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 Imp	act Area: 6"	Zero D	Zero Distance: 249 Yards Zero High @ 100 Yards: 2.6"				
		Trajecto	ory Above/Bel	ow Point-of-Aiı	m		
<u>100 Yards</u>	<u>150 Yards</u>	200 Yards	250 Yards	300 Yards	350 Yards	400 Yards	
+2.6"	+3.0"	+2.2"	Zero	-3.8"			
Desired Imp	act Area: 8"	Zero D	istance: 276 Y	ards Ze	ro High @ 100	Yards: 3.26"	
		Trajecto	ory Above/Bel	ow Point-of-Air	m		
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	250 Yards	300 Yards	<u>350 Yards</u>	400 Yards	
+3.3"	+4.0"	+3.5"	+1.6"	-1.9"	-7.0"		

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

Desirea imp	act Area: 6"	Zero L	distance: 263 v	yards Zi	ero Hign @ 100	Yaras: 2.45
		Trajecto	ory Above/Belo	ow Point-of-Ai	im	
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	250 Yards	300 Yards	350 Yards	<u>400 Yards</u>
+2.5"	+3.0"	+2.5"	+0.7"	-2.5"		
Desired Imp	act Area: 8"	Zero Di	stance: 291 Ya	ards Ze	ro High @ 100 \	/ards: 3.08"
		Trajecto	ory Above/Belo	ow Point-of-Ai	im	
100 Yards	150 Yards	200 Yards	250 Yards	300 Yards	350 Yards	400 Yards

+ 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 Impa	act Area: 6"	Zero Distance: 280 Yards			Zero High @ 100 Yards: 2.23"		
		Trajecto	Trajectory Above/Below Point-of-Aim				
<u>100 Yards</u>	150 Yards	200 Yards	250 Yards	300 Yards	350 Yards	<u>400 Yards</u>	
+2.2"	+3.0"	+2.8"	+1.5"	-1.3"	-5.8"		
Desired Impa	act Area: 8"	Zero Di	stance: 306 Ya	ards Ze i	ro High @ 100 \	′ards: 2.8″	
		Trajecto	ory Above/Belo	ow Point-of-Ai	m		
<u>100 Yards</u>	<u>150 Yards</u>	200 Yards	250 Yards	300 Yards	350 Yards	<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: 2.2				
		Trajecto	ory Above/Belo	ow Point-of-Ai	m	
<u>100 Yards</u>	<u>150 Yards</u>	200 Yards	250 Yards	300 Yards	350 Yards	<u>400 Yards</u>
+2.2"	+3.0"	+2.8"	+1.5"	-1.0"	-4.8"	
Desired Impa	act Area: 8"	Zero D	istance: 314 Y	ards Ze	ro High @ 100 `	Yards: 2.82"
		Trajecto	ory Above/Belo	ow Point-of-Ai	m	
<u>100 Yards</u>	150 Yards	200 Yards	250 Yards	300 Yards	350 Yards	<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 Impa	act Area: 6"	Zero D	istance: 257 Y	'ards Zei	ro High @ 100 `	Yards: 2.51"
Trajectory Above/Below Point-of-Aim						
100 Yards	<u>150 Yards</u>	200 Yards	250 Yards	300 Yards	350 Yards	400 Yards
+2.5"	+3.0"	+2.4"	Zero	-3.1"		
Desired Impa	act Area: 8"	Zero D	istance: 284 Y	'ards Ze	ro High @ 100 `	Yards: 3.15"
Desired Impa	act Area: 8"			ards Ze ow Point-of-Air	0 -	Yards: 3.15"
Desired Impa	act Area: 8" 150 Yards				0 -	Yards: 3.15" 400 Yards

