Project Appleseed™
Rifle Instructor Manual

APPLESEED ACADEMY™

LIBERTY ★ MARKSMANSHIP ★ HISTORY

9th Edition (9.1) – March 1st, 2022

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PREFACE

I often awake at night — my mind races, my heart screams, and my soul aches. I see our nation surrounded by darkness and fog. Americans like savages huddled before dying fires in the darkening shadow of Liberty's cathedral. They know or understand nothing of the sacrifices made by the men and women before them.

Of the fifty-six who pledged their lives, their fortunes, and their sacred honor when signing that "traitorous document", our revered "Declaration of Independence", five were captured by the British and tortured before they died. Twelve had their homes ransacked and burned. Nine fought and died from wounds or hardships incurred in the Revolutionary War. They sacrificed!

You and I, our lives changed forever, are no longer cooks but "Riflemen" Our countrymen are adrift in a sea of uncertainty, floating nervously without a compass and no knowledge of their hearts' true north. We, however, have within our grasp the means to awaken them to their heritage, the path of a Rifleman.

A Rifleman will never stop learning and will never stop teaching others. A Rifleman is committed to improving himself, his family, and our nation every day of his life. A Rifleman is dedicated to restoring the freedom our Founding Fathers entrusted to us, their "posterity."

The battle is before us. Patrick Henry described the American Revolution as "the grand operation, which seemed to be assigned by the Deity to the men of this age in our country, over and above the common duties of life."

George Washington wrote the Continental Congress describing the type of soldiers he needed, "The type of men who will make a brave defense when success is very doubtful and falling into the enemy's hands is very probable."

We now more than ever need men and women of that same character! I pray God will bless our efforts in the struggle before us and when we find our final rest; that it will be said "They have men amongst them who know very well what they are about."

TOP

INTRODUCTION

As important as marksmanship is to Project Appleseed™, it is not our utmost concern. Our most important message by far is the presentation of the history of the first day of the Revolutionary War, April 19th, 1775. American citizens need to realize that the liberty and freedom they possess today was bequeathed to them by the sacrifices of the patriots who fought on that day. Today's citizens seem to have lost sight of the ideas and ideals of this past generation and the loss of those traditions places our country in great danger. Appleseed's task is to rekindle the spirit of those true patriots.

One of the most important books to help you in learning this history is "Paul Revere's Ride" by David Hackett Fischer. This book should be read thoughtfully several times in conjunction with the sample history presentations in this manual. Another valuable asset to help in your history preparation is to be found in Appleseed Academy. Serious attention and study should be devoted to these materials, and this study should begin immediately. The faster this study is begun, the shorter will be the path to that of a Full Instructor, or Red Hat.

The 9th Edition of the Instructor Manual retains much of the previous material but there are meaningful updates and additions. It has been organized in order to be friendlier to beginning Appleseeders. It begins with introductory material, then information of immediate interest to new instructors (such as verbatim material,) and next material is detailed which is to be learned and then taught to shooters. Finally, Chapter 22 covers Known Distance which should be taught at every 2-day 25m event whether Known Distance shooting is available or not. This chapter may be printed and retained separately from the rest of the manual, if desired.

Along with this Instructor Manual, I recommend you leverage the Appleseed Academy videos and Textbook in your pursuit of excellence. In those resources, you'll find blocks of instruction well-framed and demonstrated. They are invaluable resources as you continue your Appleseed journey.

Throughout this manual, the pronouns "he" and "him" are generic for both male and female shooters and volunteers unless the context implies otherwise.

The major contributor to the initial versions was Junior Birdman, with significant material from Son of Martha. Their work has been invaluable to our instructors through the years. In fact, much of it is still retained in this edition as a testament to their knowledge and dedication.

I hope that this manual will aid us in instructing and educating American citizens in our attempt to save our precious country.

Don Duncan (DonD)
Chief Master Instructor

Abbreviations and Definitions

Abbreviations

The following abbreviations and specialized terms are used in text.

Table 1. Abbreviations and Specialized Terms	
Abbreviation or specialist term	**Explanation**
AAR	After action report
AIBC	Advanced Instructor Boot Camp
AQT	Appleseed qualification test
AS	Appleseed
BSZ	Battle Sight Zero
CMP	Civilian Marksmanship Program
COF	Course of fire
COT	Center of target
DAR	Designated Appleseed range
dSB	designated Shoot Boss
EIP	Event information page
EPT	Events Promotion Team
FD	Full distance (see also KD - known distance)
FIM	Final Instruction Manual
FTE	Failure to Eject
FTF	Failure to Fire
G.I.	Government Issue/General Issue
HMR	Hornady Magnum Rimfire
IAAR	Internal after-action report
IBC	Instructor Boot Camp
ID	Identification
IIT	Instructor(s)-in-training
IMC	Inches minutes clicks
IPC	Instructor progress check
LB	Line Boss
KD	Known distance
LSO	Line Safety Officer(s)
LTR™	Liberty Training Rifle™
MI	Master instructor
MOA	Minute of angle
NPOA	Natural point of aim
PC	Proficiency Check
POA	Point of Aim
POI	Point of Impact or Program of instruction
RBC	Rifleman's Boot Camp
RSO	Range Safety Officer(s)

Table 1. Abbreviations and Specialized Terms	
Abbreviation or specialist term	**Explanation**
RWVA®	Revolutionary War Veterans Association
SB	Shoot Boss
SBIT	Shoot Boss in Training
SC	State Coordinator
SI	Senior Instructor
SOF	String of fire
TPI	Total participant Involvement

Definitions

In the following material you will encounter some abbreviations which may initially be confusing. Therefore, it is worthwhile to take a few moments to define these.

COURSE OF FIRE (COF): This is the document which the Shoot Boss (SB) uses to list his activities for the event. It must include the Program of Instruction items and how they are to be treated, as well as other pertinent exercises which may be used to enhance marksmanship, heritage, and enjoyment of the event.

HANG-FIRE: a round which does not initially fire, nevertheless the ignition process is proceeding, but very slowly.

MISFIRE: Failure of a round of ammunition to discharge.

