

Point Blank Zero –

Fast Shots versus Precision Hits

By

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The fastest way to get off an effective shot is to set your scope's elevation for a *Point Blank Zero*. When done properly, all you do is aim and fire – no need to carefully estimate range, dial-in elevation or even hold over the target. Just aim dead-on, fire and hit.

Notice I said, “effective” shot, not precision shot. That’s because a Point Blank Zero is a compromise, a limited acceptance of imprecision in favor of quick shooting.

Here’s how it works. A Point Blank Zero exploits the flattest part of a round’s trajectory – usually 350 yards or closer. You determine an acceptable degree of imprecision – for instance, a big game hunter thinks a bullet impacting within 8 inches of point-of-aim will hit his target’s vitals, while a varmint hunter wants his bullet to hit within 6 inches of his point-of-aim. In either case, the desired trajectory will dictate zeroing at a specific distance. (See below)

Using Sierra’s Infinity V-6 ballistic software, I have calculated these trajectories and zero distances for 48 popular American factory loads, from .204 Ruger to .416 Rigby. Take a look at the first load.

Before you roll your eyes and ask, “Where can I find a shooting range that I can zero at exactly 276 yards!?” Pay close heed: **ALL YOU REALLY NEED IS ACCESS TO A 100-YARD RANGE TO MAKE THIS WORK.**

Again, take a close look at the first load, for the Federal .204 Ruger, 32-Grain Nosler Ballistic Tip with a muzzle velocity of 4030 feet-per-second. Indeed, if the Desired Impact Area is 6 inches, your rifle must be zeroed for 249 yards. But look again – with a 249-yard zero, your round will impact exactly 2.6 inches high at 100 yards. Thus, if you have a conventional riflescope, all you really need to do is fire at 100 yards and adjust your elevation so your group strikes 2.6 inches above the point-of-aim. Same thing for

an 8" Desired Impact Area. Instead of actually zeroing at 276 yards, just zero at 100 yards so that your bullet impacts 3.26 inches high.

If your scope has a **Bullet Drop Compensator**, set it at the dictated distance and you'll achieve the same Point Blank Zero. For our .204 Ruger example this means setting it at 250 yards for a 6" Desired Impact Area, and 275 yards for an 8" Desired Impact Area. If your scope has **target knobs**, review your "dope" (elevation settings) and set the scope for 250 or 275 yards.

Employing a Point Blank Zero does not mean you're abandoning precision – it only means that you're ready for the quickest possible shot, which often is the only shot offered a hunter. On the other hand, with a bit more time, you still can precisely determine the range and fire with great precision.

Happy shooting!

Point Blank Zeros for 48 Commercial Rifle Loads

Federal .204 Ruger, 32-Grain Nosler Ballistic Tip, Muzz. Vel. 4030 fps

Desired Impact Area: 6"		Zero Distance: 249 Yards			Zero High @ 100 Yards: 2.6"	
Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+2.6"	+3.0"	+2.2"	Zero	-3.8"	--	--

Desired Impact Area: 8"		Zero Distance: 276 Yards			Zero High @ 100 Yards: 3.26"	
Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+3.3"	+4.0"	+3.5"	+1.6"	-1.9"	-7.0"	--

Hornady .204 Ruger, 40-Grain V-Max Muzz. Vel. 3300 fps

Desired Impact Area: 6"		Zero Distance: 263 Yards			Zero High @ 100 Yards: 2.45"	
Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+2.5"	+3.0"	+2.5"	+0.7"	-2.5"	--	--

Desired Impact Area: 8"		Zero Distance: 291 Yards			Zero High @ 100 Yards: 3.08"	
Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>

+ 3.0" +4.0" +3.7" +2.3" -0.6" -5.0" --

Federal .22-250 Remington, 40-Grain, Sierra HP, Muzz. Vel. 4000 fps

Desired Impact Area: 6" Zero Distance: 280 Yards **Zero High @ 100 Yards: 2.23"**
Trajectory Above/Below Point-of-Aim

<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+2.2"	+3.0"	+2.8"	+1.5"	-1.3"	-5.8"	--

Desired Impact Area: 8" Zero Distance: 306 Yards **Zero High @ 100 Yards: 2.8"**
Trajectory Above/Below Point-of-Aim

