



PF-1 Point Form Die

Specifications:

Caliber _____
 Ogive _____
 Ejector _____
 Base _____

Type:

-R
 -M
 -S
 -H



Purpose: The point forming die puts a smoothly curved nose (ogive) on the bullet. The semi-blind hole eliminates the step or shoulder that would be created by using a punch. The bullet is ejected by means of a spring wire punch pressing against the very tip of the bullet.



Identification: The die and punches are marked "P". They are also marked with the caliber, the ogive shape (such as "6-S" or "1-E") and the size of the ejection pin. The diameter of the external punch is a close fit to the die cavity. The type -R dies use an internal spring to retract the ejection pin. The type -M dies use a slot in the head of the ejection punch, which is held by a short stop pin. The type -S dies use a hole in the head of the ejection punch, which is held by a long stop pin. Type -H dies use a hole in the head of the ejection punch, held by a 1/4-inch retraction pin. The ejection pin punch ranges from .062 to .120 inch diameter for standard dies, or larger for flat tip bullets.

Operation: Install the die in the press (-S and -H dies fit the press ram). Install the external punch in the punch holder (or ram, for -R dies). Put the seated core and jacket, or a properly sized lead core, into the die. Raise the ram to the top of its stroke. The punch holder or -R die should be set high enough so the bullet does not touch the external punch. Adjust the punch holder (or -R die) downward to contact the bullet. Lower the ram, and carefully adjust the punch holder (or -R die) so that the ogive is formed to the desired degree, or until the tip size matches the size of the ejection pin. Any closer adjustment may extrude a pipe on the end of the bullet that is the size of the ejection pin hole.



Point Form Die (type -S)



External (top) punch



Internal (bottom) punch

Making open tip, lead tip, or full metal jacket bullets:

An open tip bullet is one where the lead core is seated below the jacket mouth, leaving open space toward the tip after the ogive has been formed. These bullets are made by inserting the open end of the jacket into the die first, with the solid base toward the external punch. Lead tip bullets are made by either filling the jacket with enough core so that the lead will extrude out the nose when the ogive is formed, or for large lead tips, by seating the core so it extends beyond the jacket. A full-bore sized core seating punch is used for this (which may be the same size as the point form external punch).

Full metal jackets are made by actually seating the core in the jacket by using just the point forming die. The jacket and core are inserted into the point form die with the open end of the jacket toward the die mouth. A punch that fits inside the jacket is used to press on the core, forming an ogive or nose on the closed end of the jacket. The bullet is then ejected, turned over and put back into the same point forming die. Light pressure on the nose will force the open end of the jacket to take on a slight taper from the ogive of the die. Then eject, turn the bullet over, and once again insert it into the point forming die. This time, use a special "base turning" punch with a shallow cup face to sharply roll the open end of the jacket over the base. Then change to the normal flat-faced point form external punch and press firmly to close the jacket over the core.

Bullets which stick in the point forming die are usually not properly lubed, or were made too large in diameter during core seating. Removal instructions are found in the Corbin Handbook of Swaging.