



ARMY RESERVE MARKSMAN



IWQ Reality Check

Sgt. Ian Tashima

CA Military Department Combat Shooting Team

@CombatShootingTeamCMD

LethalityRanch.com

Intent: Share data of current state of Army small arms

BLUF: Current data indicates numerous problems with Individual Weapon Qualification throughout the U.S. Army, especially Reserve components, and a lack of understanding of new standards.

Individual Weapon Qualification reality check: On average, half of all Soldiers will fail the .40 rifle IWQ unless units change their current approach to weapons training and qualification.

Based on data collected from across an active duty Airborne Division, hit probabilities for targets at all distances was calculated. Taking the .40 rifle IWQ target presentation data, an approximation of average shooter performance can be determined based on the number of targets at various distances multiplied by that distance's hit probability resulted in 21/40. 23 is needed to achieve a Marksman rating. To be clear, **these hit probabilities were generated from shooter performance while conducting the old rifle qualification**, not the new and more difficult qualification as found in TC 3-20.40.

Furthermore, this poor result is optimistic. The new qualification introduces complicating conditions that will further degrade shooter performance: new firing positions, greater urgency, time pressure, no tower commands, mag-

New IWQ Target Presentations						Predicted Performance	
Meters	Prone Unsupported	Prone Supported	Kneeling Supported	Standing Supported	Total @ Distance	Hit % from Study	Expected Hits
50	2.00	0.00	2.00	2.00	6.00	83.5	5.00
100	1.00	1.00	2.00	3.00	7.00	57.56	4.00
150	3.00	2.00	2.00	1.00	8.00	67.45	5.00
200	2.00	1.00	3.00	2.00	8.00	57.65	4.00
250	1.00	2.00	1.00	2.00	6.00	45.29	2.00
300	1.00	4.00	0.00	0.00	5.00	32.68	1.00
					40.00		21.00

azine changes without leader/tower prompting, position changes without leader/tower prompting, no alibis given to shooters.

If units do not change their approach to IWQ and individual weapons training, units and Soldiers will fail.

BUT, there is a solution. Leaders must train to standard. Soldiers must put forth disciplined and intentional practice. The training template must be adhered to. The PMI Evaluation must not be a ridiculously easy event without truly relevant knowledge assessment. Drills must be taught, trained, and assessed with rigor. Grouping standards must be mercilessly validated by Leaders. Proper ballistic offsets for 25m must be understood. Zeros must be properly confirmed at distance.

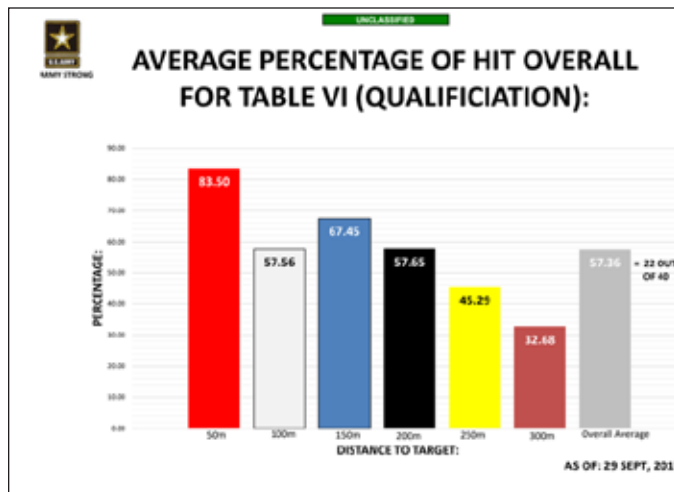
Leaders, you are the Soldier trainer. If you don't understand every element of the above, your Soldiers suffer.

Soldiers, you are responsible for your performance. If you don't care to understand every element of the above, why should anyone else? These are your promotion points. These are your life saving skills.

The requirements, conduct and standards for all these events can be found in TC 3-20.40, freely available without CAC on the Army Publishing Directorate website.

There are a number of small arms courses in the Army. The National Guard and Active Army offers the Master Marksmanship Trainer Course. Small Arms Weapons Expert course is available from the National Guard. The Army Reserve offers Mobile Training Team assistance on request. Shooting matches are also available, including Postal Matches that can be conducted local with the unit during qualification.

If you aren't sending Soldiers to these events, reading



Call For Articles

All information, articles, and ideas helpful to improving small arms training, qualification, and competition for Army Reserve Soldiers are welcome. Submit anything you'd like included in **Army Reserve Marksman** to the editor: john.m.buol.mil@mail.mil

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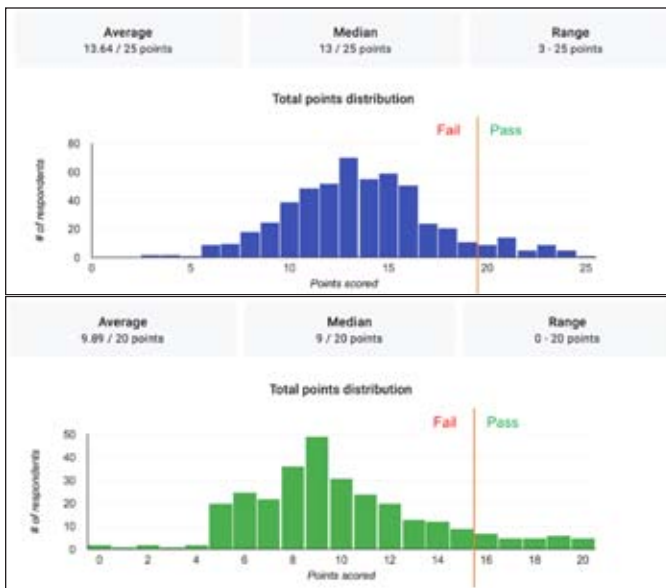
the relevant TCs, rehearsing events, practicing the Drills, training the PMI&E knowledge, maximizing EST or S/SVT opportunities, and brutally adhering to standards, **you will not find success going forward.**

Predicted 90%+ Fail Rate

Based on current Soldier knowledge, only 7.6% of Soldiers who took a PMI diagnostic evaluation (foundational rifle employment knowledge found in TC 3-22.9, May 2016) were able to achieve at least 80% correct.

Diagnostic PMI Evaluations are available to assess current understanding of foundational knowledge found in TC 3-22.9, Rifle & Carbine.

Two groups of Soldiers took a Table I validation. The first of 25 questions, with 80% (20 correct) considered a Go had 541 Soldiers responding. The second had 297 Soldier respondents, 20 questions, 80% passing (16 correct). **For these 838 Soldiers, the combined passing rate was 7.6%**



“Give them a quick PMI” is heard all too often across units in the Army. No component is immune from this attitude. PMI&E classes are seen as a hindrance and time-consuming annoyance that must be tolerated, many times given short shrift in a check-the-block fashion.

Shooting team members have found this plays out far too often. Many times, it’s because many NCOs aren’t able to speak with expertise on the subject, leaders aren’t able to discern whether their NCOs are able to deliver a good block on instruction, the depth of discussion on critical topics is too shallow, the time allotted is deficient, or the breadth of subject matter taught is insufficient to cover critical knowledge needed for combative applications of the service rifle.

Furthermore, many non-combat arms units just don’t understand that this stuff applies to them. “But we’re not infantry” is a common refrain. If units don’t understand

the importance of weapons training, they must be shown the relevance to them and their Soldiers. Who is tasked with base defense? Everybody. Especially if you are not regularly running missions outside a FOB, YOU are the base defense first responder! Guess where most machine guns are found in the Army? Weapons Squad in an infantry platoon? No, they’re found in transportation units. Guess who will be tasked with supporting a logistical convoy in a combat zone? Everybody. To believe otherwise to any of the above scenarios is to embrace a deadly delusion. Everybody needs to accept the fact that weapons employment applies to all MOSs.

Making matters worse, many NCOs haven’t been developed as actual trainers. “Telling” is not training. “Broadcasting” info isn’t the same as knowledge transfer. Reading slides is not a training method, yet is commonly practiced. The Experiential Learning Method is all but unknown. A disciplined approach to training and Soldier skill development must be instituted if the Army is to succeed on the qual range and on the battlefield, and it all starts with the 8-Step Training Model. Don’t know what that is? Time to crack open FM 7-0, Train to Win in a Complex Environment. Student dialogue, problem solving, proper checks on learning, moving at the speed of learning and “playing with their food,” as I call it, must take place for lasting skill and knowledge retention. Periodization training should be pursued, in lieu of ineffective block training.

Finally, critical to the Bottom Up responsibility NCOs shoulder is the ability to Assess Soldier training. 56% of leaders at the Company level and below don’t use T&EOs to evaluate. 92% of Company commanders not using T&EOs specifically said they rely on SUBJECTIVE ASSESSMENTS. This creates the false impression that attending training events equates to being trained. (USAIGA Report on the Inspection of Unit Training Management). This fuzzy approach to validating training is problematic.

Spot Check

Want to spot check your weapons trainers? Ask them the following BASIC questions. If they can’t answer quickly and confidently, something is amiss:

- Describe Immediate Action (It’s not SPORTS!)
- What is the difference between WSS and WCS?
- What does “weapons tight” mean?
- How many MOA below POA at 25m is the proper ballistic offset for a 300m “near-o”?
- How many rounds fired for each grouping? (it isn’t 3)
- Demonstrate a proper kneeling supported position
- At 300m, what is the proper hold to compensate for a 10mph full value wind?
- Name the functional elements of the Shot Process
- What is the “threshold” grouping standard in MOA?
- Name the 4 safety rules (if your NCOs cannot rattle this off, clearly and without hesitation, there’s a problem)

More information is at the end of this issue. **ARM**

Zero Procedure

Mike Lewis

FaceBook.com/CanebrakeConsultingServices
<http://canebrake.us/>

Biography

Mike Lewis is a 20-year military veteran, Airborne Infantryman. My focus now is helping the American warfighter to be more lethal and helping regular folk to be safer in this crazy world through both training and material solutions.



Many of us have seen an information operations blast on the Internet recently, concerning the Army and new qualification standards. What many do not know is that the qualification is one part of a much bigger picture. This must be kept in mind.