PROGRAM OF INSTRUCTION (POI): In order to promote some uniformity in Appleseeds the POI must be included in the COF in order for the event to be called an Appleseed event. The POI will be presented in Chapter 4. The POI is also used later in this manual to mean Point of Impact, which refers to where the bullet strikes the target. The difference between the two terms should be obvious.

SQUIB: In firearms a squib results when a cartridge contains an insufficient amount of powder for the bullet to exit the barrel.

STRING OF FIRE (SOF): This is an individual shooting item in the COF.

Chapter 1: Vision, Mission, and Goals

Appleseed Vision

To Reignite the Spirit of the American Revolution.

Appleseed Mission

REIGNITE... our spirit that made America an exceptional nation.
TEACH...our history
INSPIRE... the hearts and minds of all Americans to study and understand and apply the founding principles of liberty and freedom guaranteed under our Constitution won in blood during the American Revolution.
EDUCATE...our people about the heritage of freedom and Natural Rights our forefathers fought for in the American Revolution.
CHANGE... our future by returning to the founding principles of liberty and freedom guaranteed under our Constitution.

Appleseed Goals

1. Reignite the "Spirit of the American Revolution."
2. To teach the events of April 19th, 1775 to each and every American.
3. Reach the maximum number of Americans possible each year through rifle clinics, Libertyseeds, public speaking appearances, newspaper and magazine articles, blog, Facebook, internet posts, trade shows and other methods. Consistently increase the number of face-to-face contacts from year-to-year.
4. To strengthen the great tradition of the American Rifleman by teaching skill with a rifle.
5. Develop relationships and alliances with like-minded civic organizations.
6. Develop and nurture a highly competent cadre of instructors and volunteers across America to fulfill our mission.
7. Influence educators to teach the reasons for the American Revolution and real factual history.
8. Develop educational materials for use by educators and home school families/groups.
9. Develop new and improved methods to communicate our message to the public.
10. Effectively communicate with members of the Appleseed instructor corps and Applecore volunteers.

Chapter 2: Appleseed Guidelines

Message from Fred:

The title is a misnomer. I first started developing a list of "Appleseed Guidelines" as part of the presentation at AIBCs, and have been adding to the list over the course of the 14 or so AIBCs to date. The list below is about twice the length of the original, and no doubt will be added to in the future. So, it is not likely to be "the entire set!"

What is the function of a guideline? Since no two Appleseeds are ever alike, because of variations in students, instructors, facilities, even weather, you cannot lay down a fine-tuned anything (not even a COF.) Your POI itself is likely to be put awry by contact with the reality that is an "Appleseed in action." Some general principles are much needed to provide you with guidance as to how to deal with the unexpected. Contrary to claims that this program is geared to "micro-managing," it is not. If there's ever a program which is immune to micro-managing, Appleseed *is it.*

The first - always FIRST - guideline is SAFETY. *"Do no harm" might be another way to say it. Maybe better, "ALLOW no harm." This is a guideline which sets a premium on PREVENTION. But the safety guideline is a specific guideline to the operational unfolding of the weekend Appleseed. There are other general guidelines which apply not only to how to run an Appleseed, but to how to run an Appleseed as a program, and how you need to relate to this program, and what actions you need to be doing if this program is to be a success.*

Let's look at those general guidelines.

Fred

Appleseed Guidelines

This list is likely not complete and will be added to from time to time.

1. Stay focused on the Mission. Of all the general guidelines, this is the most important. This one will keep you focused on what you need to be doing. This one will protect you from wandering off into areas of contention which do not really matter to the overall program, and are better avoided entirely. This one will "armor plate" you so that the "slings and arrows" of any program manned by humans will not cause you to throw up your hands in disgust and leave the program. After all, how much do those slings and arrows count, when compared to what was endured for Liberty at Valley Forge? Keep to this guideline and you will not only be strong in the program, but an example to everyone else of how not to be a summer soldier and sunshine patriot - and that's good for the cause. When you are focused on the Mission, you understand the meaning of what "don't sweat the small stuff" means. In the face of the mighty Mission we have undertaken, all the slings and arrows, all the aggravations, every single thing or person in this program which you don't like, which irritates the heck out of you - it all becomes magically part of "the small stuff" - and suddenly, you don't care about it anymore. They become the flies which bounce off your armor plate as you stand tall and proud in the Mission.

2. Effectiveness. Unlike many other programs, Appleseed is committed to being effective, which means reality oriented, constantly reflecting on the results of our actions, evaluating them, and modifying them so that they become even more effective. The Internal After Action Reports (IAARs) are a concrete example of this. Effectiveness is an issue for the program, but is an issue for each volunteer in it, as well. You donate your valuable time and energy to a cause you care much about. Surely you want every second of that time and every ounce of that energy to advance the program as much as possible. You want to be as effective as you can be.

3. IAO stands for something which was recognized very early in the program: that Appleseeds are fraught with challenges, obstacles, things which will try and slow you down and lessen your effectiveness, so you have at all times to be prepared to "**Improvise, Adapt, and Overcome.**" We have some remarkable instances of that. We built *90 feet* of overhead shelter on Friday night at the April 2006 Evansville, IN Appleseed, and took it down Sunday evening! We kept an Appleseed going in October 2008 at Ben Avery range in Phoenix, AZ under wind conditions which caused the Civilian Marksmanship Program (CMP) Western Games to be canceled, and their public ranges to be shut down, but Appleseed Instructors improvised, adapted - and overcame! Winterseed events also offer some astounding examples of this.

4. Beat the Time Monkey. It was quickly realized that the momentum at any Appleseed is dependent almost entirely on the SB to keep things moving. But let's understand and recognize that the "Time Monkey" is not only on the SB's back - it's on Appleseed's back - as the ship continues to sink. Never lose sight of the fact that "urgency" should be your watchword in this program. If you care about this program, if you care about this country, if you care about saving

it - keep that notion of urgency. It's needed to keep you on track with what you need to be on track about!

5. Simplicity and Precision. All the early entries on this list are things recognized early in the program. Keep it simple. Keep it precise. One backs up the other. Fewer words of explanation reduce the learning burden of the students - so long as those few words are *precise*. The new instructor will find that as they acquire experience instructing, they will (and should) be moving in a steady direction toward saying less and choosing the most precise words, so that they continually become more effective at what they do.