<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+2.8"	+3.9"	+4.0"	+3.0"	+0.4"	-3.8"	--

Black Hills .22-250 Rem., 50-Gr. Nosler Ballistic Tip, Muzzl. Vel. 3700 fps

Desired Impact Area: 6" Zero Distance: 284 Yards **Zero High @ 100 Yards: 2.23"**
Trajectory Above/Below Point-of-Aim

<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+2.2"	+3.0"	+2.8"	+1.5"	-1.0"	-4.8"	--

Desired Impact Area: 8" Zero Distance: 314 Yards **Zero High @ 100 Yards: 2.82"**
Trajectory Above/Below Point-of-Aim

<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+2.8"	+3.9"	+4.0"	+3.0"	+0.8"	-2.7"	-7.9"

Black Hills .223 Rem., 50-Gr. Hornady V-Max, Muzzl. Vel. 3300 fps

Desired Impact Area: 6" Zero Distance: 257 Yards **Zero High @ 100 Yards: 2.51"**
Trajectory Above/Below Point-of-Aim

<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+2.5"	+3.0"	+2.4"	Zero	-3.1"	--	--

Desired Impact Area: 8" Zero Distance: 284 Yards **Zero High @ 100 Yards: 3.15"**
Trajectory Above/Below Point-of-Aim

<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+3.1"	+4.0"	+3.7"	+2.0"	-1.2"	-6.2"	--

Black Hills .223 Rem., 52 Grain Match BTHP, Muzz. Vel. 3250 fps

Desired Impact Area: 6"Zero Distance: 251 Yards Zero High @ 100 Yards: 2.5"
Trajectory Above/Below Point-of-Aim

<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+2.5"	+3.0"	+2.2"	Zero	-3.8	--	--

Desired Impact Area: 8"Zero Distance: 277 Yards Zero High @ 100 Yards: 3.2"
Trajectory Above/Below Point-of-Aim

<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+3.2"	+4.0"	+3.5"	+1.7"	Zero	--	--

Black Hills .223 Rem., 55-gr., Full Metal Jacket, Muzz. Vel. 3200 fps**Desired Impact Area: 6"**Zero Distance: 277 Yards Zero High @ 100 Yards: 3.25"
Trajectory Above/Below Point-of-Aim

<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+3.2"	+3.0"	+2.25"	Zero	-3.9"	--	--

Desired Impact Area: 8"Zero Distance: 277 Yards Zero High @ 100 Yards: 3.25"
Trajectory Above/Below Point-of-Aim

<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+2.5"	4.0"	3.5"	+1.7"	-1.8"	-7.2"	--

Black Hills .223 Rem., 77-Gr, HPBT Match, Muzz. Vel. 2750 fps**Desired Impact Area: 6"**Zero Distance: 229 Yards Zero High @ 100 Yards: 2.78"
Trajectory Above/Below Point-of-Aim

<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+2.8"	+2.9"	+1.5"	-1.5"	-6.3"	--	--

Desired Impact Area: 8"Zero Distance: 255 Yards Zero High @ 100 Yards: 3.50"
Trajectory Above/Below Point-of-Aim

<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+3.5"	+4.0"	+3.0"	+0.4"	-4.0"	--	--

Winchester .243 Win., 80-Gr. Pointed Softpoint, Muzz. Vel. 3350 fps**Desired Impact Area: 6"**Zero Distance: 264 Yards Zero High @ 100 Yards: 2.40"
Trajectory Above/Below Point-of-Aim

<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+2.4"	+3.0"	+2.5"	+0.7"	-2.5"	--	--

Desired Impact Area: 8"

Zero Distance: 291 Yards Zero High @ 100 Yards: 3.00"

Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+3.0"	+4.0"	+3.7"	+2.3"	-0.6"	-5.2"	--

Black Hills .243 Win., 95-Gr. Nosler Bal. Tip, Muzz. Vel. 2950 fps

Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+2.6"	+3.0"	+2.0"	Zero	-4.2"	--	--

Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+3.3"	+4.0"	+3.5"	+1.5"	-2.0"	-7.3"	--

Federal .243 Win., 100-gr. Sierra GameKing, Muzz. Vel. 2960 fps

Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+2.6"	+3.0"	+2.1"	Zero	-3.7"	--	--

Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+3.3"	+4.0"	+3.5"	+1.7"	-1.6"	-6.5"	--

Winchester 7mm Rem Mag., 140-Gr., Accu-Bond, Muzz. Vel. 3180 fps

Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+2.4"	+3.0"	+2.6"	+1.0"	-1.8"	-6.0"	--

Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+3.0"	+4.0"	+3.8"	+2.5"	Zero	-3.8"	--

Black Hills 7mm Rem Mag., 140-Gr., Nosler Ball Tip, Muzz. Vel. 3150 fps

Desired Impact Area: 6"		Zero Distance: 268 Yards	Zero High @ 100 Yards: 2.45"			
Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+2.5"	+3.0"	+2.5"	+0.9"	-6.0"	--	--

Desired Impact Area: 8"		Zero Distance: 298 Yards	Zero High @ 100 Yards: 3.12"			
Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+3.1"	+4.0"	+3.7"	+2.4"	Zero	4.0"	--

Black Hills 7mm Rem. Mag., 154-Gr., Hornady SST, Muzz. Vel. 3000 fps

Desired Impact Area: 6"		Zero Distance: 258 Yards	Zero High @ 100 Yards: 2.58"			
Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+2.6"	+3.0"	+2.3"	+0.4"	-2.9"	--	--

Desired Impact Area: 8"		Zero Distance: 287 Yards	Zero High @ 100 Yards: 3.24"			
Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+3.2"	+4.0"	+2.0"	+2.0"	-0.9"	-5.2"	--

Remington 7mm-08 Rem., 120-Gr. HP, Muzz. Vel. 3000 fps

Desired Impact Area: 6"		Zero Distance: 248 Yards	Zero High @ 100 Yards: 2.60"			
Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+2.6"	+3.0"	+2.1"	Zero	-3.9"	--	--

Desired Impact Area: 8"		Zero Distance: 275 Yards	Zero High @ 100 Yards: 3.26"			
Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+3.2"	+4.0"	+3.5"	+1.5"	-2.0"	-7.1"	--

Remington 7mm-08 Rem., 140-Gr., Core Lukt PSP, Muzz Vel. 2860 fps

Desired Impact Area: 6"		Zero Distance: 240 Yards	Zero High @ 100 Yards: 2.66"			
Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+2.7"	+3.0"	+1.9"	+0.6"	-4.8"	--	--

Desired Impact Area: 8"		Zero Distance: 267 Yards	Zero High @ 100 Yards: 3.36"
Trajectory Above/Below Point-of-Aim			

<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+3.4"	+4.0"	+3.3"	+1.1"	-2.7"	-8.2"	--

Winchester .25-06 Rem., 85-Gr., Ballistic Silv Tip, Muzz Vel. 3470 fps

Desired Impact Area: 6"		Zero Distance: 282 Yards		Zero High @ 100 Yards: 2.30"		
Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+2.3"	+3.0"	+2.7"	+1.4"	-1.0"	-4.7"	--

Desired Impact Area: 8"		Zero Distance: 313 Yards		Zero High @ 100 Yards: 2.89"		
Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+2.9"	+3.9"	+3.9"	+2.9"	-0.8"	-2.6"	-7.5"

Black Hills .25-06 Rem., 100-Gr. Nosler. Bal. Tip, Muzz Vel. 2620 fps

Desired Impact Area: 6"		Zero Distance: 221 Yards		Zero High @ 100 Yards: 2.82"		
Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+2.8"	+2.8"	+1.2"	-2.2"	--	--	--

Desired Impact Area: 8"		Zero Distance: 246 Yards		Zero High @ 100 Yards: 3.59"		
Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+3.6"	+4.0"	+2.7"	-0.3"	-5.3"	--	--

Federal .25-06 Rem., 117-Gr., Speer SP, Muzz Vel. 2990 fps

Desired Impact Area: 6"		Zero Distance: 249 Yards		Zero High @ 100 Yards: 2.61"		
Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+2.6"	+3.0"	+2.2"	Zero	-3.8"	--	--

Desired Impact Area: 8"		Zero Distance: 276 Yards		Zero High @ 100 Yards: 3.26"		
Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+3.3"	+4.0"	+3.5"	+1.6"	-1.8"	-6.9"	--

