How to shoot better with your new Auto-Comp™ Weaver® Scope.

Weaver® Scope

Your new Weaver Auto-Comp Scope functions exactly like any other Steel-Lite II Scope. It must be securely mounted to your rifle and zeroed in the traditional manner. The accompanying mounting instructions should be followed carefully to assure correct scope alignment and maximum accuracy. The Auto-Comp Scope is unique in many of its features and they must be reviewed in detail to get the most from your range finder and trajectory compensating scope.

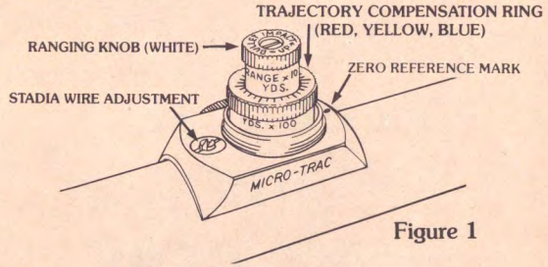
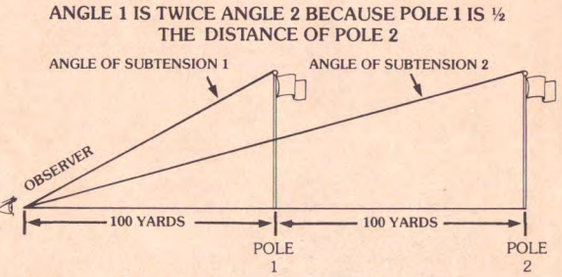


Figure 1

Scope Features:

Like all fine Weaver Steel-Lite II Scopes, the Auto-Comp features dependable optical sights for a lifetime of shooting accuracy. The following features are unique to the Auto-Comp Scopes (see Figure 1): Trajectory Compensating Ring (four are provided — red, yellow, blue and blank); Ranging Knob; Stadia Wire Adjustment; and Zero Reference Mark.

Figure 2



Auto-Comp:

Once you have zeroed your rifle with your choice of ammunition, the Auto-Comp will automatically compensate for trajectory allowing you to hit your target no matter what the distance may be, providing, however, your ammunition can accommodate that distance through 600 yards. Each caliber and combination of bullet and powder charges will have its own limitations. Accuracy is assured by your knowledge of two factors: the approximate size of your target (see Table A), and the angle of subtension (see Figure 2).

To pre-set your gun and scope for hunting, first select from Table A the game you intend to hunt, e.g., deer.

According to the table, deer have an approximate target size of 18 inches (measured from back to brisket). The scope will determine both your range in yards and your actual trajectory compensation for the ammunition you intend to use.

Table A

Game, and non-game, sizes:	Approximate Size (in inches)
Rabbit (cottontail)	6 Total Height
Crow	10 Head to Foot
Prairie Dog	9 Full Length Standing
Deer	18 Back to Brisket
Fox	11 Back to Brisket
Coyote	11 Back to Brisket
Antelope	14 Back to Brisket
Jack Rabbit	12 Including Ears
Elk	24 Back to Brisket
Sheep	18 Back to Brisket
Chuck	18 Full Length Standing

Ranging:

The ranging system is calibrated to measure distance by determining the angle of subtension from the imaginary line between the bottom of the target and you, and a second line between the top of the target and you. The angle formed by these two lines is the angle of subtension, which decreases as the target moves away and, conversely, increases as the target moves closer. A target at 100 yards yields exactly twice the angle of subtension as the same target at 200 yards. The target at 200 yards appears to be only ½ the size because it is twice as far away.

By predetermining the approximate target size of your game (e.g., 18 inches for deer), your Weaver Auto-Comp will accurately determine your range or distance from the target. Auto-Comp takes the guesswork out of range determination.

Trajectory Compensation:

The Auto-Comp will afford you precise accuracy for most factory ammunition, as well as hand-loaded ammo. Trajectory is the path a bullet travels from the time it leaves the gun barrel until it reaches the target. The trajectory varies greatly from caliber to caliber and is altered by bullet shape, weight and powder charge. In order to accommodate the vast selection of ammunition available, we have calculated three ballistic categories which encompass almost all of today's popular hunting calibers. Table B shows you the correct ring to install on the turret for the ammunition and caliber you select. Three rings are calibrated for the specific trajectory groups and the fourth is blank. The blank ring can be etched with the sharp point of a knife by you to accommodate special hand-loads or trajectories substantially different from those listed in the table.

