

“Point of Engagement”

By Robin Sharpless of Redding Reloading

Premise: As all seaters contact the bullet at a point on the ogive that is not the Initial Point of Engagement (IPE), a method is needed to accurately seat the bullet so the IPE is set at a point that is consistent and repeatable in relation to the lands of the rifle barrel.

Redding offers a solution composed of three of their products:

- T-7 Turret Press
- Instant Indicator
- Competition Seating Die.

The concern was raised by a number of Competition Bullet Seating Die customers who had concerns that the overall length of a loaded cartridge varied even when the comp seater was used properly. This of course was a function of the variability of the uniformity of the selected bullets ogive. All seaters contact a specific diameter of the bullet, based on the shape and diameter of the cavity within the seat plug or seat stem. None seat off of the metplat. As all things made by man have tolerance as a function of their production, the diameter in question can be either minutely lower or higher on the ogive creating the variance in overall length.

I liken it to a specific slice of the baloney with the exact diameter. This baloney slice though is not the critical one, but the one that comprises the initial point where the bullet contacts the rifling (IPE) is critical. As the above documents the variability in the ogive from bullet to bullet, we can easily make the case that the IPE appears at a different point from bullet to bullet as well. For accuracy and consistency we need the IPE to be exactly the same distance from the lands in each round. This is important for mechanical issues of start pressure, bullet jump, etc. Until now, with this method, there has not been an easy way to accomplish this.

OK, the method:

1. We create a master loaded round with a specific bullet jump distance from the lands.
2. Using a T-7 turret press we set up the Instant Indicator using the bore diameter bushing with the dial indicator set at zero. This establishes a baseline. The Instant indicator is easy to use accurate and completely repeatable.
3. Next in the T-7, set up a Competition Bullet Seating Die. Seat the bullet intentionally long. Rotate the turret and check the length to the IPE. The dial indicator will tell you just how many thousandths long you are to the IPE in relation to the baseline round.
4. Next step is to return the turret head to the comp seater position. Using the micrometer, adjust the comp seater down the appropriate number of thousandths as shown on the Instant Indicator. Re-seat the bullet.
5. The final step is to reposition the Instant indicator over the loaded round by turning the turret head and checking to see that the round is at zero.

It does require three to four steps but, with the T-7, the round never leaves the press. The use of these three items provides a relatively quick and painless method for accurate bullet seating with the only dimension that really counts.

Creating a "master" round

I have an odd way to create a master round. It is a bit complicated and does use a number of tools.

1. I begin with a fired case and a bushing neck die. I use a "too big" bushing that only gives me about 0.001" of neck tension
2. I intentionally long seat a bullet in an unprimed, uncharged case.
3. I then put this dummy into my rifle and close the bolt. This seats the engagement point of the ogive on the lands.
4. Holding the rifle vertical, I carefully place a cleaning rod down the barrel to put small pressure on the bullet; not to move it but to assist it in releasing from the rifling as I open the bolt.
5. I now have made a dummy round into the lands for sure. In fact, I make three as a back check.
6. Next I use a taper crimp die to get a non-seating but solid crimp to keep the bullet from moving.
7. Finally, I set up my Instant Indicator with the contactor that is land diameter and zero set my dial indicator.
8. On three rounds, if all are the same we are good and precise.
9. We now have a true ZERO into the lands. Now I use the process to make whatever works best $-0.004"$, $-0.006"$, etc. by simply long seating and then using the comp seater to "do the math" for the proper seating.

Hope this is helpful.

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