

# CORBIN PF-1-R Point Forming Die

The PF-1-R Point Forming Die is used to put a smooth ogive curve on a lead or jacketed bullet, once the core has been firmly seated in the jacket and expanded to nearly completed diameter in the core seating die.

The die is put into the top of the reloading press with only a few threads engaged. The punch slips into the slotted ram. The punch must be a close fit to the bore of the die. If the punch rattles around in the die mouth, it is the wrong punch (probably the one for the core seater).

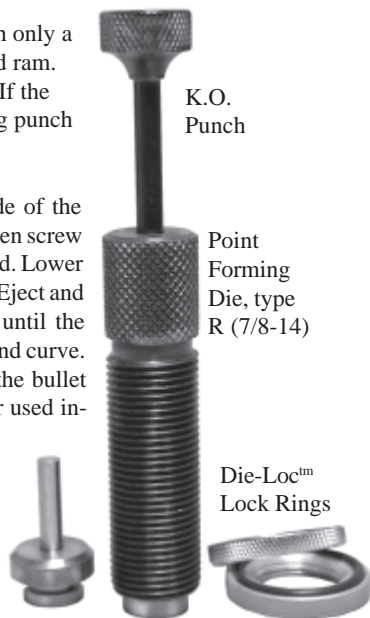
Wipe a film of Corbin Swage Lube over the outside of the jacket. Raise the ram of the press all the way up and then screw the die down until it can't be turned any further by hand. Lower the ram, and give the die a quarter turn further down. Eject and examine the bullet. Raise the ram, and repeat this until the bullet is formed to the desired amount of tip closure and curve. The minimum tip closure occurs when the end of the bullet opening is the same size as the ejection pin diameter used inside the die. Pushing any further on the bullet makes a pipe-like projection form on the end of the bullet.

A smaller tip can be achieved in most cases with a LT-1-R lead tip forming die, which can be used to help push an open tip bullet a little more tightly closed (within limits, as the punch edge will eventually put a ring around the ogive if you push hard enough).

Lead tipped bullets generally require the LT-1-R die for good spitzer or sharp points, since the ejection pin in the die will make a small flat and deform the tip of a lead bullet. The deformed tip will shape up nicely in the LT-1-R die (optional).

To eject the bullet, put the knurled headed knock-out rod into the top of the die, and tap it firmly with a plastic mallet. Catch the bullet with the other hand as it ejects from the die. Measure the bullet and see if it is the final desired size. If not, the issue is often in the core seating operation that preceded this. Most of the diameter is achieved in core seating. Oversized jackets, which are larger than the bore of the die, will stick in the die. Each step in swaging should ALWAYS increase the diameter, NEVER decrease it! Do not put any part into the die that is larger than the die bore, or it may not come out again.

Bullets are usually formed more easily and eject better if you push them in with a smooth and moderately fast stroke. But make sure the punch is aligned in the die so the punch does not strike the edge of the die and become rounded or acquire a dent in the edge. If this should happen, the end of the punch can be ground square again with proper equipment. The tip of the bullet should be brought down to the size of the ejection pin before ejecting, to avoid driving the ejection pin into the soft lead core and sticking it. A pin stuck in the core can normally be removed by unscrewing the die and gently twisting out the punch.



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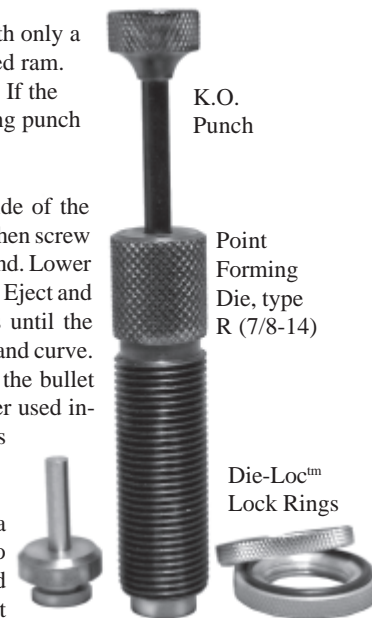
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## CSW-1-R Core Swage Die

The CSW-1-R Core Swage Die is used to compress a piece of lead in length, expand its diameter to fit inside a jacket, and bleed off surplus volume from that which you set by the position of the die relative to the top of the press stroke. It is both a weight control tool, giving very precise core weights, and a core shaping tool to produce flat ends and straight sides on the core. Only enough force is used to expand the core and bleed off a few grains of lead. Any more may break the die or bend the punch. Very light effort is required. ONLY pure SOFT LEAD should ever be used! Hard lead may break the die or bend the punch if you press firmly enough to make it extrude through the bleed hole.

The die is put into the top of the reloading press with only a few threads engaged. The punch slips into the slotted ram. (The punch has a small bleed hole through its center. The lead will be extruded into this hole; cutting off the extra "wire" of lead results in consistent remaining core weight.) Wipe a film of Corbin Swage Lube over the outside of the core, and put it into the die. Raise the ram of the press all the way up and then screw the die down until it can't be turned any further by hand. Lower the ram, and give the die a quarter turn further down. Raise the ram, and swage, then eject the core and weigh it. Repeat this until the core weighs what you want. Then lock down the die and process all the other cores you have cast or cut slightly heavier (from 3-10 grains more) than the desired final weight. Core weight plus jacket weight is bullet weight: for a 55 grain bullet, set the scale at 55 grains, put the jacket into the scale pan, and then adjust the core weight until the scale balances.

To eject the core, put the knurled headed knock-out rod into the top of the die, and tap it firmly with a plastic mallet. Catch the core with the other hand as it ejects from the die. Use a box knife or fingernail trimmers to clip off the thin "wire" of extruded lead before weighing the core. Save the trimmings to make fragmenting bullet cores!

The core swage die is an optional tool to get better weight control than you can cut or cast the cores. Accurate remaining weight depends on (1) having more than enough lead to start with, (2) holding the pressure slightly at the end of the stroke, so the lead can finish flowing, and (3) always having exactly the same volume or distance between the internal and external punch at the end of the stroke. If your ram is not being used at the very end of the stroke, you will get varying weights. The ram must reach its maximum height every time you swage a core, in order to get consistent volume inside the die, which gives you consistent weight. Springing and compression or shifting of parts in the reloading press may cause some variation in the core weight; an actual bullet swaging press eliminates many of these errors.



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