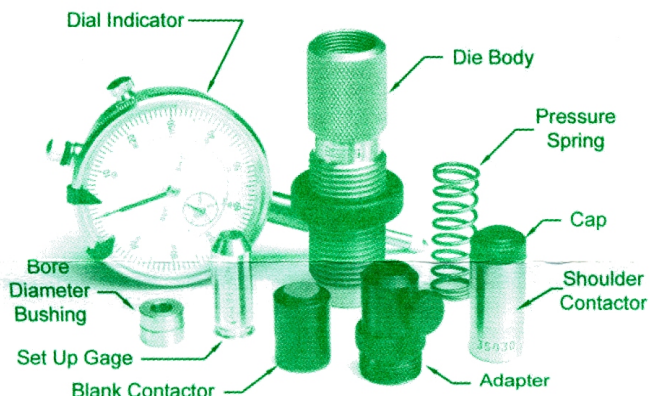


The Instant Indicator Headspace & Bullet Comparator offers unparalleled precision to shooters seeking the ultimate performance from their handloads.

INTRODUCTION

To use the Instant Indicator to its maximum potential, please take a moment to read the operating instructions and become familiar with its components.



The Instant Indicator consists of a die body with a precision dial indicator mounted on top. The internal parts consist of a sliding shoulder contactor, a sliding blank contactor, and a pressure spring. Also supplied is a brass set-up gauge, a bore-diameter bushing, and a Range Adapter.

Shoulder Contactor - This part, used with its cap, contacts the shoulder of a cartridge case at a specified diameter commonly referred to as a "datum point." This part is hollow and identified with a 5 digit part number.

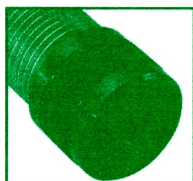
Blank Contactor - The solid blank contactor has a black oxide finish with a precision ground surface at each end. Both ends are identical so that it can be installed with either end "up."

Set-Up Gauge - This part is a hollow brass gauge identified with the cartridge designation. The shoulder position of the Set-Up Gauge is machined to SAAMI/C.I.P. minimum chamber specifications (or commonly accepted minimum chamber specifications for "wildcat" cartridges).

Bore Diameter Bushing - This is a standard Redding neck sizing bushing (selected at bore diameter) that is used to establish the bore diameter contact point when using the tool to compare bullet seating depth.

Pressure Spring - This compression spring is designed to fit between the indicator adapter and the shoulder contactor/blank contactor when the tool is assembled. It is used to maintain uniform contact pressure, insuring consistent indicator readings.

Range Adapter - The Range Adapter allows the Instant Indicator to be used without a reloading press. This tool captures the head of a cartridge case / setup gauge and threads onto the bottom of the Die Body.



FUNCTIONS

There are several functions that the Instant Indicator can perform to help you produce more accurate handloads. By simply substituting one or two internal parts, you can quickly compare Headspace, Bullet Seating Depth, Bullet Uniformity, and Case Length.

Headspace

Using the supplied Set-Up gauge with the sliding Shoulder Contactor, you can quickly compare the headspace (shoulder position) of fired and sized cases. This allows very accurate adjustment of your full length or body die and the amount of shoulder bump produced.

Bullet Seating Depth

With a Bore Diameter Bushing installed inside the Shoulder Contactor, you can reference the bore diameter contact point on a bullet ogive. This allows you to quickly and accurately compare bullet seating depths. (A bullet's ogive is the curved, forward section at the front of a bullet, immediately ahead of the full-diameter section.)

Bullet Uniformity (Base to Ogive)

By installing the sliding Blank Contactor in your Instant Indicator and using the Set-Up Gauge, you can quickly sort bullets for base to ogive uniformity.

Case Length

Using the sliding Blank Contactor in your Instant Indicator, you can quickly sort cases for trimming that exceed the maximum allowable length.

ASSEMBLY AND SET UP

To become more familiar with the internal working parts of your Instant Indicator, we suggest that you disassemble it to clean and lubricate the internal sliding parts. Start by removing the dial indicator adapter from the top of the die body.