Desired Impa	act Area: 6"	Zero Di	stance: 251 Ya	ards Zero) High @ 100 Y	ards: 2.5"
100 Yards +2.5"		-	250 Yards	ow Point-of-Ain 300 Yards -3.8	1 350 Yards 	<u>400 Yard</u>
Desired Impa	act Area: 8"			ards Zer	-	/ards: 3.2"
	150 Yards +4.0"	-	<u>250 Yards</u>	ow Point-of-Ain <u>300 Yards</u> Zero		<u>400 Yards</u>
Black	Hills .223	Rem., 55- ₈	gr., Full M	etal Jacket	, Muzz. Ve	el. 3200 fps
Desired Impa	act Area: 6"			ards Zero ow Point-of-Ain	_	/ards: 3.25"
100 Yards +3.2"	150 Yards +3.0"	<u>200 Yards</u>	<u>250 Yards</u>		350 Yards 	<u>400 Yards</u>
Desired Impa	act Area: 8"			ards Zero ow Point-of-Ain	_	/ards: 3.25"
100 Yards +2.5"	150 Yards 4.0"	200 Yards	250 Yards	300 Yards -1.8"	350 Yards	400 Yards
Blac	ck Hills .22	.3 Rem., 7	7-Gr, HPB	T Match, N	⁄luzz. Vel.	2750 fps
Desired Impa	act Area: 6"			/ards Zer ow Point-of-Ain		Yards: 2.78"
100 Yards +2.8"	150 Yards +2.9"	200 Yards	250 Yards	300 Yards -6.3"		<u>400 Yards</u>
Desired Impa	act Area: 8"			ards Zero ow Point-of-Ain	_	/ards: 3.50"
	150 Yards +4.0"	<u>200 Yards</u>	250 Yards +0.4"	<u>300 Yards</u>	350 Yards 	<u>400 Yards</u>
Winche	ester .243	Win., 80-	Gr. Pointe	d Softpoin	t, Muzz. V	el. 3350 fps
Desired Impa	act Area: 6"			ards Zero ow Point-of-Ain	-	/ards: 2.40"
100 Yards +2.4"	150 Yards +3.0"	•	•		350 Yards 	<u>400 Yards</u>

Zero High @ 100 Yards: 3.00"

Desired Impact Area: 8" Zero Distance: 291 Yards

<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

Desired Impa	act Area: 6"	Zero Distance: 244 Yards			o High @ 100`	Yards: 2.60"		
		Trajecto	Trajectory Above/Below Point-of-Aim					
100 Yards	<u>150 Yards</u>	<u>200 Yards</u>	250 Yards	300 Yards	350 Yards	400 Yards		
+2.6"	+3.0"	+2.0"	Zero	-4.2"				
Desired Impa	act Area: 8"	Zero Di	stance: 271 Y	ards Zer	o High @ 100 `	Yards: 3.32"		
		Trajecto	ory Above/Belo	ow Point-of-Ain	n			
<u>100 Yards</u>	<u>150 Yards</u>	200 Yards	250 Yards	300 Yards	350 Yards	400 Yards		
+3.3"	+4.0"	+3.5"	+1.5"	-2.0"	-7.3"			

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

Desired Impact Area: 6"		Zero Distance: 249 Yards			Zero High @ 100 Yards: 2.62"	
		Trajecto	ory Above/Bel	m		
<u>100 Yards</u>	<u>150 Yards</u>	200 Yards	250 Yards	300 Yards	350 Yards	<u>400 Yards</u>
+2.6"	+3.0"	+2.1"	Zero	-3.7"		
Desired Imp	act Area: 8"		istance: 278 Y		ro High @ 100 \	Yards: 3.30"
		Trajecto	ory Above/Bel	ow Point-of-Ai	m	
<u>100 Yards</u>	<u>150 Yards</u>	200 Yards	250 Yards	300 Yards	350 Yards	<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

Zero Distance: 270 Yards Zero High @ 100 Yards: 2.45"

•					0	
		Trajecto	ory Above/Bel	ow Point-of-Air	n	
<u>100 Yards</u>	150 Yards	200 Yards	250 Yards	300 Yards	350 Yards	<u>400 Yards</u>
+2.4"	+3.0"	+2.6"	+1.0"	-1.8"	-6.0"	
Desired Imp	act Area: 8"	Zero D	istance: 300 Y	'ards Zer	o High @ 100 `	Yards: 3.0"
		Trajecto	ory Above/Bel	ow Point-of-Air	n	
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	300 Yards	350 Yards	<u>400 Yards</u>

