

AR15 Optics: Considerations, Tips, and TTPs

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During my career in the military I was fortunate enough to use a wide variety of optics on the M-4 weapon system. While all of these generally performed well, each was built with a specific purpose and I routinely saw optics being mounted and employed incorrectly, and improper optic use quickly became a personal pet-peeve. Consequently, I've put together a list of considerations, tips, and TTPs (tactics, techniques, and procedures) to help you decide what kind of optic to place on your AR, and some things to keep in mind while you are training.

Purpose is paramount when deciding what type of optic to use, and most AR15 optics can be grouped into these two categories:

1. Reflexive sights (red-dot/holographic/CQB)
2. Mid-Range optics (ACOG/Leupold CQT)

For the purposes of this article, I will give a quick rundown of the background, purpose, and correct employment of each optic, followed by a few tips, training TTPs, and lessons learned from my experiences with these optics.

Reflexive (non-telescopic) Sights

Initially developed in the competition world, the Reflexive sight caught the attention of the US military as early as 1975, but it wasn't until 1993, after the intense urban fighting in the streets of Mogadishu that the military acknowledged the immense benefit this type of sight would provide in an urban combat setting. Thus by the year 2000, the reflexive style "red-dot" optic, (specifically the Aimpoint M68 CCO) was introduced by the military as the standard optic for every infantryman - and the rest, as they say, is history.

Designed in the competition world for super-quick target acquisition at close range, this style optic allows you to immediately snap the gun up and instantly acquire and fire upon your threat. Besides being insanely user-friendly, some other obvious benefits of this optic include ease of operation, versatility, and compatibility with many weapon systems. A couple of the downsides to this type of optic are that most are battery powered and must be turned on before using. This also corresponds to another downside, the adjustable reticle size/brightness. There have been more than a few incidences where I have been out on patrol and looked down to find my optic had been turned off from bumping against my equipment while moving, had a dead battery (although most new optics will run forever on a battery), or I brought my weapon up to find that the bright light had washed my reticle away (which is specifically a problem when operations begin in low-light and continue long into the day).

I would strongly recommend this type of optic to anyone who is serious about owning an AR for personal-protection, and the reasoning is simple; under the fear, stress, and confusion of combat, this type of optic is easy to put into use for target location and identification.

Tips and Training TTPs

1. One of the biggest misconceptions about reflexive sights is these optics are “parallax free”. While this is true at longer distances, these sights do have some discrepancies at short range distances. A good rule of thumb is 50m and in, keep the red dot centered within the optic, and 50m and out the optic is unaffected by parallax. See the figure below:



WITHIN 50 METERS

BEYOND 50 METERS

2. A simple dry-fire technique for reflexive optics: Bounce on the balls of your feet to simulate running and then stop bouncing abruptly, and practice falling into a solid reflexive fire stance (feet shoulder width apart with nose over toes). This will build your muscle memory and consistency in bringing the gun to the correct location (gun-to-head NOT head-to-gun), and negate the close range parallax associated with reflexive sights.
3. Remember to mount your reflexive sight far forward on your rail system. This will allow your field-of-view to open up, and your peripheral vision to pick-up movement and potential threats. **KEEP BOTH EYES OPEN!** These optics are designed to be used with both eyes open, drastically improving your ability to acquire threats.



Note the location of the optic; far forward on the rail system which allows both eyes to pick-up movement while holding the weapon in a dynamic contact position.

4. If you are using an optic that uses a knob to manage the brightness of the reticle, (any Aimpoint series, Bushnell is another) use white out or tritium paint to mark your standard setting. This “witness mark” will allow you to align two large white marks, and your optic is quickly set and ready.

5. Maximum range: Most red-dot style optics recommend use between 0-200m. As previously stated, these sights were designed for quick acquisition of close range targets. I can personally testify that I can ring up consistent hits on a man-sized silhouette at 300m, and have done so with both EOTech 552 and Aimpoint M68 sights. So, don't relegate your training to close range. Train with your optic and push its boundaries!

This is the average sized "red-dot" on a man-sized silhouette at 300m, covering a 13 inch circle, leaving plenty of room to identify and engage at this range.



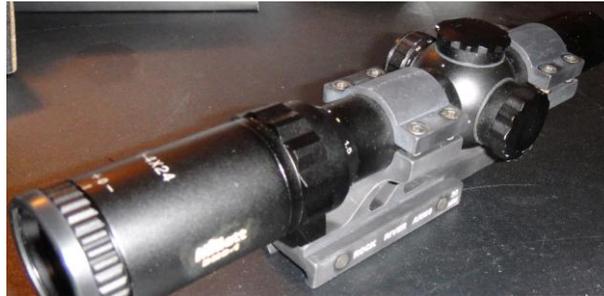
6. Tip for using your red-dot at night: Reflexive sights are a great option for low-light/no light use, as the reticle can be easily seen and acquired, but remember your ENEMY can also see your red dot! If you rapidly turn your red-dot to a high setting (anything past the third click on the Aimpoint), it will emit an eerie red glow from the business end, effectively giving you a signature as you sneak through the dark! Another good TTP is to make another witness mark on your adjustment knob for low-light applications.

Mid-Range Optics

The background of the mid-range optic on the AR style weapon system is the result of a recent explosion in popularity. The concept of the designated marksman within the standard infantry rifle squad is not a new concept, but during our most recent conflicts military leaders in the US Army and Marine Corps once again saw the benefits of imbedding a talented shooter, one who is trained to engage targets with a standard weapon system of ranges out to 800 meters. This type of training drove the implementation of the mid-range optic into service as a standard piece of equipment. By the year 2005, the military had produced doctrine on the use of mid range optics, and by 2007 mid-range optics were being fielded to all infantry units in combat.