Table B—Ammunition Trajectory Table

Red Ring (low trajectory)

Caliber	Bullet Wt.	& Type
22-250	55	PSP
243 Win.	80	PSP
6mm Rem.	80	PSP
6mm Rem.	100	PP(SP)
25-06	90	PEP
264 Win. Mag.	100	PSP
264 Win. Mag.	140	PP(SP)
270 Win.	100	PSP
270 Win.	130	PP(SP)
7mm Rem. Mag.	125	PP(SP)
7mm Rem. Mag.	150	PP(SP)
6.5mm Rem. Mag	120	PSP
300 Win. Mag.	150	PP(SP)
300 Win. Mag.	180	PP(SP)

Yellow Ring (medium trajectory)

Caliber	Bullet Wt.	& Type
17 Rem.	25	HP
223 Rem.	55	FMC
243 Win.	100	PP(SP)
25-06 Rem.	120	PEP
257 Roberts	87	PSP
270 Win.	100	PP(SP)
280 Rem.	150	PSP
284 Win.	125	PP(SP)
284 Win.	150	PP(SP)
7mm Rem. Mag.	175	PP(SP)
7mm Express	150	PSP
30-06 Springfield	110	PSP
30-06 Springfield	125	PSP
30-06 Springfield	150	PP(SP)
30-06 Springfield	150	ST
300 H&H Mag.	150	ST
300 H&H Mag.	180	ST
308 Win.	125	PSP
338 Win. Mag.	200	PP(SP)
8mm Rem. Mag.	185	PSP
8mm Rem. Mag.	220	PSP

Blue Ring (high trajectory)

Caliber	Bullet Wt.	& Type
222 Rem.	50	PSP
222 Rem. Mag.	55	PSP, HP
223 Rem.	55	PSP
250 Savage	87	PSP
250 Savage	100	ST
257 Roberts	100	ST
257 Roberts	117	PP(SP)
280 Rem.	165	SP
7x57 (Mauser)	175	SP
30-06 Springfield	180	PP(SP)
30-06 Springfield	220	PP(SP)
30-06 Springfield	180	ST
30-06 Springfield	220	ST
30-40 Krag.	180	PP(SP)
30-40 Krag.	220	ST
300 H&H	220	ST
300 Savage	150	PP(SP)
300 Savage	180	PP(SP)
300 Savage	150	ST
300 Savage	180	ST
308 Win.	100	PP(SP)
308 Win.	150	PP(SP)
308 Win.	180	PP(SP)
308 Win.	150	ST
308 Win.	180	ST
308 Win.	200	ST
338 Win. Mag.	250	ST
338 Win. Mag.	300	PP(SP)

PEP — Positive Expanding Point
HP — Hollow Point
ST — Silvertip
FMC — Full Metal Case
PP(SP) — Power-Point (Soft Point)
PSP — Pointed Soft Point

The following is a sample of the trajectory of a .270 Winchester, 130 grain PSP at 3110 FPS:

Table C

YARDS	200	300	400	500*
Bullet Drop (200 yd. zero)	0	−7.1″	−20.8″	−42.7″
Compensation with Auto-Comp (Ranging only)	0	+9″	+18″	+27″
Point of Impact	0	+1.9″	−2.8″	−15.7″*
Error	0	.6 MOA	.7 MOA	3.1 MOA*

*Trajectory compensation required at these ranges.

It should be pointed out that regardless of caliber and/or bullet weight, trajectory compensation is generally not required for ranges of less than 250 yards. Your Auto-Comp ranging and trajectory compensating rings are calibrated, starting at 200 yards, in even 100 yard increments to 600 yards. While some competitive shooters using precision rifles and custom-loaded ammunition can shoot accurately at very long distances, we do not recommend shots at 600 yards. Your decision on whether to take a shot at distant game should depend upon your skill and experience as a hunter, as well as the accuracy and condition of your equipment.

Because all control of both ranging and compensation is governed by the elevation adjustment screw, the process of ranging itself adds some compensation at the same time.

With most calibers, the amount of elevation added to the scope in the process of ranging (up to about 400 yards) is nearly the same amount as required for trajectory compensation. The act of ranging has automatically compensated for a great deal of the bullet drop experienced up to 350/400 yards. Beyond 350/400 yards, the amount of elevation added by ranging decreases; the required compensation increases rapidly and trajectory compensation should be used.

As previously mentioned, your Auto-Comp Scope is supplied with four interchangeable trajectory compensating rings: three marked in colored increments corresponding to ½ MOA (minute of angle), and a blank ring. Refer to Table B to determine the correct ring to use for your caliber. The trajectory groupings in Table B have been compiled from data furnished by the leading ammunition manufacturers and have been grouped so that trajectory error is less than plus or minus 1 MOA. This slight deviation is almost insignificant.

Zeroing Your Auto-Comp:

Select the compensating ring recommended for your caliber and bullet weight by referring to Table B. Remove the center screw from the top knob and lift

the knob straight up. After you remove the trajectory compensating ring, replace it with the one you have selected. Screw the compensation ring down (clock-wise) until the ring "bottoms out"; then back-off ½ turn, lift and then replace the compensation ring with the major zero mark (corresponding to the 200 yard setting) aligned with the white dot on the rear of the turret plate. Replace the ranging knob and tighten the top screw.

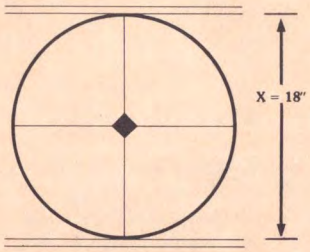


Figure 3

Make a target using the enclosed "target pattern" with white paper and a felt-tip marker. This target will be used to zero and calibrate your new Auto-Comp Scope with your rifle and ammunition.