+3.0" +4.0" +3.8" +2.5" Zero -3.8"

Desired Impact Area: 6"

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

				_				
Desired Impa	ict Area: 6"			ards Zer ow Point-of-Air	o High @ 100 \ ~	/ards: 2.45"		
<u>100 Yards</u>	150 Yards	200 Yards	250 Yards	300 Yards	350 Yards	400 Yards		
+2.5"	+3.0"	+2.5"	+0.9"	-6.0"	<u></u>			
Desired Impact Area: 8" Zero Distance: 298 Yards Zero High @ 100 Yards: 3.12"								
		•	•	ow Point-of-Air				
100 Yards	150 Yards	200 Yards	250 Yards		350 Yards	<u>400 Yards</u>		
+3.1"	+4.0"	+3.7"	+2.4"	Zero	4.0"			
Black Hi	lls 7mm R	em. Mag.,	154-Gr.,	Hornady S	ST, Muzz.	Vel. 3000 fp:	S	
Desired Impa	oct Area: 6"	Zero D	istance: 258 Y	ards Zer	o High @ 100 \	/ards: 2.58"		
				ow Point-of-Air	• -			
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	250 Yards	300 Yards	350 Yards	<u>400 Yards</u>		
+2.6"	+3.0"	+2.3"	+0.4"	-2.9"				
Desired Impa	ict Area: 8"			ards Zer ow Point-of-Air	o High @ 100 \ n	/ards: 3.24"		
<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"			
Re	emington	7mm-08 R	lem., 120-	Gr. HP, M	uzz. Vel. 30	000 fps		
Desired Impa	ict Area: 6"			ards Zer ow Point-of-Air	o High @ 100 \	/ards: 2.60"		
100 Yards	150 Yards	200 Yards	250 Yards	300 Yards	350 Yards	400 Yards		
+2.6"	+3.0"	+2.1"	Zero	-3.9"				
				3.3				
Desired Impa	ict Area: 8"			ards Zer	o High @ 100 \ n	/ards: 3.26"		
Desired Impa	150 Yards				_	/ards: 3.26" 400 Yards		
·		Trajecto	ory Above/Belo 250 Yards	ards Zer ow Point-of-Air	n			
<u>100 Yards</u>	<u>150 Yards</u>	Trajecto 200 Yards	ory Above/Belo 250 Yards	ards Zer ow Point-of-Air <u>300 Yards</u>	n <u>350 Yards</u>	<u>400 Yards</u>		
100 Yards +3.2"	150 Yards +4.0"	Trajecto <u>200 Yards</u> +3.5"	ory Above/Belo 250 Yards +1.5"	ards Zer ow Point-of-Air <u>300 Yards</u> -2.0"	m <u>350 Yards</u> -7.1"	<u>400 Yards</u>	•	
100 Yards +3.2"	150 Yards +4.0" ton 7mm	Trajecto 200 Yards +3.5" -08 Rem., Zero D	250 Yards 250 Yards +1.5" 140-Gr., C	ards Zer ow Point-of-Air 300 Yards -2.0" Core Lokt P	350 Yards -7.1" -7SP, Muzz \	400 Yards Vel. 2860 fps		
100 Yards +3.2" Reming	150 Yards +4.0" ton 7mm- act Area: 6"	Trajecto 200 Yards +3.5" -08 Rem., Zero D Trajecto	250 Yards 250 Yards +1.5" 140-Gr., Constance: 240 Yory Above/Belove	ards Zer ow Point-of-Air 300 Yards -2.0" Core Lokt P ards Zer ow Point-of-Air	m 350 Yards -7.1" PSP, Muzz V To High @ 100 V	400 Yards Vel. 2860 fps (ards: 2.66"	;	
100 Yards +3.2" Reming Desired Impa	150 Yards +4.0" ton 7mm- act Area: 6" 150 Yards	Trajecto 200 Yards +3.5" -08 Rem., Zero D Trajecto 200 Yards	250 Yards +1.5" 140-Gr., Consistance: 240 Yory Above/Beloo	ards Zer ow Point-of-Air 300 Yards -2.0" Core Lokt P ards Zer ow Point-of-Air 300 Yards	250 Yards -7.1" 25P, Muzz V To High @ 100 You m 350 Yards	400 Yards Vel. 2860 fps	,	
100 Yards +3.2" Reming	150 Yards +4.0" ton 7mm- act Area: 6"	Trajecto 200 Yards +3.5" -08 Rem., Zero D Trajecto	250 Yards +1.5" 140-Gr., Consistance: 240 Yory Above/Beloo	ards Zer ow Point-of-Air 300 Yards -2.0" Core Lokt P ards Zer ow Point-of-Air 300 Yards	m 350 Yards -7.1" PSP, Muzz V To High @ 100 V	400 Yards Vel. 2860 fps (ards: 2.66"	;	