Part of that bigger picture is a focus on properly zeroing weapons. This is important because the understanding level across the population is actually pretty low. Poorly zeroed weapons mean less than optimal effects when lethal fires are employed or disappointment when punching paper or trying to ring steel. While many who read this will wonder why such an elementary task is written out, I feel it's needed. Most of this post is written specifically for those who zero their weapons at 25 meters. If you use 36 yards, cool- it still applies. Yes, for those not in uniform, this is adapted from and improved upon the way the Army taught me... but it works.

First, let's get some administrative information out there. Zeroing isn't training. Zeroing is merely calibrating an aiming device to meet a projectile's trajectory at a given point in space. That's it. Don't try to treat it as a training event because it's not. The shooter, you, should already be able to print decent shot groups through previous training before this step.

Focus should be placed on comfort as that allows one to concentrate on properly executing the shot process in order to get good consistent shot groups and achieve a better zero. Whether or not the shooter is wearing a helmet, or body armor, or a fighting load carrier, or any other combat gear makes a negligible impact in the zero if any at all. Proper sight alignment and proper sight picture are just that; a helmet or a patrol cap don't make any real difference in achieving proper stockweld and aligning the sights with consistency. What this means is that all the leaders saying "train like you fight" or "your zero will change when you put your kit on" are wrong. And for those screaming SAFETY... well, children are out shooting live ammunition,

with their parents, without helmets, today. Follow firearms safety rules and I'm pretty sure you'll be ok.

Before even beginning to zero, one needs to understand there is a difference between true distance and reduced range zeroing. The true distance, or "true" zero, is the only one that is 100% accurate. This is due to external ballistics. No, 25 doesn't equal 300. That's a 25 meter zero. Period. One can get close using a ballistic offset (hitting somewhere other than the point of aim to account for ballistics at distance) but the zero still needs to be confirmed and refined true if possible.

We also need to understand different zeroes. Some love a 100 meter zero, some a 200, and the Army standard has been 300 for quite a while. With that in mind, the Army also used a 250 meter zero with the M16A1 (which is really close to 25) and a 200 yard zero with the M14. US Army TC 3-22.9 says this about a battlesight zero (BZO):

"The term battlesight zero means the combination of sight settings and trajectory that greatly reduces or eliminates the need for precise range estimation, further eliminating sight adjustment, holdover or hold-under for the most likely engagements. The battlesight zero is the default sight setting for a weapon, ammunition, and aiming device combination. An appropriate battlesight zero allows the firer to accurately engage targets out to a set distance without an adjusted aiming point. For aiming devices that are not designed to be adjusted in combat, or do not have a bullet drop compensator, such as the M68, the selection of the appropriate battlesight zero distance is critical."

Just as mission drives gear, it should also drive the zero. A 300 meter zero is great for general purpose across a wide range of environments but I wouldn't want it for an urban fight due to the bullet's trajectory using it. A 100 or 200 meter zero may be better for certain environments. It all depends on the operational environment and the most likely or common engagements. It's on you, the user, to learn what's best for when and where and make decisions based on that. If you're in uniform, it's on leadership at the unit level to make these decisions. It's also wise to learn adjusted aiming points (holds) for making shots at distances outside of the zeroed range taking the trajectory into account. Zeroing at 25 meters will absolutely require using a ballistic offset for these different BZOs. Confirming and refining true is also strongly advised in these instances if possible.

Now that we have all of that out of the way, let's go.

Shot groups in zeroing should be five rounds. This is to be able to better identify and discount aberrant shots or fliers. The ability to call one's shots comes into play here. Everyone lets one go they wish they hadn't from time to time.



It happens. The difference is knowing you let one go and having a pretty good idea where it went. Even if you don't know, a tight cluster of bullet holes in the target with one well outside of that cluster is a pretty good indicator. This is why using three round groups isn't the recommended best practice. Mark the first group using one color of marker (see photo 1), marking each hole instead of drawing lines between them. This will come into play later. Fire a second group and mark it using a different color marker (see photo 2). The cluster should lay on top of the first. This is where using colors instead of lines pays off. It's less confusing. The tighter the shot group, the higher fidelity you have in making sight adjustments. Firing two groups isn't always necessary and truthfully, I haven't always done it. Then again doing it this way helps ensure equipment is good to go; I once found an optic mount that had worked itself loose (PCC/PCI failure) and never would've gotten a good zero had I continued after just one group.

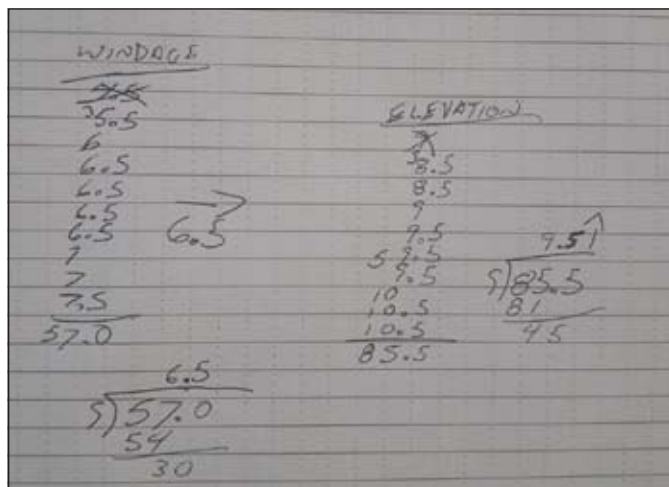
This is where we come to one of the most misunderstood aspects of zeroing. For many moons I was taught to use the center of the shot group in order to adjust but not told how to identify it. The center of the group is identified as the mean point of impact or MPI. This is where you discount any fliers (I normally mark a flier with an X when initially marking my groups but forgot here and marked it out when doing the math) before calculating. One method is drawing a line from the two outermost shots in the group laterally (windage) and one between the two outermost vertically (elevation). Where the two intersect is used as the MPI. My preferred method is a little different, a little more intensive, and more accurate. Either use a ruler or the grid lines of the zeroing target and take both windage and elevation readings on each shot- the ruler is more exact but much more tedious both with measuring and converting to MOA or mils. Average all the windage and elevation readings separately to calculate the exact center of the group (see photo 3). The average on windage combined with the



average on elevation is the MPI. Again, tighter groups are always better. It's much better to take readings from a 2 minute of angle (MOA) shot group than a 5.5 MOA group, which is still within US Army standards. The 5.5 MOA group is much tougher to read because there are many variables caused by shooter error incurred that make finding where the weapon and ammunition are printing in relation to the aiming device difficult.

Now you're ready to make adjustments. I've heard, "start with a bold adjustment" many times more than I care to count. This is idiotic. You know your windage and elevation. You know the adjustment value per click of the sighting system and are dead wrong if you don't. Just do the second-grade math of number of clicks per MOA (or milliradian/ mil) times the MOA (or mil) adjustment needed and make the correction. It may be wise to adjust windage before elevation or vice versa to minimize variables that can cause errors. Make the first adjustment and fire another group. I adjust windage first then elevation when doing one then the other, to bring the grouping centerline of the target. The elevation adjustment brings the group to the point of aim (POA) or more often the intended point of impact (POI) based on a ballistic offset for the desired zero.

You should be putting shots on paper at the POA or intended POI using the offset by this time (see photo 4). Your shot groups should be centered where you want them, not somewhere within that 4 magic centimeter ring on the target at center of visible mass. This will give a wide variance of trajectories, equating to a zero approximate to somewhere between 225 and 425 meters based on offset. This is unpredictable and unacceptable. The MPI must be at the

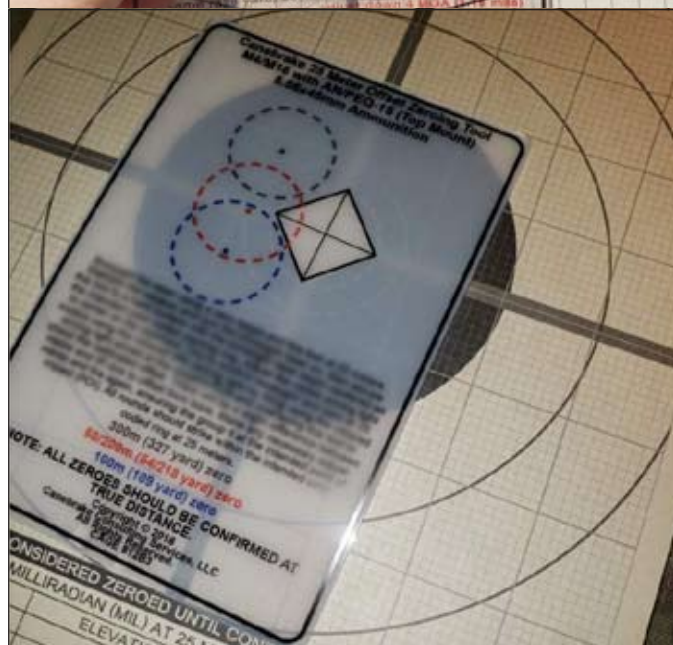


desired point of impact for the appropriate zero, or very near it (within 1 MOA). It must also be at centerline windage-wise; of the two windage is more important as any error will grow exponentially at distance with or without wind downrange. NOTE- If zeroing aiming lasers then there will most likely be a lateral offset as well to account for the laser emitter not being mounted directly over the bore.

Fine adjustments may be necessary to put the MPI exactly where you want it (see photo 5). Fire one to two groups to confirm and refine the zero at 25 meters. Getting windage

right here is more important than elevation, especially if you will be confirming true. Windage at reduced distances is true unless firing over such great ranges for spin drift to become a factor. Most of us don't so it's not an issue here. Get the windage centerline to the POI at the reduced range. If using an offset using ballistic data to produce a closer to accurate zero at reduced range, then the MPI should be at the POI templated. I'll have a post up in the near future talking offsets.

The last step is confirming and refining true. This must be done if at all possible to ensure the zero is what you think it is. Leave windage alone when firing at true distance because deviations there almost certainly are a product of wind. Get out there and make sure your blaster prints where it should. **ARM**



Above: Canebrake Zero Tools are the go-to offset tool.

<https://www.amazon.com/Canebrake-25-Meter-Zeroing-Tool/dp/B077H8JTBP>

SCATT System Info

Sgt. 1st Class Matt Anderson

Lately I have seen a lot of post in reference to SCATT systems. Here are my personal opinions and experiences. As a disclaimer I am not the best marksman in the world and I am still learning a lot to try and be better at this skill. Two weeks ago I returned from the Interservice Rifle matches. There I would average a 91 standing that's up a couple of points up from Nationals last year.