The center diamond is used to group the zeroed rifle. The diameter of the circle is 18 inches, to approximate a typical deer. If you intend to zero your rifle for other game, refer to Table A and draw a circle corresponding to the size shown. The parallel lines at the top and bottom will be used to "set" the "stadia" wires (see Figure 3).

Place the target 200 yards from your shooting position. If a 200 yard range is not available, you must adjust your target for 100 yards using the following table:

Table D

100 yard zero table

trajectory compensating ring 1 (red)
center group 1.6" above horizontal grid line

trajectory compensating ring 2 (yellow)
center group 2.0" above horizontal grid line

trajectory compensating ring 3 (blue)
center group 2.4" above horizontal grid line.

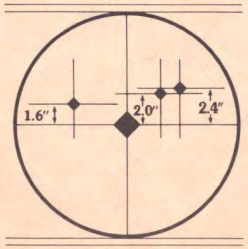


Figure 4

When you zero at 100 yards, employ these corrections and draw a new horizontal grid line above the original line as required by the 100 yard zero table. Draw a new diamond for your zeroing group (Figure 4). Draw a new vertical grid line as well to help you sight your scope using the Dual-X Reticle. From this point, you should disregard the original grid lines and diamond in preference to your new lines and diamond drawn for 100 yards.

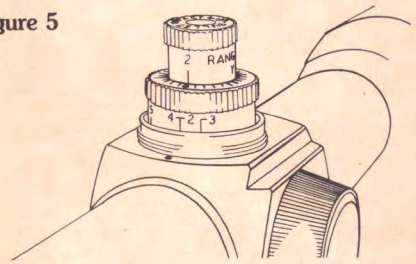
NOTE: When zeroing at 100 yards, the "stadia" wire spacing and target size will be exactly ½ that of the original 18", or 9 inches.

Zeroing:

Use your selected combination of rifle, ammunition and trajectory compensating ring. Zero from a bench rest or sandbags to insure accuracy. Use the Dual-X Reticle to zero the scope, disregarding the thin stadia wire for the moment. A rapid way of getting a newly scoped rifle "on the paper" is to fire your first test shot at a point of aim on a dirt embankment. Replace your rifle on the sandbags, placing the crosshairs on the point of aim. Using the elevation and windage adjustments, move the reticle to the point of actual impact. Move to your paper target and zero your rifle with three or five shot groups in the conventional manner.

At this point, your rifle should be "zeroed" and the compensating ring set at "2". Remove the top screw, being careful not to disturb your adjustments; remove the top knob and replace it with the "2" in precise alignment with the "2" on the compensating ring and the white spot on the rear of the turret plate (see Figure 5). Replace the top knob screw and tighten.

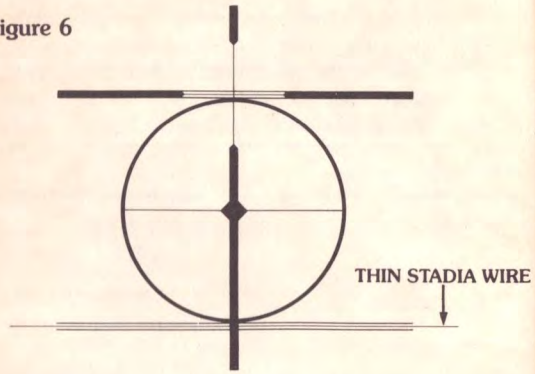
Figure 5



Adjusting The Stadia Wire:

Aim your scope at the target using the top of the circle and the parallel lines as your aiming point. Using a small screwdriver, turn the small central screw located on the front of the turret plate until the stadia wire is centered between the two parallel lines at the bottom of the circle as seen in Figure 6.

Figure 6



Your Auto-Comp Scope is now zeroed for any distance. To test the accuracy of your rifle, place your target six hundred yards away and check out your ability to "range", and compensate for trajectory distances. Your range and compensated shots should fall inside the circle on your target, which simulates the kill area of the game you have selected.

If the range facilities are not available you may also check out your compensating functions by using the manufacturers' data for bullet drop at long ranges, and converting these bullet drops to minutes of angle (MOA) and marking your target accordingly.

In The Field:

It is an early autumn morning, and you see an eight point buck step from a tree line in the distance to your left. You aim your rifle, turn the top knob a bit until the deer is centered between the Dual-X's horizontal reticle and stadia wire. The knob reads "3", for 300 yards. You set the compensating ring at three and shoot. After just a little practice, you will be able to get off a shot in about eight or ten seconds. Remember that these are distant shots and your movements should not startle the game.

A great advantage of the Auto-Comp is in hunting at predictable distances. Varmint hunting, for example, usually requires long-range shooting. If you estimate the target range as 500 yards and your game is coyote, set the scope for that distance. Chances are, only minor alterations of this primary setting will be required.

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