Inches - Minutes – Clicks (IMC) is one example where you as an instructor have to watch your words, carefully. One mistake in saying "inches" when you mean "minutes" can throw everyone for a loop - especially if you don't catch the error. I recommend that when dealing with IMC, you <u>always</u> say the unit with the measurement - as in "4 MOA", "4 clicks", and "4 inches."

6. Total Participant Involvement (TPI). An early concept, borrowed from the NRA Instructor Program. Total Participant Involvement recognizes that people learn best by doing, not by hearing. Every time you get the chance, get the students involved - in answering questions, in doing things rather than hearing things, even in running the line (see "IAO" above). I have on occasion asked promising students to conduct the instructional review on Sunday morning as part of TPI - it works!

7. Teach 'em to fish. A companion that goes arm-in-arm with TPI. <u>Never</u> miss a chance to turn a student's question back on them. After all, you're not likely going to be at the range with them next time they go, so you need to get them into becoming aware of and analyzing their faults early on; the sooner, the better.

8. Mentor! - The implication is of kinder-and-gentler transfer of knowledge from an older, more-experienced person, to a younger, less experienced, person. However, in this program, "mentoring" is expanded to helping anyone at any time. We become aware of problems in performance, and solve them. We're all in this program to improve ourselves by becoming more effective Appleseeders; and we are all in this program to help each other become better people. You see an instructor with a problem communicating, one they clearly are not aware of, one that is harming their effectiveness - and you don't want to help them out? I hope that's not the case. You can feel free to mentor me anytime you see me being less than effective - I appreciate the constant improvement in my effectiveness which such mentoring causes.☺

9. Appleseed is "friend to all, enemy to none." We realize that fighting with others, that having enemies, is non-productive to our Mission. Therefore, we have no enemies other than Ignorance, Apathy, and Laziness. There will be groups which will try to treat us as enemies, but we will treat no groups as enemies. We should all strive to meet that "friends to all" standard, not only in dealing with non-Appleseeders, but in dealing with others in the program.

10. No current politics. An early conscious decision in the program was to avoid references to any modern politics. The concept is cemented in our saying, "Appleseed does not care about elections - which, like the weather, are changeable. Appleseed is about promoting climate change, so that elections get better and better." This can be a tough one, as it will sneak up on you. You may feel at an instructors meeting that you can voice some political biases, only to find out that others in the program do not share your views (*note: based on a personal experience!*). So, let's work to keep all current politics out of the program.

11. Frame. Tell students what to think of their experiences, putting things into perspective for them - and tell them the "why" of what they need to do. Too many times, at an Appleseed, I've seen an instructor come out, hold up a Government Issue/General Infantry (G.I.) web sling, and start talking about how to use it, when half the people on line don't have a sling, and half of the rest don't have a G.I. one. When this happens, the principle of "framing" is violated; the students haven't been told WHY they need to know how to adjust a G.I. sling.

12. Problems? We don't have to live with problems in this program. Anytime you come across a problem, your first thought should be that quote. "We DON'T have to live with problems in this program." Hence, if we don't, then why don't we fix them, as they become known? Makes sense, doesn't it? Yet my personal experience in this program is that I'm far more likely to come across people griping about a problem, seemingly oblivious to the notion that "problems need to be fixed," and that, as Appleseeders, they should be fixing them (see #23, below.)

13. You have a good idea? You need to be ready to implement it. Anyone enthusiastic in this program is chock-full of good ideas! In the early days of the program, we quickly recognized there were *far more good ideas than people to make them happen*. Hence the rule that, "if your idea is good, you're the best person to make it happen." In other words, don't expect some other overworked volunteer drop everything to do it for you (see #23, below.) The program needs self-starters, but before you embark on an idea or project, talk to your leadership. Your idea may already be in-progress, might work at cross-purposes with a current plan, or there might not be enough resources to implement it. Every volunteer's time is valuable and we don't want it wasted on initiatives that won't come to fruition.

14. Train your replacement. Sometimes you're most effective when you do nothing, when you let them learn by doing, by TPI. If this program is to grow every year, you need to train at least one person every 12 months to do what you do. Better, train two or three replacements to make up for those who don't meet that minimum effectiveness.

15. Always have a learnable attitude. In contrast to a teachable attitude, which requires a teacher, a learnable attitude requires only that you keep your eyes open and learn from what you see. Develop the ability to know what's important, and what's not; and develop the wisdom to know the difference. Not everything is worth fighting for, and about. Don't sweat the small stuff - and *in the face of the Mission, it's ALL small stuff*. In addition, here's something that might help: Would you rather be *right*, or be *happy*? Some things aren't worth fighting

over, or even disputing. You can choose to be happy, rather than fight. Fighting hardly ever makes any of us happy.

16. Bring someone with you to every Appleseed you attend. Use the "low tech way" to bring someone with you to every Appleseed you come to. Carpool with them and "Appleseed" them on the way to the event. The likelihood of getting an instructor(s)-in-training (IIT) out of someone you bring is significantly greater than with someone you didn't bring, but simply met on the line. The average nationwide turnout at Appleseed events is about 16. If there's an average of four IITs, and each brings someone, our nationwide average would be 20. That's an increase of 25% in turnout! Yes, it's worth the effort.

17. Try to "Appleseed" people - not new in concept, but new as a guideline. Try to "Appleseed" everyone you meet. Certainly, try and "Appleseed" people who may be influential in other groups / organizations as the fastest way to grow the program - and faster is better, right?

18. Always try to build bridges and get more Appleseeds at a location, up to one per month. The goal is an Appleseed a month, in every county in this nation. The intermediate goal is an Appleseed every month at each Appleseed location. Don't sweat low turnouts as a reason NOT to do this. "Low turnout" is a problem we need to master, and we don't do it by cutting back, we do it by solving the problem. I look toward setting up more Appleseeds as fast as we can, and recruiting instructors as fast as we can, as **building our infrastructure**, so that when we finally master promotions, and a surge of people come to fill the Appleseed firing lines, we'll have the firing lines there for them to fill.