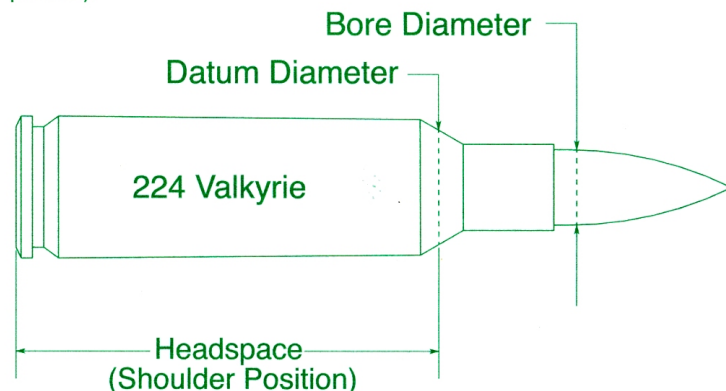
To protect the dial indicator during shipment, it has been packaged separately from the die body and accessories. Note that the dial indicator is graduated in .001" increments. Insert the dial indicator into the adapter at the top of the die body after loosening the lock screw. Tighten the lock screw to retain the dial indicator in the adapter.

To prepare your Instant Indicator for use, start by installing the appropriate shellholder in your press for the cartridge that you are working with. Then, screw the Instant Indicator die body into your reloading press until it touches the shellholder with the ram raised. Now, lower the ram and adjust the die body further into the press another 1/8 to 1/4 of a turn. This preloading of the shellholder against the Instant Indicator die body insures that you get solid contact and accurate, repeatable readings. With this finished, loosen the lock screw retaining the dial indicator in the adapter and rotate it until it is in a comfortable viewing position. Calibration is not necessary at this point and will be discussed in subsequent paragraphs.

NOTE: If using the Instant Indicator with a reloading press is not desired or convenient, the tool can be used in conjunction with the Range Adapter. This can be accomplished by inserting a cartridge case or loaded round into the Instant Indicator die body and threading the Range Adapter firmly onto the bottom of the tool.

UNDERSTANDING HEADSPACE

To assemble the most accurate handloads possible, it is important to understand the concept of "headspace" and how it relates to your firearm's chamber and handloads. Chamber headspace is determined in many ways depending upon cartridge type, ie. rimmed, rimless, rebated rim, or belted cartridges. However, most important to the reloader is the measurement from the base of the case to the datum diameter on the shoulder (shoulder position).



Since the amount of shoulder bump is under the direct control of the careful handloader, the shoulder position can be matched to any chamber by proper adjustment of the sizing die. Comparing the fired case to the resized case and making the necessary adjustments to the shoulder position ensures maximum case life and maximizes the precision of your ammunition.

The governing agencies for cartridge and chamber dimensions, including headspace, are the Sporting Arms and Ammunition Manufacturer's Institute (SAAMI) and the *Commission Internationale Permanente* (C.I.P.). Their specifications insure the compatibility of ammunition and firearms from all manufacturers. Included with your Instant Indicator is a cartridge-specific Set-Up Gauge that allows you to compare your chamber's headspace to the SAAMI/C.I.P. minimum chamber specifications.

SET-UP GAUGE

To calibrate your Instant Indicator to this minimum chamber specification, the Shoulder Contactor and Cap need to be installed in the Instant Indicator die body. Now, slide the Set-Up Gauge into the shellholder and raise the ram to its uppermost position. Next, loosen the lock screw that retains the dial indicator in your Instant Indicator and adjust it vertically until the needle is near the 12 o'clock position. Then, tighten the lock screw and rotate the dial indicator face until the "0" is aligned with the needle. The Instant Indicator is now calibrated to reference the SAAMI/C.I.P. (or otherwise "standard") headspace specification (shoulder position).

DETERMINING YOUR HEADSPACE

Now that you have calibrated your dial indicator "0" at the minimum chamber headspace dimension, remove the Set-Up Gauge and measure several well-formed cases that were fired in your rifle. Do not use the average of these readings as the highest reading will most closely indicate the actual headspace (shoulder position) of your firearm's chamber. For example, if your fired case reads ".004" on the Dial Indicator, this indicates that your rifle's chamber is .004" longer than the accepted minimum specification and well within the typical .010 tolerance.

NOTE: To get a true reading of your chamber, use cases that have been minimally resized (or neck sized only if appropriate for your type of firearm) and fired at least 2 or 3 times. The first firing of commercial ammunition and/or new brass may provide a fired case that is not yet fully formed and does not represent the true headspace (shoulder position) of your chamber.

SIZING YOUR CASES CORRECTLY

Under normal circumstances, your full length sizing die or body die is adjusted to make firm contact with the shellholder when the ram is raised to its uppermost position. While this is an acceptable method of die adjustment for use when sizing cases to be used in multiple firearms, the careful handloader establishes the proper headspace of cartridges to be fired in a particular firearm.

