

Mounting & Mounting Tips

Whatever the choice of ring/base system, make sure the rifle scope (optical axis) and rifle barrel (bore axis) are aligned as closely as possible. This alignment is critical to get sighted in properly and the scope performing to its maximum potential. This can best be thought of as the process of aligning the reticle to where the rifle barrel is pointing. SWAROVSKI OPTIK rifle scopes are delivered with the reticle centered in its Range of Adjustment (ROA). In the vast majority of situations, a rifle scope is mounted, several clicks are made to get zeroed, and you're ready for the range or field.

Every rifle scope model has a unique Range of Adjustment (ROA). ROA is the limit a reticle can move inside the rifle scope. Generally, lower magnification rifle scopes have more ROA than higher magnification scopes. For example, a SWAROVSKI OPTIK Z6(i) 3-18x50 has a ROA of 65 inches of elevation, 36 inches of windage, at 100 yards. This model presents a rectangular shape box. When the scope is mounted on the rifle, the rifle barrel should be pointing somewhere within this "rectangular shaped box" or Range of Adjustment, preferably relatively close to the center.

Two mounting problems that can happen and to be aware of:

1. If the barrel axis/scope axis is far enough apart, after zeroing, it is possible that the reticle (erector system) can be pushed against the inside of the scope's main tube. The result can be the rifle/scope, as mounted, that will produce erratic grouping.
2. There may even be severe cases when after a scope is mounted, the rifle barrel is pointing "Outside" the Range of Adjustment of that individual scope, so that the reticle can not be aligned with the rifle barrel. There can be many, sometimes difficult to detect reasons

for this: A) windage adjustable bases have been used -- scope is pointing too far to the left or right of the bore B) scope base screw holes not drilled "true" to the bore axis C) rifle receiver dimension changed -- ring & base makers have not been made aware yet. D) rifle receiver slightly over/under machining tolerance E) when barrel was threaded to receiver, bore not "squared" to receiver, bore now not in line, even with "trued base" hole screws F) there could be dirt between base and receiver G) a burr is on the base H) some rifle manufacturers have identical screw hole spacing and identical size screws, but different base heights -- wrong bases and rings were used. Any one, or combination of the above, can cause a rifle scope to be misaligned to the bore.

Rings and bases should be tightened to a specific torque measured in "Inch Pounds" to ensure proper functioning of the rifle scope. Scope Ring and Base materials used, such as steel or alloys, as well as individual screw sizes determine the appropriate "Inch Pound" specification. Over tightening rings can adversely affect performance, especially the rifle scope's ability to hold zero. These specs are provided by the Ring and Base manufacturer and should be closely adhered to.

Most Non-Parallax adjustable scopes are set to be parallax free at 100 meters. Some of these (non adjustable) models with the BRH/BRX/BR long range reticles are set to be parallax free at 200 meters because maximum parallax error will be less at the longer ranges. Because of this 200 meter parallax setting, slightly erratic grouping can occur at 100 yards -- this is normal. Longer range grouping will be better. (Note: the Z6(i) 1-6x24 BRT(i), are set to be parallax free at 100 meters).

SWAROVSKI OPTIK Z6 Series - 30mm (1.18 inch) tubes

Model	Maximum Range of Adjustment @ 100 yards (Per Click)	Point of Impact (Click)	Total no. of clicks (Approx)
1-6x24	72 in	.54 in	133 clicks
1-6x24 EE	75.6 in	.54 in	140 clicks
1.7-10x42	54 in	.36 in	150 clicks
2-12x50	54 in	.36 in	150 clicks
2.5-15x44	Elevation 64.8 in Windage 36 in	.36 in .36 in	180 clicks 100 clicks
2.5-15x56	Elevation 64.8 in Windage 36 in	.36 in .36 in	180 clicks 100 clicks
3-18x50	Elevation 64.8 in Windage 36 in	.18 in .18 in	360 clicks 200 clicks
5-30x50	Elevation 43.2 in Windage 25.2 in	.18 in .18 in	240 clicks 140 clicks

* BT Turret - Point of Impact adjustment (elevation only) on this model is .36 inches at 100 yards or 1cm (10 mm) at 100 meters.

SWAROVSKI OPTIK Z6 Series - 30mm with BT Series (1.18 inch) tubes

Model	Maximum Range of Adjustment @ 100 yards (Per Click)	Point of Impact (Click)	Total no. of clicks (Approx)
3-18x50 BT	64.8 in	.36 in	180 clicks
5-30x50 BT	43.2 in	.36 in	120 clicks

** With BT coupling off. As the scope would be when sighting in.