Trajectory Above/Below Point-of-Aim

<u>100 Yards</u>	<u>150 Yards</u>	200 Yards	250 Yards	300 Yards	350 Yards	<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 Impa	act Area: 6"	Zero Distance: 282 Yards			Zero High @ 100 Yards: 2.30"		
		Trajectory Above/Below Point-of-Aim					
<u>100 Yards</u>	150 Yards	200 Yards	250 Yards	300 Yards	350 Yards	<u>400 Yards</u>	
+2.3"	+3.0"	+2.7"	+1.4"	-1.0"	-4.7"		
Desired Impa	act Area: 8"		istance: 313 Y		ero High @ 100 \	/ards: 2.89"	
Desired Impa	act Area: 8"		istance: 313 Y ory Above/Belo		• -	/ards: 2.89"	
Desired Impa	act Area: 8" 150 Yards				• -	/ards: 2.89" <u>400 Yards</u>	

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

Desired Impact Area: 6"		Zero Di	stance: 221 Ya	ards Zer	Zero High @ 100 Yards: 2.82"		
		Trajecto	ory Above/Bel	ow Point-of-Air	n		
<u>100 Yards</u>	150 Yards	200 Yards	250 Yards	300 Yards	350 Yards	<u>400 Yards</u>	
+2.8"	+2.8"	+1.2"	-2.2"				
Desired Imp	act Area: 8"	Zero Di	stance: 246 Ya	ards Zer	o High @ 100 \	/ards: 3.59"	
		Trajecto	ory Above/Bel	ow Point-of-Air	n		
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	250 Yards	300 Yards	350 Yards	<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 imp	act Area: 6	Zero D	istance: 249 r	arus Ze	sto High @ 100	rarus: 2.01
		Trajecto	ory Above/Belo	ow Point-of-A	im	
<u>100 Yards</u>	<u>150 Yards</u>	200 Yards	250 Yards	300 Yards	350 Yards	400 Yards
+2.6"	+3.0"	+2.2"	Zero	-3.8"		
Desired Imp	act Area: 8"	Zero D	istance: 276 Y	ards Ze	ero High @ 100 \	Yards: 3.26"
		Trajecto	ory Above/Belo	ow Point-of-A	im	
<u>100 Yards</u>	<u>150 Yards</u>	200 Yards	250 Yards	300 Yards	350 Yards	400 Yards
+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 Impa	ıct Δrea: 6"	Zero Di	istance: 249 V	ards Zer	പ High <i>ര</i> 100 V	'ards: 2 60"		
Desired impe	ict Arcu. o			ow Point-of-Ain	•	aras. 2.00		
<u>100 Yards</u>	150 Yards	200 Yards	250 Yards	300 Yards	350 Yards	400 Yards		
+2.6"	+3.0"	+2.2"	Zero	-3.8"				
Desired Impact Area: 8" Zero Distance: 276 Yards Zero High @ 100 Yards: 3.26"								
		•	•	ow Point-of-Ain				
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>		<u>350 Yards</u>	<u>400 Yards</u>		
+3.3"	+4.0"	+3.5"	+1.6"	-1.8"	-6.9"			
E. J.	L 260 D	120	C - N l -	. D. I. T' I	\	2050 (
Fede	erai .260 K	em., 120-	Gr., Nosie	r Bal. Tip, I	Vluzz. Vel.	2950 fps		
Desired Impa	oct Aroa: 6"	Zaro Di	istanco: 240 V	ards Zer	പിരിക @ 100 V	'ards: 2 60"		