I started training with a SCATT during Interservice and have continued since. I started out with the training shooting my average of 91. Two weeks later I'm averaging a 98. I will say I have not gone easy on the system I have definitely put it to use.

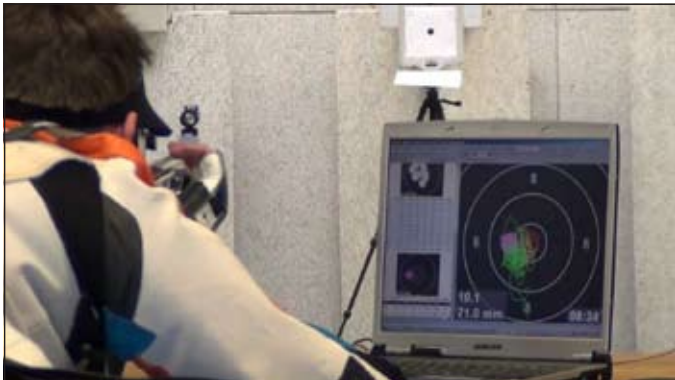
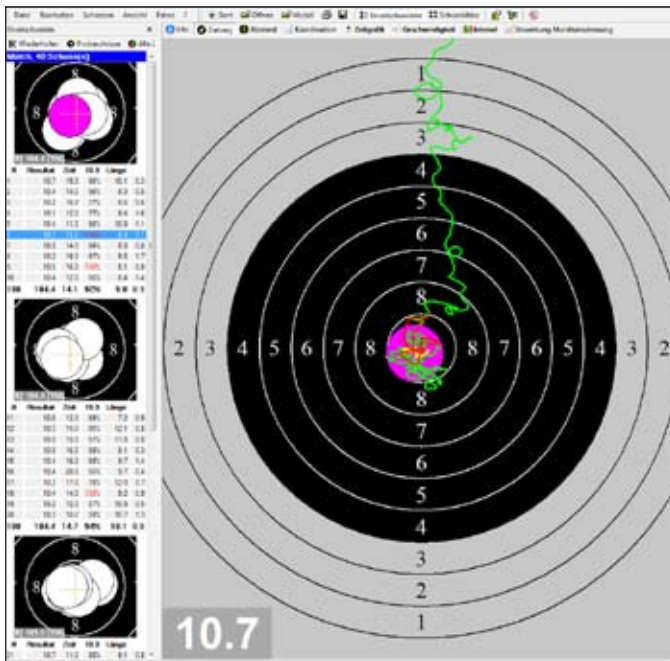
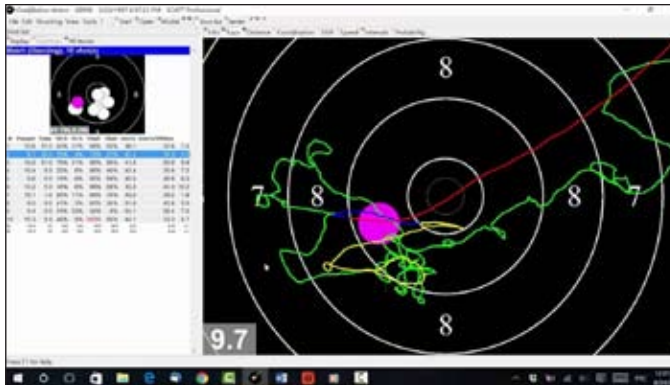
I have not followed an official training regimen. I wish I had one. What I have done is spend about 30 minutes of training 2 to 3 times a day. I will dry fire 100-150 shots a day.

For those of you questioning if the SCATT is worth it to me let's put some monetary value on my training. For the closest range to my home is \$75 a year. On the low side 1400 rounds on the high side 2100. Let's just say that's \$1600 in ammo or reloading components and time to assemble. For the range it's a 56 mile drive. 112 miles round trip. Let's just say \$20 round trip. 14 days there is \$280 in gas.

See where I'm going with this yet??? Oh and let's not forget this is about half a barrel life so let's tack on another \$400. That has me at about \$2350.00.

Retail for a SCATT is \$1900.00. So I can do the above. Or I can take 20 steps down to my basement and conduct the training I have already done, and save about \$500. Saving time, money are great, but what you can't put a price tag on is the instant feed back, and the data for review is unlimited.

So if you question if a SCATT is worth the investment I would say yes. The SCATT will last much longer than the ammo stockpile. Even if I gain half of the points increase I see with the SCATT in a match I see this as a win, and a great investment long into the future. **ARM**



Three Tips

Sgt. 1st Class Thomas Walsh

For anyone that is either new to the shooting sports or is wanting to improve their game, I would make three recommendations.

First, leave your ego at the door. No matter how good you think you are, odds are there is someone out there that has information or practices that you will benefit from. Remain humble, outgoing, and always maintain a positive attitude. One of the things I enjoy most about this sport is the eagerness of our peers and even competition to want to make everyone better. As Soldiers in the USAR this is paramount. I train year round in several disciplines and I never grow as much in training as I do in one match. This is due to speaking with team mates and competitors, and more than anything observing. Shooters want to spread their knowledge, you need to be able to not only receive, but retain new information. Not all advice will work for you, shooting is not standardized, so take what works for you and disregard the rest.

Second thing, shoot as often as possible. Army matches are a great start, for many of us they don't come around often enough. The civilian side has opportunities, get online and find matches in your area, whether its the CMP, NRA, USPSA, IDPA, PRS. Doesn't matter, find matches and shoot. Find and contact local clubs, these people want you to come shoot, and most of these matches you will have no issues shooting with stock or production guns. Don't dump too much money into gear and guns until you have spoken to and competed with other shooters in that particular discipline. They will most likely know what you need your gun to do, and have tips, tricks, and a good idea of what products will be most beneficial to you.

Third, Shooting is your right as an American. Have fun and be a good example of the shooting community. Get your kids, family, and friends into the sport. Take someone shooting that hasn't had experience shooting or doesn't agree with your second amendment rights. Shoot .22 Long Rifle like its going out of style, you wont find a better training round, it is extremely affordable, quiet, and the lighter recoil makes it easier to establish what adjustments you need to make in order to make a good shot. If you are working with new or less experienced shooters (of any age) they will appreciate these same attributes.

Be responsible, train often, and have fun. **ARM**

2019 Voodoo on the Bayou

Maj. Jesse Campbell

The 2019 Voodoo on the Bayou 3-Gun Competition was an Active Law Enforcement and Military only event held at the Joint Emergency Services Training Center (JESTC), Zachary, LA.

Mission Objective:

My objective for this match was to set a baseline for future 3 gun matches, and push outside my comfort zone using a shotgun and long range rifle shooting with a carbine. I have traditionally only shot in CQB / short range matches the past couple of years.

Significance/Impact:

Voodoo on the Bayou 3-gun match is the annual fundraiser sponsored by the Fallen Louisiana Law Enforcement Officers Fund. This fund is a non-profit corporation that makes respite grants to families of Louisiana law enforcement officer's families who have lost their loved one in the line of duty.

"Besides having a fun time shooting competitors take back to their profession something they can use in their everyday lives to protect themselves, our citizens, and our country."

Max Michel also gave an awesome block of instruction as one of the match stages.

<https://www.maxmichel.com/bio/>

Event Outputs:

This event has better prepared me for future 3 gun matches, as well as some considerations for combat shooting in general. It also highlighted significantly the effect one untuned AND untrained on weapons system can have on overall match performance.

AAR improves:

Mechanical offset awareness. While reviewing gopro footage of a stage firing rifle from within a vehicle, I realized I put two rounds into the wiper blade rather than on target due to the mechanical offset of my Low Power Variable Optic (LPVO) and the bore.

Test your ammunition! While practicing with my competition shotgun, I found that high strength slugs were inducing severe malfunctions. I purchased low recoil slugs for the competition but did not test them. During the match they cost me tons of time as they were too low recoil to properly cycle the action.

Know the rules of the game. I lost more time than I should have to penalties and didn't push my speed as much

where I could have. It's important to understand the scoring parameters very well so prior to the stage beginning you can have a good stage plan, and can make quick, effective decisions under stress that maximize your score. **ARM**



Above: Max Michel provides instruction on the fundamentals of pistol shooting



Above: Results of my “rifle standards” stage, I would have had a stage win overall if I had not received a devastating penalty of 30 seconds for shooting after the cease fire buzzer sounded.

Disciplined Disobedience

Sgt 1st Class John M. Buol Jr.

Prior to General James C. McConville, General Mark A. Milley was the Army Chief of Staff and has since been appointed as Chairman of the Joint Chiefs of Staff. Milley's dictum of Disciplined Disobedience is a great idea that seems to have been washed under by broken Army cultural norms. Adopting this sound idea will become increasingly beneficial if Soldiers can brave the notion of changing into a force dominated by self-efficacious, literate personnel.

Future warfare requires "Disciplined Disobedience," said Chief of Staff of the Army General Mark A. Milley while speaking at the Army and Navy Club in Washington, D.C., as part of the Atlantic Council Commanders Series. "I think we're over-centralized, overly bureaucratic, and overly risk-averse.



Above: *Former U.S. Army Chief of Staff Gen. Milley says the Army is over-centralized, overly bureaucratic, overly risk-averse, and needs to promote "disciplined disobedience" to empower subordinates to take the freedom to disobey specific orders in order to accomplish the purpose, intent, and, ultimately, the mission.*

"Leaders on the battlefield could expect to be out of contact with their own leadership for significant periods of time. Those officers would still need to accomplish their commander's objectives, even when the conditions on the battlefield change and they are unable to send word up the chain of command.

"We are going to have to empower [and] decentralize leadership to make decisions and achieve battlefield effects in a widely dispersed environment where subordinate leaders, junior leaders ... may not be able to communicate to their higher headquarters, even if they wanted to," Milley said.

"In that environment, the Army will need a cadre of trusted leaders on the battlefield who know when it's time to disobey the original orders they were given and come up with a new plan to achieve the purpose of those orders.

"[A] subordinate needs to understand that they have the freedom and they are empowered to disobey a specific order, a specified task, in order to accomplish the purpose. It takes a lot of judgment."

