

Handgun Optic Sighting in Tips

Terms:

- **Point of Aim (POA):** The place on the target the shooter focuses/holds the sights or dot while firing a shot.
- **Point of Impact (POI):** The place on the target where the bullet actually hits relative to point of aim.
- **POA/POI Convergence:** This is also known as "**zero**". It's the place where a weapon that has been sighted-in consistently matches bullet impact to where the shooter is aiming.
- **Mechanical Offset:** This is the physical distance between the sighting system (iron sights or optic) and the bore of the weapon. Mechanical offset creates variations between the point of aim and point of impact at distances less than, or greater than, the sight-in (zero) distance set for the weapon.
- **Co-Witnessing Sight Systems:** This is when the iron sights and the optic dot appear very close to each other when looking through the optic (and they are both aligned with the POA). Generally, in order to accomplish this, one must match the physical characteristics of either the sights or the optic. In other words, the optic must either be located on the same plane as the sights, or the sights must be made taller (most often) or shorter so that they extend up into the field of view provided by the optic. Trying to only adjust the location of the dot so that it "rests" on top of the front sight is **not** the answer and usually leads to **HUGE** variations between the point of aim (POA) and the actual point of impact (POI).

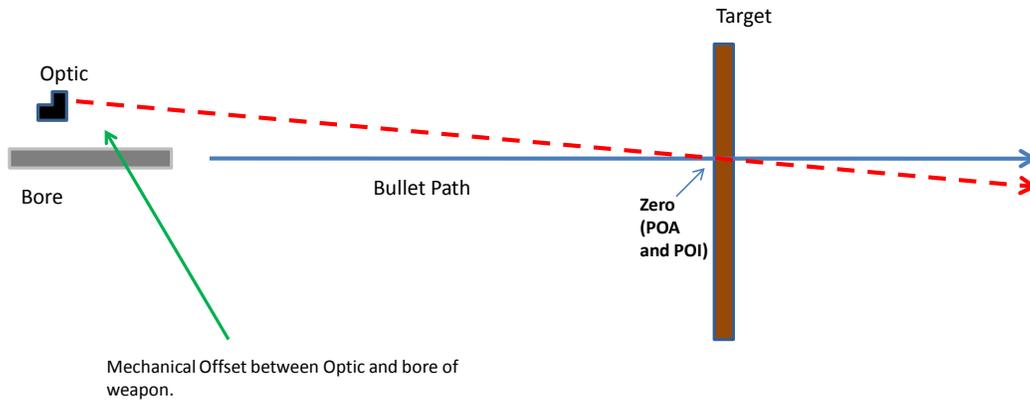
Process:

1. We recommend sighting in at about **10 yards** (POA and POI Convergence). If one sights in at closer distances, the variations between point of aim and point of impact will be dramatically greater at longer distances. Additionally, most optics do not offer enough adjustment capability for extremely close distances. Trying to sight in at longer often distances introduces a lot of human error into things.
2. Once sighted in ("zeroed") at 10 yards, verify POA/POI at other distances (no gun can be sighted in to hit at the same point of aim at all distances). Make small adjustment changes until an acceptable balance for the distances for which the weapon will be used is reached. Remember, for a defensive weapon like a handgun, precision at medium distances (10-20 yards) is most important. At longer distances, one will probably be aiming center mass (or going to a rifle).
3. At distances closer than the "zero" (POA/POI convergence), the bullet should impact **below** the point of aim. The good news is that this distance should never be greater than the mechanical offset between the sights and the bore (for handguns sighted in at 10-15 yards). This distance is usually around one inch for handguns with slide mounted optics.
4. Shoot the handgun at various distances ("point blank" to whatever distances intended for the use of the handgun). This will show where to aim/hold the dot in order get acceptable points of impact (hold over/under). The same thing occurs with iron sights, but it is less noticeable because the sights are usually very close to the bore and the mechanical offset is minimal. One of the best ways to train with an optic to learn proper hold over/under is with relatively small reactive targets, like steel plates (6"-8" diameter) set from 8-25 yards. Use



paper targets for closer distances. Some careful shooting with a good rest is critical for greater distances.

Diagram



Fundamentals of Optic - Bore Mechanical Offset and the affect on Point of Aim and Point of Impact Variation