Desired IIIIpa	ict Alea. 0			ow Point-of-Ain	0 0	arus. 2.00		
100 Yards	150 Yards	200 Yards	250 Yards	300 Yards	350 Yards	400 Yards		
	+3.0"	+2.1"	Zero	-3.7"				
			_0.0	0 1.7				
Desired Impa	ct Area: 8"	Zero Di	istance: 277 Y	ards Zer	o High @ 100 Y	'ards: 3.27"		
•		Trajecto	ory Above/Belo	ow Point-of-Ain	า			
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	250 Yards	<u>300 Yards</u>	350 Yards	400 Yards		
+3.3"	+4.0"	+3.5"	+1.6"	-1.7"	-6.7"			
Remir	ngton .260	Rem., 14	O-Gr. Core	e Lokt PSP,	Muzz. Ve	l. 2750 fps		
	C	•		•		•		
Desired Impa	ict Area: 6"	Zero Di	stance: 234 Y	ards Zer	o High @ 100 Y	'ards: 2.73"		
		Trajecto	ory Above/Belo	ow Point-of-Ain	า			
<u>100 Yards</u>	<u>150 Yards</u>	200 Yards	250 Yards	300 Yards	350 Yards	<u>400 Yards</u>		
+2.7"	+2.9"	+1.7"	-1.0"	-5.5"				
Desired Impa	ict Area: 8"			ards Zer	-	'ards: 3.46"		
		-	•	ow Point-of-Ain				
	<u>150 Yards</u>				<u>350 Yards</u>	<u>400 Yards</u>		
+3.5"	+4.0"	+3.2"	+0.7"	-3.3"				
Winch	ester .264	Win. Mag	g., 140-Gr.	, Power Pt	., Muzz. V	el. 3030 fps		
Desired Impa	ict Area: 6"			ards Zer	-	'ards: 2.56"		
		-	•	ow Point-of-Ain				
100 Yards	150 Yards	200 Yards			<u>350 Yards</u>	<u>400 Yards</u>		
+2.6"	+3.0"	+2.2"	+0.2"	-3.3"				
Danie de		,	2001		- U:-k O 100:	/		
Desired Impa	ict Area: 8"			ards Zer		ards: 3.23"		

Trajectory Above/Below Point-of-Aim

<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	250 Yards	300 Yards	350 Yards	<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

 100 Yards
 150 Yards
 200 Yards
 250 Yards
 300 Yards
 350 Yards
 400 Yards

 +2.6"
 +3.0"
 +2.0"
 Zero
 -3.75"
 - - -

 Desired Impact Area: 8"
 Zero Distance: 277 Yards
 Zero High @ 100 Yards: 3.30"

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 250 Yards 300 Yards 100 Yards 150 Yards 200 Yards 350 Yards 400 Yards +2.6" +3.0" +2.3" -3.3" Zero **Desired Impact Area: 8"** Zero Distance: 282 Yards Zero High @ 100 Yards: 3.22" Trajectory Above/Below Point-of-Aim 100 Yards 150 Yards 200 Yards 250 Yards 300 Yards 350 Yards 400 Yards +3.2" +3.6" +1.9" -1.3" +4.0" -6.1"

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

Desired Impact Area: 6" Zero High @ 100 Yards: 2.68" Zero Distance: 243 Yards Trajectory Above/Below Point-of-Aim 100 Yards 150 Yards 200 Yards 250 Yards 300 Yards 350 Yards 400 Yards +2.0" -4.3" +2.7" +3.0" -0.4" -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" +1.3" -2.2" -7.5" --