"Such disobedience cannot be 'willy-nilly.' Rather, it must be 'disciplined disobedience to achieve a higher purpose. If you do that, then you are the guy to get the pat on the back."

To illustrate his point, Milley offered the example of an officer who has been ordered to seize "Hill 101" as part of a larger battle plan. "I've said the purpose is to destroy the enemy," Milley said. "And the young officer sees Hill 101, and the enemy is over on Hill 102. What does he do? Does he do what I told him to do, seize Hill 101? Or does he achieve the purpose, destroy the enemy on Hill 102?"

The answer, Milley said, is that the officer disobeys the order to seize the first hill because following that order would not achieve his commander's purpose. Instead, he takes the other hill. "And he shouldn't have to call back and say 'hey boss ... can I go over to 102?' He shouldn't have to do that," Milley said. "They should be empowered and feel they have freedom of maneuver to achieve the purpose." When orders are given, the purpose of those orders must also be provided so that officers know both what they are to accomplish and how they are expected to accomplish it. And then left

to their own decision-making process and devices to accomplish it.

https://www.army.mil/article/187293/future_warfare_requires_disciplined_disobedience_army_chief_says

Guidelines To Institute Gen. Milley's Directive

1. Accept More Risk

Warfare is inherently dangerous, and especially so on land. Yet the Army's overweening approach to safety has created a widespread culture of near-total risk aversion when troops are not in combat. Leaders at all levels are held to impossible standards in a misguided, centralized attempt to limit every imaginable accident or error, whether on duty or off. One need only to review the recent Army messages cautioning Soldiers on the dangers of crossing streets while playing Pokémon Go or plow through the safety paperwork required for a weekend pass to see how the Army has lost its moorings on the appropriate balance between risk tolerance and safety.

The inability to manage risk prudently and underwrite smart risk-taking by subordinate leaders deeply corrodes the trust that enables mission command — the Army's warfighting philosophy built around decentralized command and control. Left unchecked, the Army's camouflaged version of helicopter parenting will inexorably destroy the initiative and judgment of its junior leaders and ultimately debilitate the way the Army fights. Senior leaders need to seek feedback from their subordinates to help identify the worst of these practices and enact common sense approaches that treat Soldiers like the professionals that they are.

2. Reinstitute "Power Down"

The initiative of junior leaders is also being threatened by technology that increasingly enables senior leaders to micromanage even small unit actions or Annual Training. Micromanagement in garrison is also rampant, undermining the very principles of mission command that the Army then expects its Soldiers to practice when fighting. A 2014 Army study, for example, found that 41 percent of junior NCOs did not believe that they were empowered to make decisions, and only 59 percent were satisfied with the amount of freedom they had to perform their jobs. Yet on the future battlefield, where communications networks are likely to be degraded, even Army junior leaders will have to be comfortable operating with unparalleled autonomy, guided only by their understanding of mission and intent.

To right this balance, the Army should re-energize the concept of "Power Down," pioneered by Lt. Gen. Walter Ulmer in the 1980s. This involved decentralized leadership based upon trust in subordinates and greater autonomy of junior leaders in garrison as well as combat. Virtually none of today's garrison procedures — from auto safety checklists to high level-directed wear of reflective belts — are consistent with this philosophy. Expecting audacity among junior leaders in combat while micromanaging them in peacetime garrisons is a recipe for battlefield failure. The Army must restore its commitment to decentralized leadership and frontline leaders' authority and practice what it preaches in garrison as well during operations.

3. Decrease Tolerance of Bureaucracy

The Army is inundated with more regulations and bureaucratic processes than any other military service. Its dense and ever-growing thickets of regulations, rules, and processes cripple innovative ideas, retard creative thought, and slow decision-making to a snail-like pace, especially within the institutional Army. In both today's and tomorrow's world, however, effective organizations must make decisions almost instantaneously in response to data that flows at the speed of light. The Army simply cannot continue to tolerate such excessive levels of bureaucracy and cumbersome industrial-age processes at the same time it trumpets agility and adaptability as essential attributes necessary. For these efforts to succeed, they must be led from the top while also engaging junior Soldiers and leaders to identify roadblocks to reform and generate solutions.

4. Reduce Excessive Deference to Rank and Position

Encouraging new and diverse ideas or soliciting controversial opinions from junior people is a significant challenge for a hierarchical organization with clearly displayed rank and authority. Open disagreement and divergent views tend to be deeply discouraged within the Army, ranging all the way from its smallest units to the highest levels of the Army staff. This culture grows out of the understandable need to limit disagreements in tactical units. No one wants privates or lieutenants to argue with their commanders about how to carry out a night attack or to debate orders during a firefight. But such constraints outside combat can prevent Army leaders at all levels from hearing different points of view and being able to consider the widest range of options, which they need in order to innovate, adapt, and make good decisions in a fast-changing environment. Army leaders must find more protected ways to encourage open debate and legitimate (if tactful) disagreement, such as designating a "devil's advocate" for all discussions. Seeking

out conflicting ideas and encouraging genuine dialogue must be seen as prized components of good leadership, instilled in doctrine and evaluated in fitness reports when assessing leaders' future potential.

5. Reject Army Anti-Intellectualism

Anti-intellectualism in the Army is not new, but it has grown as an unintended consequence of the recent wars. Since 2001, deployments to Iraq or Afghanistan have effectively become the only valued duty assignment for rising leaders. Spending time earning a civilian graduate degree, teaching at West Point, or serving in a broadening assignment away from troops was quietly denigrated as “taking a knee” and often harmed the career prospects of those who had done so. Such sentiments may be understandable during wartime, though they inevitably have harmful long-term consequences. Now, however, Army senior leaders must actively reverse this trend. They need to mentor the service's rising stars to invest in and value educational and broadening pursuits — and, even more importantly, ensure that promotion boards recognize, incentivize, and reward these choices as vital contributions to the future of the service.

The Army should also reinstate the requirement for every career officer to develop skills in two specialties, rather than to focus narrowly on one. This would produce officers with a much broader range of talents, who would be educated and then employed effectively across more than one skill to support the Army's disparate needs. These measures would help rising Army leaders think more creatively about the wide range of challenges facing the Army and contribute more effectively at the strategic level within the Department of Defense or the wider interagency arena.

6. Strengthen Ethics and Integrity

The cornerstone of the Army as a profession rests upon the uncompromising ethical standards and integrity of its members. Yet an explosion of bureaucratic requirements means that Army leaders at all levels are often forced to compromise their integrity in order to meet an ever-growing list of recurrent demands. In a previous column, we wrote about a report called *Lying to Ourselves: Dishonesty in the Army Profession*, authored by two professors at the U.S. Army War College. It found that it was “literally impossible” for Army officers to meet all the requirements imposed on them by higher headquarters, yet also found that failing to meet those same requirements was professionally unacceptable. The result is a pattern of pervasive dishonesty, false reporting, and widespread rationalization of cheating

across the service. The Army, which imposes most of these requirements, is thus profoundly violating some of its own core values — especially honor and integrity.

If unquestioned integrity is to remain a cornerstone of the Army profession, senior leaders must aggressively correct this very serious problem. They should seek input from their subordinates to better understand the demands that promote unethical reporting and decision-making across the force. They must then systematically review all existing requirements to pare them down to only those that are essential, realistic, and achievable. Finally, they must put tough new systems in place to vet any newly proposed requirements to ensure that these three standards are always met.

None of this is new, especially the parts concerning overbearing, autocratic leadership. Kurt Lewin was a German-American psychologist, known as one of the modern pioneers of social, organizational, and applied psychology in the United States. He was an applied researcher and practical theorist known for his dedication to applied research and to further prove that there was value in testing his theoretical propositions. One of Lewin's many tests based on his research on leadership and group dynamics found that an overbearing authoritative approach (the sort typified by the drill sergeant stereotype) may be the worst way to lead people in many situations, especially if you want them to be capable of thinking and leading on their own one day.

Lewin created test groups led by three types of leaders: Authoritative (absolute control of subordinates), Democratic (provide positive control while encouraging subordinate feedback and allowing them freedom to manage their own work), and a Laissez-faire control group where the “leader” didn't establish any control or authority. The test groups were set out to accomplish two separate tasks, the first under direct control of established leadership and the other with that leadership removed. Not surprising, the Laissez-faire control group performed poorly in both. The Authoritative and Democratic groups both fared well under immediate leadership supervision with the Authoritative group enjoying a tiny edge. However, the Authoritative test group sometimes reverted to worse undisciplined behavior than those in the Laissez-faire control groups when the authority figure was removed while the Democratic groups continued to perform as well regardless. If you establish trust and get personnel to take ownership, they'll likely see things through, however, if you enforce babysitting measures as the primary (or only) means of enforcing discipline, then you'll have to always and forever ensure a babysitter is present.

If you don't like Kurt Lewin's research, consider that a formal, Department of Defense-funded 1978 study *Military Self-Discipline: A Motivational Analysis* revealed the same things:

"Once enlistees are removed from the close supervision and external control that they received during basic training, motivation quickly declines. The structure and control imposed on enlistees during training apparently do not become integral elements of enlistees' motivation once they are actually on the job.

"Achievement motives and counteractive needs to perform better, compensate and overcome obstacles, and prove capability to oneself drive intrinsically controlled persons. Motivation is derived entirely from internal sources. This finding is valid for the intrinsic:transcendent types primarily and, to a lesser degree, the self-disciplined, intrinsic: unquestioning types."

Worst of all, despite having formal, studied, decades-old evidence that a self-discipline approach selects for and produces better outcomes than an overbearing, authoritative approach, there is no formal evidence that the current model provides any benefit. Consider Trainee Perceptions of Drill Sergeant Qualities During Basic Combat Training, a study funded by the Department of Army and published in 2013.

"The topic of leadership has been extensively studied in a range of occupational settings. Findings indicate that employee ratings of leaders predict occupational outcomes such as job turnover, satisfaction, and performance in both military and civilian occupational settings.

"Approximately 72,000 Soldiers go through Army Basic Combat Training in the United States each year (<http://www.jackson.army.mil/sites/info/>) ... [A]lthough there are several possible leadership qualities that could be displayed by Drill Sergeants, from being harsh and demanding to mentoring and motivating, **there have been no studies that have systematically assessed Drill Sergeant characteristics.**" [emphasis added]

The Department of Army spends money to send 72,000 new recruits through Initial Entry Training every year and has done so for many decades but apparently has never bothered to study if the established approach is effective. As the authors of this study reveal, they were unable to find any studies to assess such a thing during their research.