19. Make sure someone is appointed a "7th-stepper" at each Appleseed. That person, an instructor (i.e., the 7th Stepper), will understand the SB often has too much on his plate to give "7th-stepping" the attention it needs. So, the "7th-step" coordinator will actively speak to promising students about becoming instructors; will record contact data, ensure that contact is followed up by phone or e-mail, and take any steps needed to ensure the new volunteer gets all the help he or she needs in those first few critical steps along the Appleseed instructor pathway.

20. Self-improvement - to become a better, more effective, person - is your goal in Appleseed. We are all in this program to be effective. Not one of us are in this program to be ineffective. We all want to see this program be a success. If we can, by improving ourselves, make our efforts that much more productive, then why wouldn't we want to? I've said it often: Ask a new person to Appleseed, "what Appleseed is about," and he or she will likely answer "rifle marksmanship." Ask an instructor, and he or she will say "heritage;" ask an instructor "old in the program" and he or she will likely nail it: "Appleseed is about self-improvement!"

21. Seize every opportunity to advance Appleseed. At the recent NC AIBC, I was asked, "Fred, what do you recommend we do, as a concrete step to take immediately to help this program?" The answer I gave was probably unexpected: Change your thinking. Become so attuned to helping this program that your first thought, in any situation, is "How can I make this help

Appleseed?" If Appleseed is about reigniting the spirit of the American Revolution in hearts and minds, and if our enemies Ignorance, Apathy, and Laziness, assisted by their evil handmaidens Arrogance and Complacency, have had generations to establish their control, then we need to be on the attack every chance we get. You need to start "thinking Appleseed." Whatever set of facts confront you, you automatically cast for an opportunity to turn those facts to advancing the program. Stopped by a cop for speeding? We all hate it, but we can at least hand him a tri-fold and tell him, "It's really cheap for law enforcement officers." (Heck, you may only get a warning!) Your dreaded in-laws coming to visit this weekend? Hope there's an Appleseed nearby, so you can get them out of the house - and out of your hair! Once you start doing this, once you start "thinking Appleseed," you'll be surprised at the wide-open opportunities to help the Cause which you see unfolding before you.

22. Honesty! Implicit with the mandate to IAAR is to disclose not only the positives, but the negatives, so that improvements can be made to future Appleseeds. But the longer I'm in this program, the more the requirement for "honesty" seems to me to permeate an effective Appleseed program – and *to the extent honesty does not permeate the program, we have a less effective Appleseed program*. "Honesty" demands that when you see a person with a problem who seems unaware of it, that you offer your input to not only make him more self-aware, but allow him the opportunity, by fixing the problem, to become a better person, and a more effective Appleseeder. *"Honesty" demands that you be honest with everyone:* The people "below" you in the program; the people "above" you, and your "equals" (*PS. Everyone in this program is equal; we are all dedicated Americans striving to keep the SS America from sinking - yet some of us persist in old habits of thinking of others in the program as either being "above" or "below" us*).

23. "Step up!" I introduce this at AIBCs in the following fashion: You don't have to go far on our forum to run across a quote something like, "Evil triumphs when good men do nothing." It's even in someone's signature line. But what's remarkable is that so few people do it. So few people, when they see a problem in this program, actually step up to address it, to fix it. So few people in this program (a program seemingly full of claims of personal "ownership of Appleseed") seem to take matters in their own hands when they see a problem, and make this a better program. It's a shame, and it IS a shame. You need to "step up", to be, and not just on the Appleseed firing line, as an instructor. You need to be proactive, to see a problem, to see a need for some help, and add your efforts, to make this program a more effective program.

24. Persist! Never give up, because this entire program infuses the spirit of "never giving up," of remembering the people more than two centuries ago never gave up. So, persist in the face of doubt; persist in the face of discouragement. Persist even when you think success is not obtainable. Persist, *because you can't give up on saving your country.* Not ever.

25. Be a rock, not a "Chicken Little." The people who won the Revolutionary War for us were the men in the Continental Army who never broke, who never ran. When the militia broke ranks and ran, these men stood firm; when other regiments in the army broke and ran, the men in the Delaware and Maryland regiments could be counted on to be there, rock steady,

impervious to panic and hysteria. I like to think of the men in Parker's company as being like those unbreakable Continental Army soldiers.

When you run across someone spreading doubt about this program; when someone messages something which tends to create fear for the future of the program, become a rock. Let the wave of hysteria break over you, and when it passes, you are still there, unmoved. Indeed, you immediately begin to "fix the problem," to mentor the "Chicken Little." Surely, no "Chicken Little" really wants to be a Chicken Little. So, some reassurance may be in order. Remember the "Red Badge of Courage?" The new soldier, inexperienced, unable to interpret what is going on about him? The one who breaks and runs? But who then, having experienced panic, followed by shame, becomes a good and brave soldier. Sometimes we all have to go through that process, get it out of our system, before we settle down to getting things done. You can, by being a rock, help ease someone's progress into being a better Appleseeder - and a better American.

26. Never speak ill <u>of</u> a fellow Appleseeder, and never speak ill <u>to</u> a fellow Appleseeder. This is not to mean no one can be criticized in this program, but means when you criticize, you do it in a mentoring way, which means in a way calculated to get results. Nor is this meant to cut off frank and honest discussion about an Appleseeder to his state coordinator or someone else in the program that needs to know about problems so they can be fixed. What it does mean is that you keep your ego / emotions out of Appleseed, so that interaction never becomes "personal." Keep it always "mission oriented" and you'll be safe and happier. Years, now, on the internet, proves the truth of this to me.

27. "CPR Always" is your friend. Since we **Respect** each other in this outfit, we also deal with each other with **Courtesy** and **Politeness**. Yes, I'm thinking we shouldn't have to say this, but my years of experience say otherwise.

28. Teach only what they need and only when they need it. Our students have a lot to learn in a one- or two-day event. There are four ways we can help them:

- We can help prevent overload by teaching the right thing at the right time. For example: on Saturday morning, we teach both loop <u>and</u> hasty sling options so students can use the equipment they brought. This is the right time for the instruction.
- Further, we can help prevent overload by telling students what to do, rather than what not to do. For example: there are a myriad of errors a shooter can make performing the 6 Steps of Firing the Shot, but we teach the proper way without referencing all the things that could go wrong.
- We coach using positive commands telling the students what we want them to do rather than what we want them to avoid. For example, use the command "Hold the trigger back" rather than "Quit letting the trigger go."
- Finally, we help prevent overload by not using a term or concept before it's defined. For example: mentioning IMC before it's ready to be taught leaves students puzzled as to what you are trying to say.