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

Desired Impa	act Area: 6"		istance: 274 Y ory Above/Belo	ards Zer ow Point-of-Air	o High @ 100 ` n	Yards: 2.42"
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	250 Yards	300 Yards	350 Yards	400 Yards
+2.4"	+3.0"	+2.6"	+1.0"	-1.5"	-5.4"	
Desired Impa	oct Δrea: 8"	7ero D	istance: 305 Y	ards Zer	o High @ 100 '	Vards: 3 00"
200000000000000000000000000000000000000			ory Above/Belo	ow Point-of-Air	0 0	14143. 3.00
100 Yards	150 Yards		ory Above/Belo 250 Yards		0 0	400 Yards
•		Trajecto	•	ow Point-of-Air	n	

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

Desired Imp	act 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>	200 Yards	250 Yards	300 Yards	350 Yards	<u>400 Yards</u>	
+2.4"	+3.0"	+2.6"	+1.2"	-1.4"	-5.2"		
Desired Imp	act Area: 8"	Zero D	Zero Distance: 307 Yards Zero High @ 100 Yards: 3.0				
		Trajecto	ory Above/Belo	ow Point-of-Air	n		
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	300 Yards	350 Yards	<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 impa	act Area: 6"	Zero D	istance: 275 Y	'ards Zei	Zero High @ 100 Yards: 2.50"		
	Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	250 Yards	300 Yards	350 Yards	<u>400 Yards</u>	
+2.5"	+3.0"	+2.4"	Zero	-2.3"	-6.6"		
Desired Impact Area: 8"							
Desired Impa	act Area: 8"	Zero D	istance: 294 Y	'ards Zei	o High @ 100 '	Yards: 3.20"	
Desired Impa	act Area: 8"			'ards Zei ow Point-of-Aii	0 -	Yards: 3.20"	
Desired Impa	act Area: 8" 150 Yards				0 -	Yards: 3.20" 400 Yards	

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

Desired Imp	act 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>	200 Yards	250 Yards	300 Yards	350 Yards	400 Yards	
+2.5"	+3.0"	+2.3"	+0.5"	-2.9"			
Desired Imp	act Area: 8"	Zero D	istance: 287 Y	ards Ze	ero High @ 100`	Yards: 3.18"	

<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

Desired Imp	Desired Impact Area: 6"		Zero Distance: 260 Yards			Zero High @ 100 Yards: 2.54"		
		Trajecto	ory Above/Belo	ow Point-of-Ai	im			
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	250 Yards	300 Yards	350 Yards	<u>400 Yards</u>		
+2.5"	+3.0"	+2.4"	+0.5"	-2.6"				
Desired Imp	act Area: 8"	Zero D	istance: 289 Y	ards Ze	ero High @ 100 \	Yards: 3.17"		
		Trajecto	ory Above/Belo	ow Point-of-Ai	im			
<u>100 Yards</u>	<u>150 Yards</u>	200 Yards	250 Yards	300 Yards	350 Yards	<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

Desired Impa	act Area: 6"	Zero D	istance: 230 Y	'ards Z	Zero High @ 100 Yards: 2.75		
		Trajecto	ory Above/Beld	ow Point-of-A	Aim		
<u>100 Yards</u>	150 Yards	200 Yards	250 Yards	300 Yards	350 Yards	<u>400 Yards</u>	
+2.7"	+3.0"	+1.6"	-1.4"	-6.4"			
Desired Impa	act Area: 8"	Zero D	istance: 255 Y	ards Z	ero High @ 100 `	Yards: 3.48"	
Desired Impa	act Area: 8"		istance: 255 Y ory Above/Belo		0 -	Yards: 3.48"	
Desired Impa	act Area: 8" 150 Yards				0 -	Yards: 3.48" 400 Yards	

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

Desired Imp	act Area: 6"			8 8		
		Trajecto	ory Above/Belo	ow Point-of-Air	m	
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	<u>250 Yards</u>	300 Yards	<u>350 Yards</u>	<u>400 Yards</u>
+2.4"	+3.0"	+2.6"	+1.2"	-1.5"	-5.4"	
Desired Imp	act Area: 8"	Zero D	istance: 306 \	Yards Ze	ro High @ 100	Yards: 3.01"
		Trajecto	ory Above/Beld	ow Point-of-Air	m	
<u>100 Yards</u>	<u>150 Yards</u>	Trajecto 200 Yards	ory Above/Belo 250 Yards	ow Point-of-Aiı <u>300 Yards</u>	m <u>350 Yards</u>	400 Yards
100 Yards +3.0"	150 Yards +4.0"	•	•			400 Yards -8.2"