A "disciplined disobedience" approach entrusts Soldiers with the freedom to do the right thing. Besides be-

ing the directive of our highest ranking officer, it makes for the best possible environment to allow Soldiers to best lead their troops. **ARM**

Individual Weapons Training Strategy

Table E-1. Individual weapons training strategy structure

Rifle and Carbine	Table I, PMI&E	Table II, PLFS	Table III, Drills	Table IV, Basic	Table V, Practice	Table VI, QUAL
		<i>Night CBRN</i>				<i>Day Night*</i>
	PRQ	PRQ	PRQ	REQUIRED		REQUIRED
Days Required	0.5	0.5	0.5	1.0	1.0	1.0

Legend: CBRN – chemical, biological, radiological, and nuclear, PLFS – preliminary live-fire simulation, PMI&E – preliminary marksmanship instruction and evaluation, PRQ – prerequisite, QUAL – qualification

*Conducted live-fire when simulator not available

Individual Weapons Training Strategy

- Table I PMI&E
 - Must successfully complete PMI&E **prior to** firing ANY live ammunition.
 - Must achieve a passing score of 80% or higher on a written test (based on TC 3-22.9).
- Table II PLFS
 - Must successfully complete PLFS **prior to** firing ANY live ammunition.
 - CBRN and Night Fire should be conducted during this table.

Table E-9. Rifle and Carbine, Table II, Primary and alternate authorized systems			
System	Primary	Alternate	Remarks
Soldier and Squad Virtual Trainer (S / SVT)	X		
Engagement skills trainer		X	Serves as a primary training device until S / SVT suite availability and accessibility are established Army-wide.
Dry-fire engagement drills		X	Least preferred method. Commanders should review dry-fire drill tasks and effectiveness prior to authorizing use.

Individual Weapons Training Strategy

- Table III Drills
 - Must successfully complete demonstrate proficiency by passing weapons handling, manipulation, and movement tasks listed in the training plan **prior to** firing ANY live ammunition.
 - Units may add to the drills listed in table E-13, but may **not** remove any from Table III.

Table E-13. Rifle and carbine, Table III, Drills individual training plan	
Task	Task Name
1	Precombat checks
2	Load and conduct status check
3	Carry positions
4	Fight down
5	Fight up
6	Go to prone
7*	Transition from primary weapon to secondary weapon
8	Reload
9	Clear malfunction
10	Unload / show clear

Individual Weapons Training Strategy

- Table IV Basic
 - Conduct grouping, zeroing, confirmation of zero at distance, and slow fire engagement procedures proficiency with the M4/M16 with the **Primary Optic**.

Grouping – Successfully group by placing four of five rounds in two consecutive five-round shot groups within a 6 minute of angle (MOA) circle (threshold) or 4 MOA (objective) at 25-meters.

Zeroing – Successfully place four of five rounds in two consecutive shot groups within the 6 MOA circle (threshold) or 4 MOA (objective) surrounding the appropriate point of impact on the A8 zero target at 25-meters.

Confirmation at Distance – After completion of the 25 meter zero, the Soldier must successfully hit a properly presented E-type target with a minimum of four of five (80-percent) shots.

Application of Hold-Offs – After completion of confirmation at distance stage the Soldier must successfully hit a properly presented 100 meter E-type target with a minimum of four of five (80-percent) shots then the Soldier must also successfully hit a properly presented 200 meter E-type target with a minimum of four of five (80-percent) shots.

Individual Weapons Training Strategy

- Table IV Basic
 - Conduct grouping, zeroing, confirmation of zero at distance, and slow fire engagement procedures proficiency with the M4/M16 with the **Primary Optic**.
 - Must complete Table IV to standard **prior to** conducting Table V or VI.
- Table V Practice
 - The only table that is not required.
 - Done to demonstrate engagement proficiency by hitting 70% (28/40) of presented targets in the time allotted.

Individual Weapons Training Strategy

- Table IV Basic
 - Conduct grouping, zeroing, confirmation of zero at distance, and slow fire engagement procedures proficiency with the M4/M16 with the **Primary Optic**.
 - Must complete Table IV to standard **prior to** conducting Table V or VI.
- Table V Practice
 - The only table that is not required.
 - Done to demonstrate engagement proficiency by hitting 70% (28/40) of presented targets in the time allotted.

Individual Weapons Training Strategy

- Table VI Qualification

- Table VI is an automated timed event of four, live-fire phases. Leaders issue ammunition to every firer, to conduct the event to standard. Firers place these magazines in their magazine pouches. Staging or pre-positioning magazines is not authorized for the conduct of Table VI training.

Stage	Event	Phase	Sequence Magazine	AB57 5.56mm Ball	AB74 5.56mm Tracer	Magazine Total Rounds
Stage 1	Day Fire	Prone, unsupported	1	10 each		10 rounds
		Prone, supported	2	10 each		10 rounds
		Kneeling, supported	3	10 each		10 rounds
		Standing, supported	4	10 each		10 rounds

Army Standard Barricade

- Constructed of plywood or commercially available
- Recommend constructing or purchasing for Tables I-III

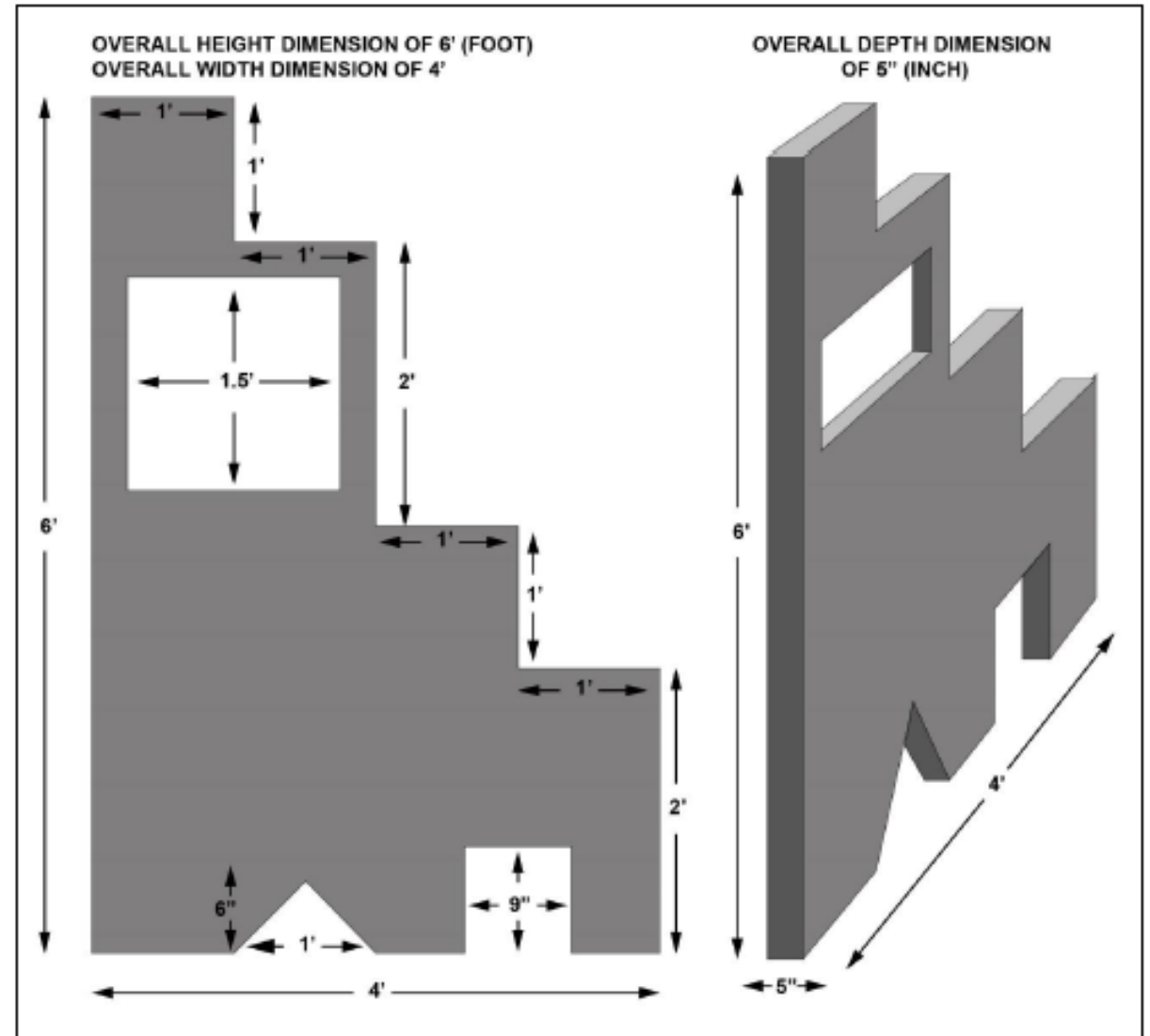


Figure 3-2. Example of the Army standard barricade for live-fire

Ammunition Requirements

Table E-2. Rifle and carbine individual weapon training strategy ammunition requirements

DODIC	Munition Type	Table III, DRILLS	Table IV, BASIC	Table V, PRACTICE	Stage 1 Table VI, QUAL	Total
AB57	CTG, 5.56mm, ball, M855A1 EPR		45	40	40	125
AB46	CTG, 5.56mm, single round, DDI, M199A1			1		1
Additional Requirements for Stage 2, 3, and 4 are authorized only when approved Simulation Systems are NOT Available						
DODIC	Munition Type		Stage 2 Day Fire, CBRN	Stage 3 Night Fire	Stage 4 Night Fire, CBRN	Total
AB57	CTG, 5.56mm, ball, M855A1 EPR		10	10	5	25
AB74	CTG, 5.56mm, tracer, M856A1, EPR			10	5	15
AB46	CTG, 5.56mm single round, DDI, M199A1		0	0	0	0
Model	LIN / NSN		Model	LIN / NSN		
M4	R97234 / 1005-01-231-0973		M16A2	R95035 / 1005-01-128-9936		
M4A1	C06935 / 1005-01-382-0953		M16A4	R97175 / 1005-01-383-2872		
Note. Units are not resourced training ammunition for Table VI, Qualification, CBRN, or Table VI, Qualification, Night, when an authorized simulator system is provided as part of the basis of issue plan.						
Legend: CBRN – chemical, biological, radiological, and nuclear, CTG – cartridge, DDI – dummy, drilled, inert; DODIC – Department of Defense identification code, EPR – enhanced performance round, LIN – line item number, mm – millimeter, NSN – national stock number, QUAL – qualification course of fire						

- New requirement without Table V (Practice) is **85x** rounds, an increase of 27 rounds. (**125x** rounds with Table V)
- Table V requires **1x** M199A1 round (dummy round).
- **Zero** tracer rounds are required for Table VI unless CBRN and Night Fire are not conducted during Table II (PLFS).