As future guidelines, I bet we could add “be a team player” and “get a job done, once you start it” - and many others we can all think of, but let’s work on the above list, and see if we can see improvement not only in ourselves, but in the program.

You know, one of the unique things about Appleseed is that volunteers have a standard of behavior to live up to. Just as Riflemen do, as part of what “being a Rifleman” is about. The standard was expressed over two centuries ago, by one of our enemies: **Everyone in this program, every Rifleman, should strive to be a person about whom it can be said, he or she “*knows well what they are about*”.**

When you work with these Guidelines, when you absorb them, they will enable you to be a more effective Appleseed volunteer will enable you to be a more effective Appleseed volunteer.

I ask you this question: “***Can we build an effective Appleseed program*** *(i.e., one that will be successful),* ***on a foundation of ineffective volunteers?”*** I think you’ll agree: The answer is “No!”

To the extent you, and each of us, becomes a more effective Appleseed volunteer, the program becomes stronger, and more effective, and our success becomes more assured.

I hope you share my feeling about that.

Fred

Chapter 3: Medical Emergencies

The SB should, at the beginning of every clinic, identify those medically trained and request their assistance in the event of a medical emergency. The SB should also have persons assigned to clear the line and to contact EMS.

Project Appleseed Instructors who step up to volunteer in case of medical emergencies, and as not exceed 'Good Samaritan Laws' set by their local jurisdiction. The Shoot Boss should print out a copy of the 'Good Samaritan Laws' in his state and have a familiarity with those standards.

In case of an emergency, basic life support may be administered by those who are trained and certified to render these services as noted by 'Good Samaritan Laws' until emergency medical services (EMS) can arrive. If there are no 'Good Samaritan Laws' in your community then one should respond in a manner which does not exceed Basic Life Support and basic First Aid by those who are trained and certified to render these services.

Participants should only take medications they have brought from home or were prescribed by a medical doctor. Emergency medical services should be activated immediately for any potential medical emergency.

When in rural areas, the SB should have a plan in place to activate EMS. These expectations should be made clear to those who volunteer to help in case of a medical emergency.

Appleseed Academy has an excellent video about planning for and responses to medical emergencies at our events. Every volunteer is encouraged to watch it.

Chapter 4: Event Guidelines

Project Appleseed has some distinguishing features that set it apart from other instructional programs. If an event does not include these features, it becomes something other than Appleseed. The program has some requirements that are laid upon us in order to keep our insurance coverage. These are non-negotiable. The program also has an "image" to present to the world in order to instill confidence and develop a rapport with attendees. With that in mind there are three areas instructors are to be cognizant of, and they are: Appleseed Insurance Requirements, the Appleseed Program of Instruction, and Guidelines for Instructor Conduct.

Insurance Requirements

- All firearms are to remain in the vehicles until after the safety briefing, except as specified below.
- Project Appleseed Instructors, IITs, and Applecore volunteers may open- or conceal-carry pistols at Appleseed events, subject to local laws, host range rules, Project Appleseed carry policy, and Shoot Boss discretion.
- At Appleseed events, shooters may only bring firearms to the line intended for use during the event. Open- or concealed-carry of pistols or other firearms are not allowed on the line by students for any reason.
- All active firing lines are to be in the charge of at least a Full Instructor (Red Hat). An active firing line is one where rifles are being handled.
- The verbatim material (4 Safety Rules, Safe Rife, and Line Commands) is to be presented verbatim. Once presented word-for-word, words to describe them effectively are yours.
- When shooters are carrying firearms between vehicles and the firing line, the maximum number of volunteers will be in the parking area checking to make sure firearms are carried in a safe manner. They should also encourage the shooters to move in an expedient fashion.
- Volunteers will be on the line(s) to ensure safety rules are complied with at all times. This is especially important at the end of a long day when shooters are mentally tired. An instructor should be posted at any choke point between the parking area and the firing line.
- The event SB has discretion to use non-volunteers as position models, coaches, Range Safety Officers, and Line Safety Officers as needed if sufficient volunteers are not available.
- The Red Hat in charge of the line may designate other volunteers to assist him in the capacities of Line Boss, coaches, position models, IITs, safety officers, or other roles needed.
- The Red Hat in charge of the line is responsible for ensuring the line is properly cleared after each string of fire. This can be done through delegation to a responsible and well-trained Line Boss. When training a new Line Boss, a Red Hat should be available to supervise, coach, and provide clear guidance as to how fulfill Line Boss duties. For more details, see "Line Duties and Procedures."
- The Red Hat in charge of the line may appoint safety officers or coaches to watch/warn about shooters having problems with muzzle control during position changes (often children, the infirm, or the elderly).

- Leaving one or more firing lines open during the lunch break for attendees to get extra practice time or to sort out equipment problems is at the discretion of the SB. Anytime firearms are being handled, there must be a Red Hat present.
- Anytime the line is in a cold condition (e.g., lunch), a Red Hat, Orange Hat or Applecore/RSO must be present in case someone comes to the line and still thinks the line is open. (SBs may need to arrange for relief of volunteer on duty during lunch so he can have a break.) The Red or Orange Hat instructor should be in communication with the SB.
- Instructors present at an event must comply with the Project Appleseed controlled substances policy.
- All Appleseed Pistol Clinic Shooters (including volunteers shooting at the event) must be at least 18 years of age, unless state or local law dictates older to use or possess a pistol.
- Project Appleseed volunteers will not loan pistols to shooters at Appleseed Pistol Clinics.

Program of Instruction (POI)

In order to ensure some uniformity at Appleseed events, specific topics must be included at each event. The SB is responsible for ensuring they are presented. General expectations are listed below followed by a table with specifics:

The history of the first day of the Revolutionary War (April 19th, 1775) is to be presented at 1-day, 2-day, and RBC events. As a tie-in to this history, an attempt to persuade Americans to become better citizens by encouraging them to get off their couches and become politically knowledgeable and active is to be made, but no attempt should be made toward, or away from, any particular political ideology.

