the next smaller bushing in the normal way.

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