Rifle and Carbine, Validation (ALT-C)

- Validation is a commander's option to confirm a rudimentary level of proficiency sufficient to accept reasonable risk by extending an existing QD by six months.
- Validation is a commander's option to execute the Army-standard qualification to the minimum threshold requirements to validate an existing qualification—not to create a new qualification rating.
- Failing to request or secure appropriate training facilities, ammunition, or other resources does not justify the use of any validation procedure at home station.



Leadership Frequently Asked Questions:

TC 3-20.40, Individual Weapons Training and Qualification

Version 2; updated December 5, 2019

“The expectation is for units to experience a ***significant reduction in qualification ratings***. This will primarily be caused by certain cultural norms where units fail to execute the training strategy as intended, and only conduct zeroing procedures followed by one or more qualification attempts.”

- Maneuver Center of Excellence internal briefing document.

The publication of TC 3-20.40, Individual Weapons Training & Qualification, represents a significant change to individual weapons qualification in the Army, with likely initial degradation of IWQ ratings/percentages and challenges in executing training to the new standards.¹

Furthermore, with the implementation of OBJ-T, any unit that must complete Collective Live Fire events and certifications must be especially vigilant in understanding the concerns and challenges represented by this new training doctrine, since 80% of your Soldiers must be able to individually qualify before conducting Collective Training.

Data collected from across all Battalions in a large Active Duty Airborne unit suggests that no unit will be immune to the performance challenges this new TC represents. High failure rates will ensue if units fail to assess prior training, assess current capabilities, plan for, and prepare to conduct all training tables to standard.

¹ Throughout TC 3-20.40's development, a member of the CAARNG State Marksmanship Coordinator's training cadre has collaborated with the Senior Training Developer/Writer, Weapons and Gunnery Branch, Directorate of Training and Doctrine and other key members as part of a working group. The information contained herein is drawn from that experience and effort.

Units that do not conduct Collective Live Fire training events must also stay abreast of this significant update to weapons training and qualification, as Unit Status Reports are directly tied to Soldier IWQ performance.

Here, we answer many questions and concerns that Leaders will have, discuss solutions to minimize the impact this shift in training doctrine represents, and identify areas of concern that must be addressed in order to succeed as a unit and across the California Army National Guard.

QUESTION: Which individual weapons training strategies and qualifications are affected by TC 3-20.40?

New training strategies, requirements, and qualification standards affect every individual weapon:

- M4 carbine & M16 rifle
- M9 & M17/18 pistols
- M249 Automatic Rifle (as distinct from the M249 LMG)
- M110, M2010 & M107 Sniper Weapon Systems

NOTE: The M320 and M203 grenade launchers have been reclassified as “Special Purpose Weapons,” and are not covered by TC 3-20.40.

While all individual weapons are affected, this document primarily addresses the service rifle.

QUESTION: What prompted the US Army Infantry School and the Maneuver Center of Excellence to update IWQ training and standards?

Small Arms Capability Based Assessments conducted by the Army Research Institute in 2008 and 2010 identified the following concerns:

- The existing qualification does not accurately reflect basic tactical weapon employment skills.

- Reliance on leader commands and a lack of sense of urgency during reloading and change of position is not realistic.
- The current qualification does not reinforce fighting from a covered position.
- Range to target requirements do not ensure a quantitative level of marksmanship skill commensurate with the Soldier's rating.

Desired end-states from the new individual weapon training strategies:

- Increased lethality.
- Increased safe weapons handling skills.
- Reinforced tactical employment and commands.
- Heightened critical thinking.
- Increased requirements for EXPERT and SHARPSHOOTER.
- Reduction in time required to execute, while maintaining total target presentations and rounds fired.
- No increase in current training ammunition authorizations.
- Employment of tactical barriers or barricades to reinforce use of cover and concealment during engagements.

QUESTION: How is the new rifle IWQ different? Are targets presented differently or engaged from new positions? Why is it better?

More hits at farther distances are required for all qualification ratings:

Range	Old Qty	New Qty	Notes
300m	3	5	Must hit at least 1 x 300m presentation for EXPERT rating. Currently 0 hits are required for an EXPERT rating.
250m	5	6	Must hit at least 1 x 250m presentation for SHARPSHOOTER rating. Currently 0 hits are required for a SHARPSHOOTER rating.
200m	7	8	Must hit at least 2 x 200m presentation for MARKSMAN rating. Currently 0 hits are required for a MARKSMAN rating.
150m	11	8	Single target presentation = 5 sec exposure.
100m	8	7	Double target presentations = 8 sec exposure.
50m	6	6	Triple target presentations = 12 sec exposure. Quadruple target presentations = 16 sec exposure.

Table 6, Qualification:

Phase 1 Prone Unsupported 1 ea, 10-rd magazine				Phase 2 Prone Supported 1 ea, 10-rd magazine				Phase 3 Kneeling Supported 1 ea, 10-rd magazine				Phase 4 Standing Supported 1 ea, 10-rd magazine							
Engagement #	Range (meters)	Presentation time		Engagement #	Range (meters)	Presentation time		Engagement #	Range (meters)	Presentation time		Engagement #	Range (meters)	Presentation time					
1	50 (right)	5 sec	10 second delay; position & magazine change	6	100	5 sec	10 second delay; position & magazine change	11	50 (left)	12 sec	10 second delay; position & magazine change	15	50 (left)	8 sec	10 second delay; position & magazine change				
2	100	5 sec		7	150	8 sec			100				16			100	8 sec		
3	150	5 sec			8				300							50 (right)		200	250
4	50 (left)	12 sec		200		300		8 sec	12	200		50 (right)	100	12 sec					
	150																250		
	200			9	300	8 sec		14		250						100		250	
5	150	16 sec							150			250	12 sec	100			150		12 sec
	200				250	300													
	250			200				250											
	300																		

Highlights of new rifle qualification requirements:

- Total time to execute 1 firing order/relay: 3:58, including intervals between target presentations. Previous time to execute 1 firing order/relay: approx. 15 minutes, depending on circumstances. Significant time savings are achieved, increasing range throughput. (These figures do not include the administrative process of changing relays, providing initial commands, etc.)
- Kneeling Supported & Standing Supported emphasize adapting to combat conditions for additional support.
- Employment of barricades at every firing position to simulate cover and provide support for kneeling & standing positions.
- Triple and quadruple target presentations to test situational awareness, target detection skills and transitioning between multiple targets.
- NO tower commands issued from the first target presentation to the last, to reinforce critical thinking, situational awareness and independent thought.
- Magazine changes performed automatically by the Soldier, under time pressure to validate rapid weapon manipulations and effective equipment setup.
- Position changes performed automatically by the Soldier, under time pressure to force the Soldier to move quickly with agility.
- NO alibis of any kind are permitted. If targets or weapons experience a hard failure (breakage, parts replacement needed, etc.), the Soldier re-fires the qualification from beginning to end. Soldiers must recognize the various weapon

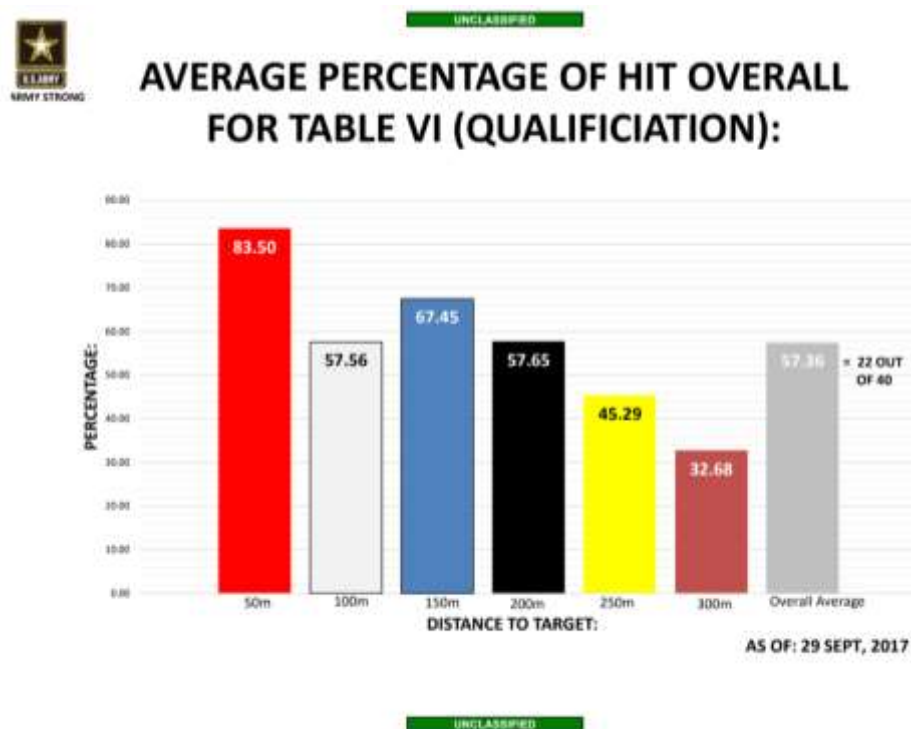
malfunctions, then quickly and effectively apply appropriate fixes: double-feeds/bolt over-rides/charging handle impingements/whatever are not cause for a re-fire. No assistance is permitted.