Students are to be encouraged to help Appleseed in a low-tech way. As examples, they should take what they learn home to practice, seek out opportunities to teach others about our history and heritage, as well as rifle marksmanship and, "7th Step" friends, neighbors, and colleagues to come to Appleseed events.

Volunteers will abide by Project Appleseed/RWVA requirements as outlined in Chapter 6 and the Administrative Drill in Chapter 7. Further, volunteers will abide requirements from the host club as a condition of the range use.

Instructors will teach and enforce Project Appleseed's 4 Safety Rules and firing line procedures (see Chapter 10.)

If Known Distance (KD) facilities are available (25 yards is "Simulated Distance" shooting, 100 yards and out is KD), they are to be used. This does not require that all shooters go to full distance (though it is encouraged if it can be done safely); but the shooters who are ready or CLOSE to being ready, get the opportunity to put the skills we teach to work in the real world of field shooting. If you have a KD range available and nobody uses it, you have failed to do your job.

A KD lesson is to be given at all 2-day Appleseed rifle events, regardless of whether KD facilities are available or not.

The event is to use the Hits Count (a.k.a. Redcoat) target at the beginning and end of each day, and to have a "benediction" both days, whereby people are reminded of the obligation and choice each must face.

The technical points of rifle marksmanship will be taught as detailed in this manual and Appleseed Academy videos. Required / recommended / optional blocks of instruction are:

Table 2. Blocks of Instruction at Project Appleseed Rifle Events

Block of Instruction	Type of Rifle Event						
	½ Day	1 Day	2 Day	RKD	KD	RBC	UKD
Three Strikes of the Match		X	X			X	
Dangerous Old Men			X			X	O
Select advanced history (see KD Manual)				X	X	X	X
Half-Day History (see Half-Day COF)				X	X	O	O
4 Safety Rules	X	X	X	X	X	X	X
Ammo Difficulties (Misfires, Hangfires, Squibs)	X	X	X	X	X	X	X
Line Commands	X	X	X	X	X	X	X
KD: Target Detection (indicators & scanning methods)			X	X	X	X	X
KD: Range Estimation (minimum: using front sight/reticle as a rangefinder)			X	X	X	X	X
KD: Making the Shot (Minimum topics: trajectory, come-ups, battlesight zero, and Fred's Wind Rule)			X	X	X	X	X
KD: Other environmental factors (Rifleman's Wind Rule, Shooting on a Slope, Altitude/Temp Changes)			O	X	X	X	X
Hits Count (a.k.a. Redcoat) Target	X	X	X	O		X	
Sling Use (Hasty-Hasty, Hasty, and Loop)	X	X	X			X	
Prone Position & SHFs	X	X	X			X	
Sitting/Standing Positions & SHFs		X	X			X	
6 Steps of Firing the Shot		X	X			X	
Talking Targets		X	X			X	
Inches-Minutes-Clicks (irons & scopes)		X	X	X	X	X	X
Natural Point of Aim		X	X			X	
Ball & Dummy Drill		X	X	R	R	X	R
Carding the Sights / Rifleman's Cadence		X	X	R	R	X	R
Rifleman's Bubble			X			X	
Rifleman's Dance			X		R	X	R
Appleseed Qualification Test			X			X	
RKD Appleseed Qualification Test				X		O	

KD Appleseed Qualification Test					X	X	
Benediction / Call to Action	X	X	X	X	X	X	X
Pistol Instruction (by qualified Instructors and students within age limitations)						O	

X = Required, R = Recommended, O = Optional

Specific Exclusions from the Program of Instruction

Proselytizing (i.e., to recruit someone to join one's party, institution, cause, or faith) by Instructors or staff is strictly prohibited for any purpose other than membership in RWVA, participation in the AS program, membership in the host (or other local) ranges/clubs, participation in the soft war, participation in personal responsibility/preparedness organizations, or participation in pro Bill of Rights organizations.

The above exclusions specifically do not preclude religious observances. The SB decides if a "group" observance is to be offered. Moreover, individuals can hold observances on their own without permission, as long as it does not cause a disruption in the activities. If such a group observance is offered, it should be made clear to volunteers and attendees that it is voluntary, and should be held before the beginning of the day's activities, and away from the safety briefing, and other official AS duties that Instructors are to perform. They are not authorized to teach or bring any non-AS subjects to the line.

Participation in the Pledge of Allegiance shall not be mandatory.

Espousing any doctrine, or showing support for any group which advocates racial/religious discord, communist/socialist organizations, or unconstitutional use of violence is strictly prohibited. In cases of dispute, the SB's judgement prevails. If the dispute is considered important enough, a request for clarification is to be forwarded to the Appleseed Oversight Committee (AOC), through the State and Regional Coordinators.

Mention of the word "militia" is to be used only within the time period of the American Revolution and no other time. Project Appleseed is not about educating Americans on modern statutes relating to "militias," nor are we to be suggesting we are "training" anyone to be a "deterrent." If the Project Appleseed program is successful, we will wake the American people to their heritage, history and tradition, and "deterrence" will be up to them, not up to us.

Specific criticism of political parties or personalities may not be presented and is strictly prohibited. We are not there to teach people what to think, we are there to teach people that they should think. Names of current politicians should never be mentioned. If a student mentions one be careful to be neutral in your response, deflecting the comment with "*I'm sorry, Project Appleseed is about heritage and marksmanship. We are not in the business of telling people what to think, simply in the business of waking them up so they think on their own*" or a similar reply.

Pistol-Specific Exclusions

All Appleseed Pistol Clinic Shooters (including volunteers shooting on the line) must be at least 18 years of age, unless state or local law dictates older to use or possess a pistol.

It is the policy of Project Appleseed not to loan pistols to shooters. This policy protects both our shooters and our valuable instructors from inadvertently breaking the law. Additionally, it encourages shooters to use and become familiar with their own firearms. This is not subject to Shoot Boss discretion.

Appleseed Guidelines for Volunteer Attire & Conduct

While Instructors are sovereign individuals with all of the natural rights recognized by our Constitution, they are also volunteers in an organization that has both the moral right and the legal responsibility to implement certain boundaries of acceptable conduct. These boundaries have been made with every effort to be both fair to the Instructors, to the people who place themselves or their loved ones in our care, and also fair to the organization.