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

Desired Impa	act Area: 6"		istance: 253 \ ory Above/Belo		Zero High @ 100 Aim	Yards: 2.58"
<u>100 Yards</u>	<u>150 Yards</u>	<u>200 Yards</u>	250 Yards	300 Yards	350 Yards	<u>400 Yards</u>
+2.9"	+3.0"	+2.2"	+0.2"	-3.3"		
Desired Impa	act Area: 8"		istance: 282		Zero High @ 100	Yards: 3.25"
Desired Impa	act Area: 8"		istance: 282 \ ory Above/Belo		•	Yards: 3.25"
Desired Impa	act Area: 8" 150 Yards				Aim	Yards: 3.25" <u>400 Yards</u>
		Trajecto	ory Above/Belo	ow Point-of-	Aim	

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

Desired Impa	act Area: 6"	Zero Di	Zero Distance: 250 Yards Zero High @ 100 Y					
		Trajecto	ory Above/Belo	ow Point-of-A	im			
<u>100 Yards</u>	150 Yards	200 Yards	250 Yards	300 Yards	350 Yards	<u>400 Yards</u>		
+2.6"	+3.0"	+2.2"	Zero	-3.5"				
Desired Impa	act Area: 8"	Zero Di	istance: 279 \	/ards Z	ero High @ 100	Yards: 3.28"		
		Trajecto	ory Above/Belo	ow Point-of-A	im			
<u>100 Yards</u>	150 Yards	200 Yards	250 Yards	300 Yards	350 Yards	<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 Impa	ict Area: 6		ory Above/Beld		ero Hign @ 100 im	Yards: 2.38
<u>100 Yards</u>	150 Yards	<u>200 Yards</u>	250 Yards	300 Yards	<u>350 Yards</u>	<u>400 Yards</u>
+2.4"	+3.0"	+2.7"	-3.1"	-5.1"		
Desired Impa	act Area: 8"		istance: 308 \		ero High @ 100	Yards: 2.98"
Desired Impa	act Area: 8"		istance: 308 \ ory Above/Belo		0 -	Yards: 2.98"
Desired Impa	act Area: 8" 150 Yards				0 -	Yards: 2.98" <u>400 Yards</u>

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

Desired Impa	act Area: 6"	Zero D	istance: 259 \	Yards Z	ero High @ 100	Yards: 2.54"
		Trajecto	ory Above/Belo	ow Point-of-A	im	
<u>100 Yards</u>	<u>150 Yards</u>	200 Yards	250 Yards	300 Yards	350 Yards	400 Yards
+2.5"	+3.0"	+2.4"	0.5"	-2.7"		

Desired Impact Area: 8" Zero Distance: 289 Yards Zero High @ 100 Yards: 3.19"

<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

Desired Impact Area: 6"		Zero D	istance: 250 \	Yards Ze	ero High @ 100	Yards: 2.60"
		Trajecto	ory Above/Belo	ow Point-of-Ai	m	
<u> 100 Yards</u>	<u>150 Yards</u>	200 Yards	250 Yards	300 Yards	350 Yards	400 Yards
+2.6"	+3.0"	+2.2"	Zero	-3.6"		
Desired Imp	act Area: 8"	Zero D	istance: 278Y	'ards Ze	ro High @ 100	Yards: 3.26"
Desired Imp	act Area: 8"		istance: 278Y ory Above/Belo		•	Yards: 3.26"
Desired Imp	act Area: 8" 150 Yards				•	Yards: 3.26" 400 Yards