- More targets must be hit at farther distances.
 - The current rifle qualification requires Soldiers to achieve all hits on the 50m and 100m targets, and 80% of hits on the 150m targets. For perspective, this means that the Army considered Soldiers prepared for battle by exploiting approx. 25% of the weapon's maximum point-target range capability. Far from achieving the "overmatch" that we hear about.
- All ratings require more hits at farther distances.
 - "Expert" requires at least one hit at 300m.
 - "Sharpshooter" requires at least one hit at 250m.
 - "Marksman" requires at least two hits at 200m.
- NO ALTERNATE QUALIFICATION COURSE OF FIRE IS AUTHORIZED.
 - The 25m Alt-C Qualification is no longer valid.

QUESTION: Do we have any indication how Soldiers will perform on the new rifle qualification, based on current skill set?

In March 2019, Charlie Company, 1st Battalion, 297th Infantry Regiment (Forward) of the Wyoming Army National Guard participated in a study at Camp Guernsey Joint Training Center to explore the effects of the new qualification course of fire, without implementing Tables 1-5 of the new training strategy. The results are telling. One Soldier who normally scores 40/40 on the current IWQ achieved 22 hits on the new qualification, failing to make the minimum score of 23/40. About half of the Soldiers in the unit met the minimum standard of 23 out of 40, and 32 was the highest score on the new course of fire.

Further insight can be gained from comparing known hit-percentages of targets at specific distances, as gathered from performance on the current rifle qualification.²



The new rifle qualification presents targets in the following frequency, for the various firing positions distances:

New IWQ Target Presentations						Predicted Performance	
Meters	Prone Unsupported	Prone Supported	Kneeling Supported	Standing Supported	Total @ Distance	Hit % from Study	Expected Hits
50	2.00	0.00	2.00	2.00	6.00	83.5	5.00
100	1.00	1.00	2.00	3.00	7.00	57.56	4.00
150	3.00	2.00	2.00	1.00	8.00	67.45	5.00
200	2.00	1.00	3.00	2.00	8.00	57.65	4.00
250	1.00	2.00	1.00	2.00	6.00	45.29	2.00
300	1.00	4.00	0.00	0.00	5.00	32.68	1.00
					40.00		21.00

² Data aggregated from all Battalions in an Active Duty Airborne Infantry Division. Unit designation removed, but is available upon request.

Using the Division-wide performance data and multiplying the number of targets at various distances by the hit probabilities, we arrive at the number of expected hits.³

The predicted performance is below the minimum performance standard needed to qualify. Soldiers will fail if the training strategy is not followed.

- This is an imperfect analysis, since the new qualification is fired from new positions, with greater urgency, without tower commands to reload and change positions and without alibis given. As such, ***the predicted performance is an optimistic assessment.***

QUESTION: How will units train IOT accomplish these greater challenges?

The training strategy follows the Integrated Weapons Training Strategy model of 6 Tables (see TC 3-20.0, Integrated Weapons Training Strategy, July 2018). For individual weapons, the strategy includes events that have always been outlined, only now it mandates them as pre-live fire pre-requisites.

The following framework is used for all individual weapons –

- **Table I** – Preliminary Marksmanship Instruction and Evaluation (PMI&E): Hands on instruction and written testing (80% needed to pass) delivered by the first line leader covering basic knowledge, skills, tasks, and actions concerning the use and employment of the weapon system. Mandatory live fire pre-requisite.
- **Table II** – Pre-Live Fire Simulations (EST, S/SVT): Grouping, zeroing, practice and qualification courses of fire in a virtual environment. CBRN and night fire are mandatory simulator events. (For units that don't have access to a simulator, CBRN and night fire are conducted live fire.). Mandatory live fire pre-requisite.
- **Table III** – Drills: Hands-on training on critical weapon manipulation skills. Mandatory live fire pre-requisite.

³ When calculating the Expected Hits, the result is never rounded up, as hits are binary in nature: unless completely hit, it is not a hit...there is no such thing as a "fractional hit." Therefore, where multiplying 8 target presentations at 200m by 57.56% probability, the result of "4.61" is interpreted as "4" and not rounded up to "5." Nonetheless, even when rounding up for all calculations, the total number of expected hits is still just 24. Since this is an average, and 23 is the minimum score to qualify, it means that roughly half of the unit will still not qualify.

- **Table IV** – Basic (Grouping and Zero): The ability to group at the “Threshold” standard of 6 MOA or to the “Objective” standard of 4 MOA is mandatory, followed by **confirmation at true distance**. Adjusting weapon sights at 25m does not create a rifle “zero.”
- **Table V** – Practice: Live fire engagements that include all firing positions, target presentations, and sequences, except conducted at a faster tempo than Table 6 Qualification and incorporating dummy rounds to simulate weapon stoppages.
- **Table VI** – Qualification: Employment of weapon at primary sighting system, without any alibis given.

	<i>Table I</i>	<i>Table II</i>	<i>Table III</i>	<i>Table IV</i>	<i>Table V</i>	<i>Table VI</i>
Function	PREREQ	PREREQ	PREREQ	GROUP ZERO	PRACTICE	Live Fire Proficiency Gate (LFPG)
Training Principle	<i>CRAWL</i>	<i>CRAWL</i>	<i>WALK</i>	<i>WALK</i>	<i>RUN</i>	<i>RUN</i>
Environment	Live	Virtual	Live	Live	Live	Live
Condition	Hands-On	TADSS (Simulation)	TADSS	Live Fire	Live Fire	Live Fire
Title	<i>PMI&E</i>	<i>PLFS</i>	<i>Drills</i>	<i>Basic</i>	<i>Practice</i>	<i>QUAL</i>
Days Required	0.5	0.5	1.0	0.5	1.0	1.0

QUESTION: What are the mandatory requirements or “gates to live fire” that must be accomplished prior Table 6, Qualification?

(Applicable to all individual weapons training.)

Several new requirements must be successfully validated prior to Table 6, Qualification.

Table 1, Preliminary Marksmanship Instruction & Evaluation (PMI&E) has replaced the PMI event, as we know it: Everyone must take a written evaluation (multiple choice and

fill-in the blank test) and pass with at least 80% correct answers. PMI&E is *REQUIRED* prior to any live fire event with a weapon.

Table 2, Preliminary Live Fire Simulation (PLFS), is *REQUIRED* prior to any live-fire event with the weapon. Table 2 is a simulations-based replication of the weapons live-fire qualification course and provides a measured demonstration of the Soldier's performance. For units that do not have access to the primary (Soldier/Squad Virtual Trainer, "S/SVT") or alternate (Engagement Skills Trainer, "EST"), the commander should consider adding a live-fire training event prior to the execution of Table 6.

Table 3, Drills, is *REQUIRED* prior to any live-fire event with the weapon. It is a hands-on training event that uses training aids and devices, and may include the use of blank ammunition or CCMCK paint-marking simulated ammunition. Failure to conduct Table 3 will dramatically hinder the ability of the Soldier to successfully qualify with their weapon. Some examples of the 12 trained and tested Drills are (these Drills can be found in the current TC 3-22.9, Rifle and Carbine):

- Fight Down. Soldiers must demonstrate the ability to quickly transition from standing to kneeling to prone.
- Fight Up: Soldiers must demonstrate the ability to quickly transition from prone to kneeling to standing.
- Go-to-Prone: Soldiers must demonstrate the ability to quickly transition from a standing position to a prone firing position.
- Clear Malfunction: Soldiers must demonstrate the ability to quickly fix a variety of weapon malfunctions that they may encounter during qualification. (No alibis given, no extra time or ammunition provided to Soldiers!)

QUESTION: Are these the only changes found in this Training Circular?

No. There are hundreds of changes (large and small) in this publication. Each change included for a specific reason, purpose, or outcome to increase lethality and training effectiveness. Below is a list of the major changes that you should be familiar with –

- Target sequence, presentation, and exposure times are more rigorous. For rifle and carbine, this includes:
 - Single, double, **triple**, and **4-target** engagements.
 - Target acquisition and transitioning between targets from near to far is critical to the firer's success.
 - Soldiers are not authorized to stage their magazines on the ground or on a pedestal. Magazines must be placed in magazine pouches. Furthermore, since alibis are not authorized, this will ensure that introducing rocks and debris into the rifle receiver is minimized.
 - Between firing positions, the Soldier will change magazines and positions automatically. The target control system is not paused for the shooters to slowly change positions.
 - The time required to complete a single firing order is reduced from 15 minutes to under 4 minutes while providing a more rigorous training event with the same number of trigger pulls. This IS A HUGE WIN for units. With trained leaders running the range, it is possible to complete the entire live-fire training strategy for 200 Soldiers in one training day on one training facility. That means Soldiers have time to complete the grouping, zeroing, confirmation at distance, practice and qualification live fire events in one training day on one range facility. There is no reason not to execute the training strategy to standard.
- Use of barricades for supported firing positions.
 - Used on rifle, carbine, and M249 Automatic Rifle.
- Tactical commands from the tower. Once live-fire commences, there are no administrative commands from the tower. All prompts provided to the firer are tactical commands that a Squad leader could announce to their squad.
- No means of qualifying on a paper target at 25m for any individual weapon.
- M249AR in the squad (LIN M09009) is fired on the standard Automated Record Fire (ARF) or Modified Record Fire (MRF) range facility using the same range programming as for the standard rifle qualification.

QUESTION: Why does the M249AR now fire on a MRF/ARF facility?

The USAIS and MCoE wanted the Infantry Squad to train together as often as possible. M249AR training and qualification was moved to the rifle range in order to keep the squad training together. The M249AR uses the same course of fire as the rifle and carbine. Sufficient time between firing positions is provided to re-load the M249AR and change position. This only applies to the M249AR found in MTOE squads, LIN M09009. The M249L will continue to be a crew served weapon and fire on the multipurpose machine gun range.

QUESTION: It's mentioned that the M249 Automatic Rifleman will now qualify using the same course of fire for qualification as the rifleman. Shouldn't the M249AR be afforded more time to complete the Qualification, because it takes longer to accomplish reloads and manipulate the weapon, than with the rifle?

It's true that the M249AR can take longer to manipulate and reload. Initially, however, the training design template for rifle qualification called for shorter reload/transition times of 5 seconds. In order to accommodate the M249AR, the time allotted for both rifle and AR reload and transition was extended to 10 seconds. Soldiers assigned the M249AR will use belted ammunition, NOT magazine-fed ammunition.

QUESTION: Why can't Soldiers make multiple attempts to qualify or to increase their current rating?