Project Appleseed provides branded attire for our volunteers. There is no need for home-made Appleseed attire and it shall not be worn at events. Upon promotion to Full Instructor (Red Hat), a volunteer will be issued and may wear "Red Hat gear" as a privilege for the achievement. Wear of "Red Hat gear" (issued or optional-purchase) by IITs or Applecore volunteers is not authorized.

When gear is faded or otherwise unserviceable, a volunteer should ask the SB of his next event to order a replacement.

While serving at an event, the Appleseed Instructor dress code is listed below:

- Event Shoot Boss: Appleseed shirt, red sweatshirt, and/or shooting jacket, and green or red hat. (Other SB/dSBs serving as instructors but not the event SB will wear their red hats for headgear.)
- Instructors & non-event SBs: Appleseed shirt, red sweatshirt, and/or shooting jacket, and Appleseed red hat, boonie, or watch cap. MIs/SIs have the liberty to wear their grey hats if they choose.
- Instructors in Training: Appleseed t-shirt, Appleseed sweatshirt (optional), and/or shooting jacket, and Appleseed, boonie, or watch cap.
- Applecore: Appleseed t-shirt, Applecore sweatshirt (optional), and/or shooting jacket, and blue hat.

Note: Effective January 1, 2022, RWVA-branded headgear is obsolete as volunteer gear. Please contact your SB to request a fresh cap or boonie hat.

A SB may request volunteers wear a specific color shirt to present a uniform appearance at special events, such as an inaugural event at a range or other occasion.

Wearing of camouflage by Appleseed volunteers is disallowed. Shoot Bosses may grant an exception only for camouflage wet weather gear or winter gear if a volunteer has no other suitable gear and the host range or landowner is agreeable.

Carry of handguns by Instructors (including IITs and Applecore volunteers) at an Appleseed event is within the discretion of the SB, who is responsible for the overall safety of the event. This includes Instructors (including IITs and Applecore volunteers) who are attendees at an event. A loaded handgun that is being handled (e.g., disarming to demonstrate a task) is a greater safety risk than one that stays properly holstered. Therefore, use of a holster with active retention is recommended and may be required by the SB.

Appropriate consideration for local laws, host facility rules, and range relations should be made when deciding if and how (open or concealed) carry is allowed. This policy is applicable only during the time the Instructor is present at the event.

Touching of students is to be kept within reasonable limits. Basically, it is only allowed when needed for correcting positions, diagnosing trigger control problems, assisting in sling fitting, touching a shoulder or foot to indicate to whom you are speaking, correcting muzzle sweeps or other safety violations, rendering first aid, and an occasional back or shoulder slap to punctuate an "atta boy." There is really no other reason for an Instructor to lay hands or any other object on students. Any touching done under these guidelines should be done in as non-threatening a manner as possible, and as briefly as possible.

Volunteers should be aware of and comply with the Project Appleseed Controlled Substances Policy, which can be found on the Appleseed Forum.

Chapter 5: IBC and RBC Advancement for IITs

A new IIT should immediately proceed to Appleseed Academy and TIPS (The Instructor PageS) portion of the forum to learn how to sign up to work an event and begin learning how to attain higher levels IITs through the normal process. The IIT should print the next appropriate Progress Check have it filled out before the next event they sign up to work, and present it to the Shoot Boss of the event Saturday morning.

IITs should be aware they can receive accelerated promotion as the result of attendance at an Instructor Boot Camp (IBC) and a 25m standard Appleseed event following the IBC. Current policy on accelerated promotions can be found on the Shoot Boss Board and also in the Frequently Asked Questions in TIPs. The opportunity for accelerated advancement should be explained to all participants at the beginning of these Boot Camp events.

A promotion resulting from skills gained through IBC attendance consists of two components: 1) a weekend of IBC instruction which is appropriate for all levels of instructors, and 2) an accompanying Appleseed event which should ideally occur within a week or two of the IBC, and this Appleseed event may be chosen at random by any of the participants. If the SB of the IBC is not the same SB as the Appleseed event, the level of advancement of the participant will be the result of collaboration between the two SBs. The request for the resulting promotion is to be made by the SB of the accompanying AS, and no PCs are required for this promotion. The maximum level to which a participant can be promoted as a result of this experience is IIT3, and this level can be obtained regardless of the initial level of the IIT.

An RBC is a week-long training event, similar to that of an IBC, but also includes marksmanship instruction extended to longer distance shooting. It concludes with an AS event wherein the RBC participants engage in the instruction. It is similar to the IBC in that the maximum level which can be obtained is an IIT3, and if the SB of the training event is not the same SB as the AS event, the level of advancement of the participant will be the result of collaboration between the two SBs. And the request for the resulting promotion is to be made by the SB of the concluding AS. No PCs are required for this promotion.

The procedures and policy for all promotions can be found on the Official Policy and Procedures board.

Chapter 6: Running an Appleseed

In The Beginning – Starting an Appleseed

An Appleseed event consists of a number of individual segments or drills. As each drill is completed, the instructors should flip their mental switches and proceed to the next. These segments could be listed as follows: Administrative Drill, Parking Lot Drill, Initial Firing Line Drill, and Marksmanship Instructional Drill. Before beginning with the Administrative Drill, a list of administrative notes should be reviewed. These items will be essential for performing administration duties at an event. While some of the items are of interest mainly to SBs, other items should be of interest to anyone working in the administrative procedures at an Appleseed event. The SBs should bring the list of shooters, waivers, chamber flags, handouts, a first aid kit, PC0s, Instructor Contracts, and all pertinent supplies discussed below. Furthermore, the SB should review the items below and provide guidance to the persons working registration.

