SCOPE-TRU™ ALIGNMENT BAR

US Patent # 8745914

Why this product is different from other products—in both function and efficiency

In years past, when an individual went about the task of mounting a rifle scope with the regular "***dovetail front/windage rear***" style rings, one had to employ a certain degree of creativity. In order to turn the front rotary dovetail ring into the base, the installer would use either a wooden dowel, a screw driver handle, a crescent wrench with padding on the jaws, or some other "crude tool" that assisted the home gunsmith in getting the job done. God forbid, but some even used a pipe wrench, thereby nearly destroying their new scope rings.

Over time, we began to see tools become available for purchase—tools designed specifically for this very task. We saw these tools made available in stores, catalogues, and online. In no particular order, there appeared a system utilizing two separate rods which had points on the ends. These rods were inserted into each ring, and as the rings were mounted into the bases, the points on each rod were lined up to nearly touch each other. There was also a product with machined bushings that fit into the rings, and these bushings had holes bored through their entire length, creating a space for a rod to go through the center of each bushing. Once again, these rods were used to point towards each other, thereby achieving ring alignment. One advantage of this particular product over the two rods described earlier is that with this type of system, the rods could be moved fore and aft, without loosening the ring screws. This is a very nice feature. There have also been other types of alignment rods with male/female ends that "mate together," bringing about some type of alignment.

Each of these tools are significant improvements upon earlier methods—and, like any tool, each has its own strengths and weaknesses. The dual rods with a point on their ends work ok to "*grip and turn*" for installation, though they offer very little leverage. Despite this, they can be much better than turning rings into their bases using either a dowel, or a screwdriver handle. The bars are used to turn each ring 90 degrees, until the points on each bar are nearly touching each other over the top of the receiver. With this system, it is *possible that the bars may not be perfectly in alignment, even though the points may be touching each other*. However, *in the vertical plane*, with respect to each ring and its height, *they can show if there is some difference in height*—revealing potential "height disparity" in cases where it might exist. Despite all of this, the question still remains, "*how is it possible to tell if these two rings—now possibly aligned with each other using a particular system—are in some kind of readily visible alignment with the center of the barrel some 12 to 16 inches towards the muzzle*?" To a lesser extent, this question can also be applied to some of the other "two-rod systems" so commonly used.

***** This is how I viewed the problem.*** *<u>First</u>-- the two rings need to line up with the axis of the bore—preferably at a "more distant point" than the receiver immediately below the rings. <u>Second</u> -- the two rings must be perfectly aligned with each other.*

Enter the **SCOPE-TRU™ ALIGNMENT BAR:**

In the field of carpentry, everything depends upon the principles of "*square and level*." When a carpenter wants to establish a set of lines that are square, he must start with a method to achieve this. Usually, the carpenter will employ the "***three-four-five***" formula. One leg or direction is 3 feet to a given point, the next leg or direction is four feet to a given point, and the hypotenuse is then five feet diagonally to intersect the points on both legs. This formula creates a right triangle, and achieves a square beginning. There are other times when a carpenter may want to have a little more assurance that he is indeed beginning with an accurate square, especially if the project happens to cover a much larger area. With this in mind, he may decide to employ a "***more distant reference point***," and subsequently, he will use the "***six-eight-ten***" formula. This works exactly like the method described earlier, but because the distance between the points is twice as far apart, it gives one a greater assurance of accuracy.

The ***SCOPE-TRU™ ALIGNMENT BAR*** *uses this very same principle*—it relies on *a* ***farther, more distant reference point*—in this case *the barrel 12 to 16 inches out in front***—rather than the *nearby reference point of the receiver immediately below the rings being mounted*, that other tools/methods may rely on. In my mind, this assures a much better chance of achieving an accurate alignment, and one can readily see this by observing the pointer as it is centered on the barrel at a more distant reference point—far away from the receiver and rings.

With this thought in mind, because the ***SCOPE-TRU™ ALIGNMENT BAR*** is ***one solid, continuous piece***—*not two distinct, separate pieces of steel bar with a ring mounted on each bar*—but rather, one solid, continuous piece with both rings mounted on this precision bar—the installer can achieve <u>two</u> different things:

1. ***Each ring is in nearly perfect alignment with the other***—as they are both mounted to a solid, continuous, one-piece precision bar.
2. While *each ring is in nearly perfect alignment with the other*—at the same time, ***each ring can also be in nearly perfect parallel alignment with the center of the barrel at a more distant reference point*** *about 12-16 inches in front of the receiver*;
    A. Using "***dovetail front/windage rear***" style mounts; this is achieved by using the opposing windage screws on the rear base that engage the rear ring, to subsequently move the front pointer of the tool either left or right until it *aligns* with the center of the barrel.
    B. Using "***dovetail front/dovetail rear***" style mounts; this is achieved by <u>*checking*</u> to see if the front pointer is centered on the barrel after mounting the front, or second ring in the mounting sequence. (In the event it is not centered, one can reverse the front ring a 180 degree turn and once again check to ensure the front pointer is well centered on the barrel. If alignment with the center of the barrel is still not possible, one can reverse the rear ring a 180 degree turn and once again check to ensure the front pointer is well centered on the barrel. In other cases where it is possible, one may have to try switching the positions of both the front and rear rings, once again checking the front pointer to see if it is centered on the barrel. In some cases, near perfect alignment with the center of the barrel may not be possible, sometimes due to the mounting holes that were factory bored into the receiver—and their subsequent misalignment with the axis of the bore).