Qualification validates the Soldier's ability to employ a weapon effectively. The manual does not state that multiple attempts cannot be made, but it does restrict the Soldier's rating when they require multiple attempts.

Re-fires are authorized with realistic and reasonable guidelines. Re-fires:

- Must wait 45 days to **INCREASE** their qualification rating.
 - EIB training and testing – units provide sufficient time and resources to

- enable the appropriate retraining and re-firing.
- Promotion points – Soldiers may not use multiple attempts within 44 days of the first attempt to increase their potential promotion points awarded.
- DA Photos – Soldiers may not use multiple attempts within 44 days of the first attempt to increase their qualification rating.
- Retraining and re-firing may occur the same day; however, the Soldier may only be awarded the MARKSMAN qualification badge for the weapon.
- Re-fires within 44 days of the last attempt receive the MARKSMAN qualification rating ONLY, regardless if they achieve the maximum 40 hits.
- If Soldiers are not authorized more than two qualification attempts within the 45-day window. Third, fourth, etc., attempts are not authorized.

This provides a better commander assessment on the overall proficiency of their Soldiers and the effectiveness of their past unit training plans.

Firing multiple qualification attempts without remedial training does not build a better shooter.

QUESTION: Earlier, it's mentioned that NO Alternate Qualification events exist. Is the 25m Scaled Target Alt-C Course of Fire not allowed for qualification?

Correct. The ALT-C will no longer be a means of qualification. A 25m event will still exist, however it is NOT a means of qualification. The 25m event will merely "validate" a current and already-valid Qualification. As such, it is known as a "VALIDATION," not a "QUALIFICATION." Broadly:

- Alternate courses of fire are no longer a valid means of qualification for any weapon. Completing the ALT-C does not create or produce a Qualification.
- It Validates an existing Qualification.
- The ALT-C Validation merely extends the Qualification by 12 months, and does not provide the ability to increase a Soldiers Qualification Rating; it is a GO/NO GO event.

- The ALT-C Validation is allowed under extremely limited circumstances while in a Garrison environment (Operational restrictions also apply, as when deployed). The first General Officer in the unit's chain-of-command may authorize the validation event when one of these conditions exist:
 - Unit assigned as QRF within 90-days' notice.
 - Unit direct to deploy within 90 days without prior notice.
 - Installation range restrictions prohibit standard qualification due to range closures, ammunition restrictions, or unforeseen circumstances beyond the control of the unit.
 - Unit location is greater than 180 miles (***straight-line distance***) from an Army-standard primary range facility.
 - Only 1 validation is authorized within a 24-month period for any weapon, system, or munition.
 - Failing to request or secure an appropriate ARF/MRF, facility, ammunition, or other resource does not justify the use of any Validation procedure at home station.
- The ALT-C's event Task, Conditions and Standards are drastically different from the what exists today. The new ALT-C:
 - Requires 80 rounds, fired on two target sheets.
 - Each silhouette is engaged with 4 rounds, each.
 - Target sheet #1 is fired in just under 5 minutes (slow fire). Target sheet #2 is fired in approx. half that time (rapid fire).
 - 10 rounds fired from each of 4 magazines in each position of prone supported, prone unsupported, kneeling supported, standing supported, on each target sheet.
 - Magazines and positions are changed automatically by the Soldier, without Tower commands.
 - No alibis allowed.
 - Each silhouette on target sheet #1 must have a minimum of 3 rounds in each of the silhouette's circle. *Merely striking the silhouette does not count.*

- Each silhouette on target sheet #2 must have a minimum of 3 rounds in each silhouette.
- If either target sheet does not have the required hits as described above, the Soldier is a NO-GO and the current Qualification is automatically Condemned. Two attempts are authorized.

To be clear: The updated ALT-C event is more difficult to pass than the new standard Qualification course of fire.

Units that require consideration for an alternate means of qualification will coordinate with USAIS to develop an appropriate means for live fire qualification, within the training environment constraints available to the unit. This process supports units that are:

- Greater than 180 miles from the nearest authorized automated range facility.
- OCONUS with host nation restrictions or without approved range facilities.

Bottom Line: Due to the limited circumstances under which the ALT-C is authorized, the administrative requirement for GO approval, and higher Soldier performance required for a successful outcome, units must not consider it a viable option to pursue.

QUESTION: When are units required to start using the new courses of fire found in the new TC?

The Director of Marksmanship, U.S Army Infantry School, will publish an EXORD with the mandatory implementation date for all Army components. The estimated publication date is not yet known, however common understanding at the Directorate of Training and Doctrine, Maneuver Center of Excellence, is that the mandatory implementation date will be October 2020.

While units may use the manual starting today, they are not required to do so. It will take time for units to review the manual, identify what needs to happen based on changes, and time for the training support system enablers to accommodate the new

courses of fire. Range Operations will need time to program the new scenarios into their range facility computers, however the programming for EST and ARF/MRFs has been available from MilGaming since 5 November 2019.

For units that want to Qualify with the new courses of fire, we recommend they coordinate to ensure:

- Training support system enablers updated the courses of fire on the range.
- Barricade or other supported firing position structure is available at each firing position.
- The scenario is proofed for consistency and accuracy in timing and sequence.
- The targets are presented to the firer to the Army-standard throughout the course of fire. (TC 25-8 requires at least 90% of targets be exposed to the Soldier's firing position.)
- Have sufficient hard copy DA Form score cards on hand to support recording the training results.
- The unit is prepared for data entry in DTMS.

QUESTION: Does this new requirement call for a change in the number of rounds needed to conduct training?

Yes, but sufficient rounds are provided to each organization to complete the training strategy to standard. All ammunition resources will be updated and aligned through HQDA this year. Changes to DA Pam 350-38, Standard in Weapons Training (commonly referred to as STRAC) aren't expected until FY21. To illustrate the ready availability of ammunition, the 40th Infantry Division returned over 2 million unfired rounds in FY 2019. Ammunition forecasting and harvesting in support of realistic training plans that are successfully conducted is key. The ammunition is there...it just needs to be used properly.

QUESTION: What options are available to Soldiers who Qualify but do not achieve the rating they desire, or who fail to Qualify on first attempt?

Soldiers who qualify but fail to achieve their rating goal (EXPERT) may retrain and re-fire the qualification no sooner than 45 days after the previous attempt. Soldiers who need a second attempt to qualify within this 45-day window are awarded a MARKSMAN rating, regardless of the number of hits (score) achieved.

QUESTION: How should units prepare for the implementation of new training and qualification requirements?

Critical to success:

- Create a force-wide cadre of small arms subject matter experts at the company level
 - Send Soldiers to the Master Marksmanship Trainer Course at Ft Benning
 - Send Soldiers to the Small Arms Weapons Expert course at Ft Robinson
 - Send Soldiers to the Unit Marksmanship Trainer Course established by the CAARNG State Marksmanship Coordinator (SMC)⁴
 - Send Soldiers to the annual California Combat Match, hosted by the SMC
- Adhere to TC 3-20.0, Integrated Weapons Training Strategy
- Adhere to the training requirements and standards found in TC 3-20.40, Individual Weapons Training and Qualification
- Study relevant weapon Training Circulars
 - TC 3-22.9, Rifle and Carbine
 - TC 3-23.35, Pistol
 - TC 3-22.249
- Unit Training Management discipline
 - Ammunition forecasting
 - Range reservations: Live fire and EST
 - Adhere to the 8-Step Training Model, per FM 7-0
 - Conduct all training strategy Tables to standard

⁴ Contact G3 Sustainment Training Branch for further information.

- Implement ASAP in accordance with training strategy, regardless of ACOM's NLT date:
 - Table 1, PMI&E
 - Provide a quality period of instruction
 - Test your Soldiers on knowledge from TC 3-22.9
 - Critical to successful 80% passing scores on written test
 - Table 2, Preliminary Live Fire Simulation
 - Develop mastery of EST or S/SVT facilities
 - Cycle Soldiers through quality instruction to standard
 - Soldiers will develop familiarity with the new course of fire, confidence in skills, and ability to establish firing positions with ease while validating the ability to apply weapon manipulations before arriving at the live fire range
 - Table 3, Drills
 - Critical to Soldier success is the ability to quickly change firing positions
 - Magazine reloads must be performed deliberately with determination
 - When performed correctly, Soldiers will discover how to properly configure their load bearing equipment, helmet, etc. for success
 - Starting position for the rifle IWQ is the standing low-ready, upon commencement of target presentation Soldiers must be able to quickly go to prone, then work their way up to kneeling supported and standing supported positions
 - Correctly fixing weapon malfunctions without delay
 - Effective and agile weapon manipulations are key to success
 - Table 4, Basic
 - Soldiers must understand their equipment and how to manipulate their sights and how to use the "new" bullseye zero target
 - Proper grouping must take place before zeroing, performed to standard – this is a 2-step process

- Must not allow Soldiers to proceed without demonstrating the ability to maintain 5-shot groupings to the threshold standard of 6 MOA (approx. 1.5" at 25m)
- Good zero with proper ballistic offset applied
- Confirmation of zero at true distance
- Allowing Soldiers to proceed past Table 4 without meeting the standard is setting them (and the unit) up for failure. Leaders must intercept Soldiers who cannot achieve the minimum standard and provide them with remedial training.
- Reinforce weapon handling skills throughout the year
- Invest in Soldiers. Must avoid mindset of cycling Soldiers repeatedly through the live fire qualification, hoping to eventually get 23 out of 40. Quality instruction upfront will make each following step easier, and ensure Soldiers maximize their performance and provide the best possible Unit Status Report.
- Because no alibis are authorized
 - Replace all magazines that do not have BLUE or TAN followers, or purchase Magpul P-Mag polymer magazines (NSNs available). All others are no longer authorized, as they are not reliable and lead to weapon damage with M855A1 ammunition⁵
 - Emphasize weapon maintenance; cleaning is not maintenance.
 - Validate proper equipment fit and configuration, including helmets and magazine pouch mounting
 - Magazines, extractors, ammunition and lubrication are all key to a reliable service rifle
- Trust the new training strategy, it works.

For further information, please direct inquiries to the State Marksmanship Coordinator's office, or the G3 Sustainment Training Branch. The SMC is LTC James W. Smith (james.w.smith22.mil@mail.mil).

⁵ M855A1 ammunition must be fed into the chamber at a different angle, otherwise damage to feed ramps and barrel extensions will occur.