Start your sizing die setup by installing the die in your press until it contacts the shellholder when the ram is raised. Now, lower the ram and raise (unscrew) the die about 1/4 of a turn. Size several cases and compare the shoulder position to the previous readings you obtained on fired cases. Typically, with the die set up as such, the shoulder position will have either stayed the same or may have increased slightly. Now, adjust the sizing die down in very slight increments until you observe the desired amount of shoulder "bump." Typically, .002" to .003" shoulder setback is desired. When loading for semi-automatic firearms, shoulder setback of .004" to .006" is recommended.

NOTE: For most popular bottleneck rifle cartridges, Redding Competition Shellholders can be used to make sizing die adjustment fast and efficient. For more information on Competition Shellholders, please call our techline or visit our website: www.Redding-Reloading.com.

BULLET SEATING DEPTH

To set up your Instant Indicator for checking bullet seating depth, remove the sliding shoulder contactor assembly and unscrew its black knurled cap. Insert the bore diameter bushing and replace the cap. This provides bore-diameter contact on the bullet ogive, allowing you to quickly and accurately compare the bullet seating depth of your loaded rounds. NOTE: It may be necessary to use the Instant Indicator without the Pressure Spring when using minimal case neck tension.

Measuring the overall length of a cartridge to the tip of the bullet is nearly useless due to the great variation in bullet shapes and irregularities in the point. Consistent bullet seating depth plays a very important role in rifle accuracy. The correct seating depth can only be found through experimentation and relates directly to the distance a bullet travels before it engages the lands of the bore. The ideal bullet seating depth for your rifle is one that produces the best accuracy, yet is not too long to function in your rifle's magazine. Once the ideal seating depth is found, you can produce a "dummy round" that has no primer or propellant to check the feeding and function in your firearm. The "dummy round" should be clearly labeled and can be used as your "0" reference to compare to others.

BULLET UNIFORMITY (BASE TO OGIVE)

While modern bullets are very uniform, occasionally they may vary slightly in length from their base to the bore diameter contact point on their ogive. This can happen if different lots have been inadvertently mixed. To mitigate the negative effects of bullet irregularity on accuracy, you may wish to sort bullets. The center of the Set-Up Gauge has been machined similarly to the throat area in a rifle's chamber. This feature allows you to sort bullets for uniformity from the base to ogive. To set up your Instant Indicator for checking bullet uniformity, unscrew the dial indicator and indicator adapter from the Indicator body and replace the sliding Shoulder Contactor with the Blank Contactor. Insert the Set-Up Gauge into the shellholder and place a bullet (point down) into the Set-Up Gauge. Now, raise the ram and adjust the Dial Indicator to the "0" position. NOTE: The bullet used to calibrate the Instant Indicator may be useful as a reference for subsequent loading sessions. At this point, batches of bullets can be efficiently sorted and segregated as desired. If bullets "stick" in the Set-Up Gauge, simply remove the Pressure Spring from the die body.

CASE LENGTH

Cartridge cases grow in length as they are fired and reloaded. To ensure safe and reliable handloads, their length should be checked each time they are reloaded. To set up your Instant Indicator for checking case length, unscrew the Dial Indicator and its adapter from the Die Body and replace the sliding Shoulder Contactor with the sliding Blank Contactor. Select a case that is at maximum length or trim a case to maximum length and place it into the shellholder. Raise the ram and adjust the Dial Indicator to the "0" position. Now you can insert cases into the shellholder and quickly determine if trimming is necessary.

CARTRIDGE CASE "FAMILIES"

In most instances, the Instant Indicator may be used to compare Head-space (Shoulder Position) on a "family" of cartridges of different caliber that share the same shoulder angle / body dimensions. For instance, the 243 Winchester, 260 Remington, 7mm-08 Remington, and 308 Winchester are identical dimensionally (excepting the neck/bullet diameter, of course). As such, An Instant Indicator for any of the cartridges above can be utilized for comparing shoulder positions for this "family."

Likewise, when the correct *Bore Diameter Bushing* is used, the same tool may be used for comparing bullet seating depth. Please reference the chart below to select the appropriate *Bore Diameter Bushing*.

Caliber	Bore Dia. Bushing Part No.
22 Cal. .224" Bullet Dia.	73219
24/6mm Cal. .243" Bullet Dia.	73237
25 Cal. .257" Bullet Dia.	73250
26/6.5mm Cal. .264" Bullet Dia.	73256
27/6.8mm Cal. .277" Bullet Dia.	73270
28/7mm Cal. .284" Bullet Dia.	73277
30 Cal. .308" Bullet Dia.	73300
33 Cal. .338" Bullet Dia.	73330

If you have any questions concerning this or other Redding products, please visit our website: www.Redding-Reloading.com. For technical assistance, please call or email our Techline.

PHONE: (607) 753-3331
EMAIL: techline@Redding-Reloading.com