Remington .25-06 Rem., 120-Gr., Core-Lokt PSP, Muzz Vel. 2990 fps

Desired Impact Area: 6"		Zero Distance: 249 Yards	Zero High @ 100 Yards: 2.60"			
Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+2.6"	+3.0"	+2.2"	Zero	-3.8"	--	--

Desired Impact Area: 8"		Zero Distance: 276 Yards	Zero High @ 100 Yards: 3.26"			
Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+3.3"	+4.0"	+3.5"	+1.6"	-1.8"	-6.9"	--

Federal .260 Rem., 120-Gr., Nosler Bal. Tip, Muzz. Vel. 2950 fps

Desired Impact Area: 6"		Zero Distance: 249 Yards	Zero High @ 100 Yards: 2.60"			
Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+2.6"	+3.0"	+2.1"	Zero	-3.7"	--	--

Desired Impact Area: 8"		Zero Distance: 277 Yards	Zero High @ 100 Yards: 3.27"			
Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+3.3"	+4.0"	+3.5"	+1.6"	-1.7"	-6.7"	--

Remington .260 Rem., 140-Gr. Core Lockett PSP, Muzz. Vel. 2750 fps

Desired Impact Area: 6"		Zero Distance: 234 Yards	Zero High @ 100 Yards: 2.73"			
Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+2.7"	+2.9"	+1.7"	-1.0"	-5.5"	--	--

Desired Impact Area: 8"		Zero Distance: 261 Yards	Zero High @ 100 Yards: 3.46"			
Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+3.5"	+4.0"	+3.2"	+0.7"	-3.3"	--	--

Winchester .264 Win. Mag., 140-Gr., Power Pt., Muzz. Vel. 3030 fps

Desired Impact Area: 6"		Zero Distance: 253 Yards	Zero High @ 100 Yards: 2.56"			
Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+2.6"	+3.0"	+2.2"	+0.2"	-3.3"	--	--

Desired Impact Area: 8"		Zero Distance: 282 Yards	Zero High @ 100 Yards: 3.23"			
Trajectory Above/Below Point-of-Aim						

<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+3.2"	+4.0"	+3.6"	+1.9"	-1.3"	-6.0"	--

Black Hills .270 Win., 130-Gr., Nosler Bal. Tip, Muzz. Vel. 2950 fps

Desired Impact Area: 6" Zero Distance: 248 Yards Zero High @ 100 Yards: 2.62"
Trajectory Above/Below Point-of-Aim

<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+2.6"	+3.0"	+2.0"	Zero	-3.75"	--	--

Desired Impact Area: 8" Zero Distance: 277 Yards Zero High @ 100 Yards: 3.30"
Trajectory Above/Below Point-of-Aim

<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
3.3"	4.0"	+3.5"	+1.6"	-1.7"	-6.6"	--

Federal .270 Win., 140-Gr., Trophy Bonded, Muzz. Vel. 3100 fps

Desired Impact Area: 6" Zero Distance: 254 Yards Zero High @ 100 Yards: 2.57"
Trajectory Above/Below Point-of-Aim

<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+2.6"	+3.0"	+2.3"	Zero	-3.3"	--	--

Desired Impact Area: 8" Zero Distance: 282 Yards Zero High @ 100 Yards: 3.22"
Trajectory Above/Below Point-of-Aim

<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+3.2"	+4.0"	+3.6"	+1.9"	-1.3"	-6.1"	--

Federal .270 Win., 150-Gr. Sierra GameKing BT, Muzz. Vel. 2850 fps

Desired Impact Area: 6" Zero Distance: 243 Yards Zero High @ 100 Yards: 2.68"
Trajectory Above/Below Point-of-Aim

<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+2.7"	+3.0"	+2.0"	-0.4"	-4.3"	-6.9"	--

Desired Impact Area: 8" Zero Distance: 271 Yards Zero High @ 100 Yards: 3.37"
Trajectory Above/Below Point-of-Aim

<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+3.4"	+4.0"	+3.4"	+1.3"	-2.2"	-7.5"	--

Win. .270 Win. Short Mag., 130-Gr., Bal. Silver Tip, Muz. Vel. 3275 fps

Desired Impact Area: 6"		Zero Distance: 274 Yards		Zero High @ 100 Yards: 2.42"		
Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+2.4"	+3.0"	+2.6"	+1.0"	-1.5"	-5.4"	--