Generally speaking the standard mid-range optic is inherently more complex to use, but when employed properly the mid-range optic becomes a serious force multiplier. Most mid-range optics usually come in 3-4x power, with many types being adjustable power, from 1x-4x. Mid-range optics were designed to provide an individual shooter with the ability to quickly acquire positive identification on targets and effectively engage at ranges of 400-600m and even up to 800m away if the shooter's skills allow. These features make this type of optic attractive to employ on your AR, but as many soldiers and marines have discovered the mid-range optic is not a combat optic for the beginner.

It is easy to see the benefits of having a mid-range, such as increased accuracy at extended distance, increased target acquisition at distance, and good observation/surveillance while in a static position (scanning your sector). A couple downsides: if the fight moves to a confined space (indoors) you are at a disadvantage. Probably the biggest disadvantage in comparison with the red-dot is the need for consistent eye relief and head positioning, which makes it difficult to take quick shots from alternate firing positions (think supine prone).



Pictured here is the Millett DMS-1; a durable and cost effective option for an adjustable mid-range optic.

Mid-Range Tips and Training TTPs

1. **KNOW YOUR OPTIC!** Educate yourself on the operational data of your optic. For example: Zeroing procedures are different for mid-range optics. The TA31 series ACOG must be zeroed at 100 yards for correct POA/POI farther downrange. Also, many optics in this category call for a 33 yard BZO, instead of the standard 25 yards, which correlates to 1/3 inch sight adjustments while zeroing, instead of 1/4 inch.
2. If your mid-range has a bullet drop compensator (BDC) and stadia, make sure you are using the correct weapon system for that optic. Most optics that contain BDC and stadia will reference the type of round used and the type of weapon system, specifically on the AR (M16 style long barrel/M4 style short barrel).
3. Another good tip to remember with BDC and stadia of the ACOG is that the width of the stadia and chevron in the ACOG correspond to a man-sized target at the appropriate range. This is an awesome tool for range estimation. Simply pick an object that is “man-sized” width at your target range and align the proper stadia, and that will give you good range estimation.

The horizontal stadia lines on the TA31 series ACOG represent 19 inches at the respective ranges. (Between 400m & 800m they should fit the average width of the frontal view of a man shoulders).



4. When using an adjustable mid-range optic, Leupold CQ-T/Millett style, put some thought into where you leave your magnification. Personally, I always leave it on the lowest setting, and if I need to increase the magnification, then I usually have the stand-off distance needed to provide me the opportunity to do so. I would not want to find myself in a situation where I bring the gun to bear in close contact, and I am looking at a fuzzy incoherent mass. If it constantly stays on 3x-4x consider changing to a non-adjustable optic.



By taping a chemlight to the fiber-optic (as shown) you can increase the brightness of your reticle. This is a great and proven TTP for ACOG use in transitional light periods.

Back-Up Iron Sights (BUIS)

There is no such thing as an indestructible optic, and I have personally witnessed (and experienced) optics fail during the critical moment when gunfire was being exchanged, and accurate gunfire was needed. Therefore, it should be a no-brainer that money should be spent on a good BUIS system first, and train with them every time you train carbine specific skills. (Consider dedicating 50 rounds each training session for a year to BUIS only marksmanship and drills). There is a variety of modernized irons to choose from, and you should do the necessary research to make sure you have a set that is compatible with your optic. Here are couple considerations for BUIS use:

1. Does your optic allow you to view your BUIS through the optic, or do you have to remove your optic before using your BUIS? Personally, I prefer to mount my optics in a manner that allows immediate change-over to my BUIS system. If your BUIS is not compatible with the height over bore of your optic, then ensure that you utilize some kind of quick throw lever mount on your optic. This will allow you to get your gun back into the fight quickly if your optic becomes inoperable.



This was the result of a direct hit from a simunition round. Notice that you would NOT be able to use your BUIS through the optic, so this begs the question: How quickly can you get your optic off and get your gun back into the fight?

2. Preferably your BUIS should be mounted so that they are visible in the lower 1/3 of your chosen optic. This allows max field of view in the case that you have to use your BUIS through your optic.
3. When running mid or extended range optics you should carefully consider your options:
 - a. Consider an offset BUIS if you are running a mid-range or extended range optic with which co-witnessing of BUIS is difficult. One excellent example is the Dueck Defense Rapid Transition Sight (RTS) seen below:



Please be aware that such a BUIS system limits the operator to strong side sight utilization and does not facilitate bilateral weapon operation, which I consider a CORE SKILL SET.

- b. Another option is to conduct a quick change-over from scope to irons using quick throw lever mounts. This can be done really quickly if you train accordingly, but the implied task is to keep the BUIS close to the weapon system.

Final Thoughts

One of the few attributes of a gunfight that we completely control is the type of gear that we bring, so don't let good marketing and popularity make your optic choice. Put some serious thought into your optic choice because it can, and will, save your life. After you make your decision, put your optic to the test and find its limitations. Take it to the range and see how quickly you can put accurate and effective gunfire down at a given range, and then push that range to the limit. Can I run my gun and optic bilaterally? How quickly can I get my BUIS into the fight? How am I going to use this gun and optic in low-light and no-light? All of this takes hard work and training, but in the end you will build proficiency and trust in your equipment, and that training will come through when it's most needed.