

Improving Rifle Qualification: Part 1, Zero

The US Army has utilized the current version of Trainfire since the early 1980s. Even with changes in the new Training Circulars released in FY2016 and FY2017, the basic ideas remain the same. The concept is to teach a Soldier to reliably place hits somewhere on a silhouette a few hundred meters away. The current program concept is sound but the execution is often lacking.

First, let's look at the prescribed training and qualification program. Soldiers begin with a grouping exercise at 25 meters. Shot location doesn't matter at first as we're testing marksmanship ability. The standard was two consecutive groups inside four centimeters (6 Minutes of Angle), the scaled width of a full-size silhouette 300 meters away. The current suggested standard is a single five-round group of 4 MoA in the new bullseye-type zero target. Up to 27 rounds were supposed to be available, allowing for remedial training and practice as needed.

With this accomplished, the Soldier zeroes by adjusting sights to move groups to center, firing groups to confirm and readjust as needed. On the old zero target, a four-centimeter circle subscribed in the silhouette indicates center and at least five rounds out of six from two consecutive groups must land there to be deemed acceptably zeroed. The current zero target has a 4 MoA/2.7cm circle surrounded by a 6 MoA/4cm circle with a one-inch white diamond to indicate center. Eighteen additional rounds were supposed to be available for this.

After success here the Soldier heads to a RETS (Remote Engagement Target System) to shoot "pop up" targets from 50 to 300 meters

away that appear singly or in pairs on a time limit. A hit anywhere is supposed to knock it down and earns a point. With 40 total targets exposed the Soldier needs to hit at least 23 to qualify. The current qualification (Modified Barricade) course uses the same range by adds a barricade to shoot around and over in prone, kneeling, and supported standing positions with a timed delay in between each shooting phase.

This is a logical progression but it falls apart in practice. Too often, Soldiers view the preliminary training at 25 meters as something to get through quickly. The 25 meter range is often terribly inefficient. Problem is, the scaled range is the only place Soldiers get any feedback on their shooting. RETS targets are very reliable when properly maintained but may not always be perfectly so. Of course, most times a "bad target" is blamed for misses when a poor zero or bad shooting is the likely cause. Sometimes, a shooter with good slow fire group shooting ability and a solid zero has lackluster qual results due to an initial inability to work at speed; more so now that the entire current Modified Barricade qualification is shot as continuous phases. Even if RETS targets were guaranteed 100% every time we still can't see where a miss went, much less why, and it costs 40 rounds to realize problems.

It is rare to find units willing to allocate the full amount of ammo authorized on the 25 meter range. Most understand the notion of getting shots inside the circle but undervalue the benefit from confirming a zero or shooting groups in general. This is the only place a Soldier can practice during live fire but group-

ing and zero is deemed complete when the designated rounds have been expended. If the first target is shredded to ineligibility range personnel will stubbornly refuse a new one. They'll also refuse an additional three rounds to confirm zero. Even if offered a fresh target and additional ammo Soldiers often refuse it, possibly because they fear what they'll learn.

Inexperienced personnel running the tower play an annoying game I call "Army Simon Says" except they overuse the phrase "at this time" instead. Even more absurd than the ridiculous amount of lock step commands under the false guise of safety is the incredible amount of time this wastes. Shooters are rushed through their 3-5 shots, instructors (if there even are any) have no time to converse with someone struggling and the line drags in Hokey Pokey fashion down and up range. An experienced coach may want an extra minute to explain something with the target in front of a struggling shooter but this holds the line up for everyone else. No wonder troops want to stumble off to the qual range with a "nearo" and get the ordeal over.

Qualification is a validation, not training. It would be folly to administer a standardized physical fitness test every day in an attempt to improve scores instead of intelligent, progressive overload and is equally silly to repeat a qualification without remedial training. Increases in skill are only realized when shooters are in a learning environment offering feedback.

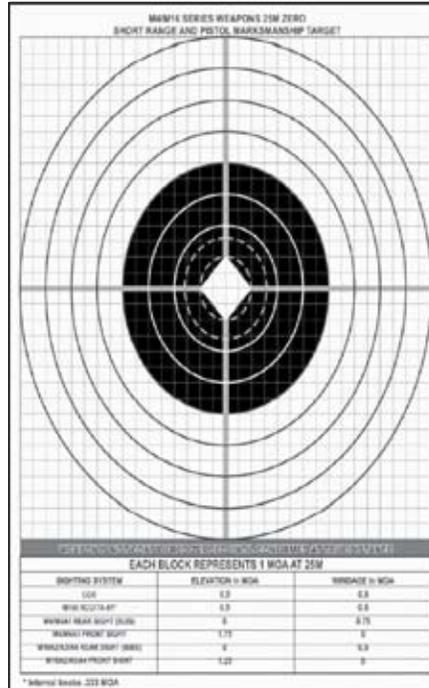
How can we improve these procedures to implement better training? The common "solution" is a call for more trigger time. Simply

shooting more without having a plan combined with feedback of the effort accomplishes little. Experienced riflemen typically call for training on Known Distance ranges with target carriers and pits as a solution. While an excellent idea, solving the feedback problem and allowing shooting at full distance, the Army has let many of their KD ranges to dilapidate and most units simply don't know how to conduct such a range.