Desired Impact Area: 8"		Zero Distance: 305 Yards		Zero High @ 100 Yards: 3.00"		
Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+3.0"	+3.9"	+3.8"	+2.6"	Zero	-3.3"	-8.2"

Federal .270 Win. Short Mag., 130-Gr. Nos. Bal. Tip, Muz. Vel. 3300 fps

Desired Impact Area: 6"		Zero Distance: 276 Yards		Zero High @ 100 Yards: 2.41"		
Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+2.4"	+3.0"	+2.6"	+1.2"	-1.4"	-5.2"	--

Desired Impact Area: 8"		Zero Distance: 307 Yards		Zero High @ 100 Yards: 3.01"		
Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+3.0"	+4.0"	+3.8"	+2.7"	+0.5"	-3.0"	-7.9"

Black Hills .270 WSM, 140-Gr. Nosler. Accu-Bond, Muz. Vel. 3100 fps

Desired Impact Area: 6"		Zero Distance: 275 Yards		Zero High @ 100 Yards: 2.50"		
Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+2.5"	+3.0"	+2.4"	Zero	-2.3"	-6.6"	--

Desired Impact Area: 8"		Zero Distance: 294 Yards		Zero High @ 100 Yards: 3.20"		
Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+3.2"	+4.0"	+3.7"	+2.3"	-0.4"	-4.4"	--

Winchester .270 WSM, 150-Gr., Power Pt., Muzzle Vel. 3150 fps

Desired Impact Area: 6"		Zero Distance: 258 Yards		Zero High @ 100 Yards: 2.53"		
Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+2.5"	+3.0"	+2.3"	+0.5"	-2.9"	--	--

Desired Impact Area: 8"		Zero Distance: 287 Yards		Zero High @ 100 Yards: 3.18"		
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Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+3.2"	+4.0"	+3.7"	+2.0"	-1.0"	-5.5"	--

Winchester .280 Rem. 140-Gr. Ballis. Silver Tip, Muzz. Vel. 3040 fps

Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+2.5"	+3.0"	+2.4"	+0.5"	-2.6"	--	--

Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+3.2"	+4.0"	+3.6"	+2.1"	-0.7"	-5.0"	--

Remington .280 Rem, 165-Gr. Core-Lokt SP, Muz. Vel. 2820 fps

Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+2.7"	+3.0"	+1.6"	-1.4"	-6.4"	--	--

Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+3.5"	+4.0"	+3.0"	+0.4"	-4.3"	--	--

Winchester 300 Win Mag., 150-Gr. XP, Muzz Vel., 3260 fps

Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+2.4"	+3.0"	+2.6"	+1.2"	-1.5"	-5.4"	--

Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+3.0"	+4.0"	+3.9"	+2.7"	+0.4"	-3.2"	-8.2"

Remington .300 Win Mag., 180-Gr. Accu-Tip, Muzz Vel 2960 fps

Desired Impact Area: 6"		Zero Distance: 253 Yards	Zero High @ 100 Yards: 2.58"			
Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+2.9"	+3.0"	+2.2"	+0.2"	-3.3"	--	--

Desired Impact Area: 8"		Zero Distance: 282 Yards	Zero High @ 100 Yards: 3.25"			
Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+3.2"	+4.0"	+3.6"	+1.8"	-1.3"	-5.9"	--

Federal .300 Win. Mag., 190-Gr. BTHP Match, Muzz Vel. 2900 fps

Desired Impact Area: 6"		Zero Distance: 250 Yards	Zero High @ 100 Yards: 2.61"			
Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+2.6"	+3.0"	+2.2"	Zero	-3.5"	--	--

Desired Impact Area: 8"		Zero Distance: 279 Yards	Zero High @ 100 Yards: 3.28"			
Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+3.3"	+4.0"	+3.5"	+1.7"	-1.5"	-6.2"	--

Winchester .300 WSM, 150-Gr., Bal. Silver Tip, Muz Vel. 3300 fps

Desired Impact Area: 6"		Zero Distance: 277 Yards	Zero High @ 100 Yards: 2.38"			
Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+2.4"	+3.0"	+2.7"	-3.1"	-5.1"	--	--