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

Desired Impact Area: 6"		Zero D	istance: 232 Y	ards Zer	Zero High @ 100 Yards: 2.72"			
		Trajectory Above/Below Point-of-Aim						
100 Yards	<u>150 Yards</u>	200 Yards	250 Yards	300 Yards	350 Yards	<u>400 Yards</u>		
+2.7"	+2.9"	+1.7"	-1.2"	-6.0"				
Desired Impa	act Area: 8"	Zero D	istance: 258 Y	ards Zer	o High @ 100 \	Yards: 3.44"		
Desired Impa	act Area: 8"			ards Zer ow Point-of-Ain	•	/ards: 3.44"		
Desired Impa	act Area: 8" 150 Yards				•	Yards: 3.44" 400 Yards		

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

Desired Impact Area: 6"		Zero Distance: 237 Yards		Yards Ze	Zero High @ 100 Yards: 2.71"	
Trajectory Above/Below Point-of-Aim						
<u>100 Yards</u>	150 Yards	<u>200 Yards</u>	250 Yards	300 Yards	350 Yards	<u>400 Yards</u>
2.7"	+3.0"	+1.8"	-0.8"	-5.0"		
Desired Impact Area: 8"		Zero D	istance: Yard	s Zero H	High @ 100 Yard	ls:
		Trajecto	ory Above/Belo	ow Point-of-Ai	m	
<u>100 Yards</u>	150 Yards	200 Yards	250 Yards	300 Yards	350 Yards	400 Yards

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

Desired Impact Area: 6"		Zero Distance: 227 Yards Trajectory Above/Below Point-of			Zero High @ 100 Yards: 2.76" Aim	
100 Yards	150 Yards	200 Yards	250 Yards	300 Yards	350 Yards	400 Yards
+2.8"	+2.9"	+1.5"	-1.6"	-6.6"		
Desired Impact Area: 8"			stance: 253 Y ry Above/Belo	ards Ze	ro High @ 100 ՝ n	Yards: 3.51"
100 Yards	150 Yards	200 Yards	250 Yards	300 Yards	350 Yards	400 Yards
+3.5"	+4.0"	+3.0"	+0.2"	-4.4"		

Remington .308 Win., 150-Gr. Core-Lokt Ultra-Bnd, Muz. Vel., 2820 fps

Desired Impact Area: 6"		Zero Distance: 233 Yards		Yards Ze	Zero High @ 100 Yards: 2.71"		
		Trajectory Above/Below Point-of-Aim					
<u>100 Yards</u>	<u>150 Yards</u>	200 Yards	250 Yards	300 Yards	350 Yards	<u>400 Yards</u>	
+2.7"	+2.9"	+1.7"	-1.2"	-5.8"			
Desired Impact Area: 8"		Zero Distance: 259 Yards Zero High @ 100 Yards: 3.43"					
		Trajectory Above/Below Point-of-Aim					
<u>100 Yards</u>	<u>150 Yards</u>	200 Yards	<u>250 Yards</u>	300 Yards	350 Yards	400 Yards	
+3.4"	+4.0"	+3.1"	+0.6"	-3.7"			

Federal .308 Win., 165-Gr. Fusion, Muz. Vel. 2700 fps

Desired Impact Area: 6"			istance: 231 \ ory Above/Belo		ero High @ 100 .im	Yards: 2.75"
<u>100 Yards</u>	150 Yards	200 Yards	250 Yards	300 Yards	350 Yards	400 Yards
+2.7"	+2.9"	+1.6"	-1.3"	-5.9"		
Desired Impa	act Area: 8"		istance: 257 Nory Above/Belo		ero High @ 100 im	Yards: 3.47"
100 Yards +3.5"	150 Yards +4.0"	200 Yards +3.0"	250 Yards +0.5"	300 Yards -1.5"	350 Yards -6.6"	400 Yards

Federal .308 Win., 180-Gr. Power Pt., 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>	200 Yards	250 Yards	300 Yards	350 Yards	400 Yards
+2.8"	+2.8"	+1.2"	-2.2"			
Desired Impact Area: 8"			stance: 246 Y		Zero High @ 100 Aim	Yards: 3.59"

<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" +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" +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" +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

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

The End