The emphasis needs to be put back on training, teaching, testing and re-testing fundamentals. Sadly, the Army realized this but has spent the last three decades forgetting lessons already learned. The current program was implemented by 1982 as detailed in FC 23-11, *Unit Rifle Marksmanship Training Guide*. Trainfire improvements fixed failures known in the Vietnam era. Grouping exercises are to be conducted until the Soldier is proven to shoot well with remedial training offered as needed. Then we zero, which is a separate exercise with an additional ammo allocation. Following this we're supposed to conduct a validation exercise with a timed and scored exercise. Only when passed is the Soldier finally sent to the RETS range to attempt qualification. In the last thirty years, the Army has eliminated (or ignored) the KD range and all established field firing/validation phases. Soldiers typically are quickly shuffled through an abbreviated group and zero exercise and sent off to the RETS range for qual as quickly as possible. We are devolved back to a failed program from the 1970s.

New Zero Target

In the center is a 4 MOA diamond and dashed circle, surrounded by a 6 MOA (4cm) dashed circle, same size as old zero target. This is surrounded by 8, 12, MOA rings inside a 16 MOA bull (4 inch black circle, which scales the same as B-6 NRA bull at 50 yards.) Around this are



Above: New Zero target. In the center is a 4 MOA diamond and dashed circle, surrounded by a 6 MOA (4cm) dashed circle, same size as old zero target. This is surrounded by 8, 12, MOA rings inside a 16 MOA bull (4 inch black circle, which scales the same as B-6 NRA bull at 50 yards.) Around this are 20, 24, 28, 32 MOA circles (5, 6, 7, 8 inches, respectively.) The entire target has 1 MOA grid squares. Soldiers are expected to learn MOA/mils and use as appropriate.

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Notice the grid is in an even adjustment of one minute when placed 25 meters downrange, not for any particular sight's adjustment. No cartoons or pictures show which way to turn the sight for a desired adjustment. The Army's current doctrine for zeroing procedure demands Soldier understanding of their issue equipment. The Technical Manuals list appropriate offsets as needed. Of course, because the laws of physics haven't changed, the

data in the Small Arms Integration Book is still a valid resource. That will take research on your part.

Efficient Zero Procedure

The failed Army approach is to clear the line for a cease fire after each fired group, with shooters allowed to go down range to check their target. This wastes huge amounts of time. Even the fastest attempts has the line cold for five minutes at a time and most ranges it's over ten minutes. Shutting down the range for 5-15 minutes after each 60-90 second shooting period is a waste of time. Worse, coaches only have a brief window to work with shooters as nobody can handle weapons during the long, frequent cease fire breaks.

The fix: Break the unit down into buddy teams and put two shooters on each available firing point. Keep the total relays as small as the range will allow. Staple up as many zero targets as will fit on the backers. The more the better. Number them so they can be readily identified. Explain to all shooters that both they and their partner must successfully group, zero, and pass a scored validation exercise before going to the RETS for qualification. This motivates good peer coaching.

The range is conducted in 10-20 minute block times. The line

Below: Much of the time wasted during short range training on military ranges is spent clearing the line and walking down range to observe targets.





Above: Along with using optics, staple or paste as many targets as you can. A simple grid denoting targets by numbers and letters, or just marking each target, allows easy identification.



Above: Observing targets with optics avoids wasting excessive amounts of time normally spent clearing the line and walking down range every 3-5 rounds.



Above: Having a coach or a shooting buddy watch is another good feedback point. The Army Training Circular illustrates this but it often isn't utilized.

is cleared and personnel go down range only to replace used targets as needed, preferably no more than four times an hour. Shoot groups as normal, with peer coaches watching their shooters. Check the target as needed with optics. At 25 meters even cheap compact binoculars can

Below: Running a training range in open blocks allows shooter-coach teams to discuss results, problems or ask for instructor assistance without disrupting other shooters. We lack pit service on short distance ranges but can substitute by posting a number of targets down range. Shooters and peer coaches can simply move on to another clean target when one has too many holes. Regularly scheduled cease fire times, about four every hour or so, give shooters time to post fresh targets as needed. Use a grid or mark each target for easy identification.



see strikes. A quarter-inch bullet hole is one minute of angle at this distance and can often be seen with naked vision. Using an optic to do the walking instead of stopping the line every 3-5 rounds makes this range efficient. Peer teams can talk as needed or ask for an experienced coach without disrupting anyone else. Practice and dry fire, or letting the peer coach and shooter switch can be done without stopping the line.

Below: Shooting too many shots on one target leaves an indiscernible mess. Which shots correlate to which group? Has this shooter really zeroed? Paper is cheap, much cheaper than ammunition and time. Use a fresh target to confirm!



When a target has too many holes to discern group location (after every three or four groups or so) the shooter switches to a clean one. Purchased in bulk, paper targets are pennies each. One round of ball ammunition is around \$0.27. Trying to conserve targets is false economy!

When the shooter is confident their zero is good, it should be confirmed on a fresh target with no bullet holes. Zero should be also be confirmed with slow and sustained fire groups from unsupported prone, kneeling, and any other useful position based on time and ammunition availability. **USARCMCP**