Desired Impact Area: 8"		Zero Distance: 308 Yards	Zero High @ 100 Yards: 2.98"			
Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+3.0"	+3.0"	+2.7"	+2.7"	+0.5"	-3.0"	-7.9"

Winchester .300 WSM, 180-Gr. XP, Muzz. Vel. 3010 fps

Desired Impact Area: 6"		Zero Distance: 259 Yards	Zero High @ 100 Yards: 2.54"			
Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+2.5"	+3.0"	+2.4"	0.5"	-2.7"	--	--

Desired Impact Area: 8"		Zero Distance: 289 Yards	Zero High @ 100 Yards: 3.19"
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Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+3.2"	+4.0"	+3.7"	+2.1"	-0.7"	-5.0"	--

Federal .30-06, 150-Gr., Nosler Accu-Bond, Muz Vel 2940 fps

Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+2.6"	+3.0"	+2.2"	Zero	-3.6"	--	--

Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+3.3"	+4.0"	+3.5"	+1.6"	-1.6"	-6.5"	--

Winchester .30-06, 165-Gr., PSP, Muz Vel 2800 fps

Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+2.7"	+2.9"	+1.7"	-1.2"	-6.0"	--	--

Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+3.4"	+4.0"	+3.1"	+0.6"	-3.8"	--	--

Winchester .30-06, 180-Gr., Bal. Silver Tip, Muzz Vel. 2750 fps

Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
2.7"	+3.0"	+1.8"	-0.8"	-5.0"	--	--

Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+3.4"	+4.0"	+3.2"	+0.9"	-3.0"	-8.5"	--

Remington .30-06, 180-Gr., Core-Lokt PSP, Muz Vel. 2700 fps

<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+3.6"	+4.0"	+2.7"	-0.3"	-5.3"	--	--

Federal .338 Win. Mag. 180-Gr., Nosler Accu-Bond, Muz. Vel. 3120 fps

Desired Impact Area: 6" Zero Distance: 259 Yards Zero High @ 100 Yards: 2.50"
Trajectory Above/Below Point-of-Aim

<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+2.5"	+3.0"	+2.4"	Zero	-2.8"	--	--

Desired Impact Area: 8" Zero Distance: 288 Yards Zero High @ 100 Yards: 3.15"
Trajectory Above/Below Point-of-Aim

<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+3.1"	+0.4"	+3.7"	+2.1"	-0.8"	-5.3"	--

Winchester .338 Win. Mag. 200-Gr. Bal. Silver Tip, Muz. Vel. 2950 fps

Desired Impact Area: 6" Zero Distance: 249 Yards Zero High @ 100 Yards: 2.61"
Trajectory Above/Below Point-of-Aim

<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+2.6"	+3.0"	+2.2"	Zero	-3.7"	-6.2"	--

Desired Impact Area: 8" Zero Distance: 277 Yards Zero High @ 100 Yards: 3.28"
Trajectory Above/Below Point-of-Aim

<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+3.3"	+4.0"	+3.5"	+1.6"	-1.7"	-6.7"	--

Remington .338 Win. Mag., 225 Gr., Core-Lokt, Muz. Vel. 2780 fps

Desired Impact Area: 6" Zero Distance: 237 Yards Zero High @ 100 Yards: 2.69"
Trajectory Above/Below Point-of-Aim

<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+2.7"	+3.0"	+1.8"	-0.8"	-5.0"	--	--

Desired Impact Area: 8" Zero Distance: 264 Yards Zero High @ 100 Yards: 3.40"
Trajectory Above/Below Point-of-Aim

<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+3.4"	+4.0"	+3.2"	+1.0"	-3.0"	-8.6"	--

Winchester .416 Rigby, 400-Gr., Nosler Partition, Muz. Vel. 2370fps

Desired Impact Area: 6" Zero Distance: 201 Yards Zero High @ 100 Yards: 2.94"

Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+2.9"	+2.5"	Zero	-4.6"	--	--	--

Desired Impact Area: 8"

Zero Distance: 224 Yards Zero High @ 100 Yards: 3.78"
 Trajectory Above/Below Point-of-Aim

<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	<u>300 Yards</u>	<u>350 Yards</u>	<u>400 Yards</u>
+3.8"	+3.8"	+1.7"	-2.5"			

The End