Administrative Notes

1. Prior to the shoot, make sure the information concerning range fees is clear. For example, some clubs don't charge the club members a range fee, others don't charge for anyone under a certain age and others charge everyone.
2. Supply suggestions: Typical office and general supplies such as: paper, pens, staplers and staples, Scotch "Magic" tape, receipt book, scissors, clip boards, name tag supplies including a "no-photo" designation if needed, ruler, basic calculator, sharpies/magic markers, paper clips. Suggested additional supplies: hand sanitizer, bug spray, Benadryl gel for bug bites, sun screen, paper towels, wipes, trash bags, ibuprofen, etc.
3. ID checks: Shoot Bosses may check IDs for those who signed up with a discounted ticket. For other ID checks, please see our policy on Student Information and ID Checks (https://appleseedinfo.org/smf/index.php?topic=59141.0)
4. There is a form (see Appendix 2) that can be given to law enforcement officers, service members, and others which recognizes their attendance at the event. These forms can be taken to their supervisors to be placed in their training files.
5. Bring a bank bag and money for change. Shooters who walk on will often bring a $100 bill to pay for registration. It is suggested that range fees and walk on fees be kept in separate business size envelopes inside the bank bag.
6. No Appleseed items, including memberships, may be sold at the events.
7. You may find it helpful to use different color pens for checking in shooters. For example, green for Saturday and red for Sunday. It is helpful to the SB to use these same color pens to indicate who makes Rifleman and to indicate their score. This information is needed for the SBs after action report (AAR) and Internal AAR.
8. Make sure all shooters and spectators sign waivers – both RWVA and the range forms, if the range requires it. RWVA liability waivers can be retained by the SB. Alternatively, they can be scanned and e-mailed to kfoster@projectappleseed.net. If the forms cannot be scanned, they should be mailed to:

Kirby Foster
159 County Road 4358
Lampasas, TX 76550

9. Following the initial "rush" of shooters being checked in, find a quiet place to double check the waivers signed against the registration forms, as well as money collected against what should be collected for walk-ons and range fees.
10. Range fees and range waivers should be given directly to an officer of the club or his designee, along with a receipt which is signed by this person before leaving the range on Sunday. A copy of this receipt is uploaded to Certify or sent to Accounting Support. The very least that can be done is to write out a receipt by hand stating how much money was given to whom and send that receipt to Accounting Support.
11. There is a place on the reimbursement form to indicate how much money Accounting Support is to receive. This money can be sent by a check or money order.
12. Accounting Support address:

    Project Appleseed
    ATTN: Accounting Support
    PO Box 756
    Ramseur, NC 27316-0756
    E-Mail: AccountingSupport@AppleseedInfo.org

13. Expense Reimbursement: Accounting Support MUST receive reimbursement forms within 45 days of the shoot. Reimbursement requests should be filed electronically through Certify Travel and Expense. A copy of the current Project Appleseed Reimbursement Policy can be found on the Project Appleseed Forums in the board Instructor Info » Shoot Finance and Reimbursements. NOTE: Effective December 31st, 2019, expense reports will no longer be accepted via postal mail.

Chapter 7: Administrative Drill

Several items should be addressed as the Appleseed begins with the Administrative Drill. Some of these will be listed below.

1. The administrative table/location should be set up in a convenient spot. The administration table will ensure that all shooters are paid up, registered, and have signed a liability release. The pre-registration list should be on hand. Different denomination bills should be on hand to make change for the shooters. Any current handouts should be available, and waivers should be signed. Chamber flags should be distributed.
2. Someone should be assigned to Meet and Greet the shooters as they enter the parking area. Do the following four things: Greet the shooters in a friendly fashion. Inform them to leave all firearms in their vehicle until after the safety briefing. Direct them to the appropriate parking area. Tell them they should proceed directly to the administrative (check-in) area. Some Shoot Bosses may prefer RWVA waivers be handed out in the parking lot for shooters to complete before they arrive at the Registration Desk. This can reduce congestion at the Registration Desk.
   A. Parking Lot Patrol: When the shooters return to their vehicles to retrieve their rifles, these Instructors will monitor the parking lot for safety during the walk back to the firing line. They should strive to keep the shooters moving and not wasting time ("Quickly, quickly!").
   B. Firing Line Patrol: These will likewise monitor the firing line for shooters returning from the parking lot to ensure safety during their set up on the line.
3. As the morning safety briefing begins, here is a check list of items to be covered.
   A. Extend a welcome to the shooters. Let the instructors introduce themselves.
   B. Explain the difference between Orange Hats and Red Hats. The Orange Hats are all qualified Riflemen and are learning to become some of the finest rifle instructors available. It is possible they may make some mistakes while instructing. If so, they will be corrected and we ask for your understanding.
   C. Ask if there are any trained medical personnel available.
   D. Caution the shooters not to do anything that they think might endanger their health or well-being, and not to forget to take whatever medications they may require.
   E. Remind the shooters to take any appropriate measures to deal with hot or cold weather.
   F. If the shooters feel it necessary to take a break before one is officially announced, they should feel free to do so. This event should be looked upon as a valuable learning experience and it should be fun, not an experience in forced drudgery; however, it will be an intense experience, usually described as "drinking from a fire hose."
   G. The shooters can be told about CMP slips.
   H. The shooters can be asked who has tube-fed rifles and either offer them mag fed loaners or tell them they will have to receive special instructions at a later time.
   I. The shooters can be asked if anyone has .17 Hornady Magnum Rimfire (HMR) caliber rifles. If so, the shooter should be warned, according to the manufacturers, firing .17 HMR ammo in semi-auto firearms could result in property damage or serious personal

injury and should be immediately discontinued.[1,2] These shooters should be offered loaner rifles. Otherwise, if they insist on using their rifles, they must sign a waiver stating that they have been warned of these dangers, relieving RWVA and its instructors of liability, and put on the far-right side of the line, separated from the other shooters. This waiver is listed in Appendix 1.

J. The shooters can be asked if anyone has Smith & Wesson M&P 15/22 rifles. If so, the shooter should be advised of the Smith & Wesson Safety Alert. The SB should offer the shooter a bolt inspection gauge. If the shooter's rifle fails the gauge test, it cannot be used at a Project Appleseed event and SB should advise the shooter to contact Smith & Wesson customer support. If the rifle passes the gauge test and the shooter declines a loaner rifle, have the shooter sign the waiver listed in Appendix 1. Place the shooter on the far-right side of the firing line.

K. Some history may be presented at the beginning of the event, but may include portions given throughout the day also. The story of the events of 19 April, 1775 should be told in a concise, interesting manner linking those events to us in the present

L. A brief description of the activities of the day should be presented at this point. It should include items such as:

i. Most of our shooting will be done at 25 meters. If possible, we will go to longer distances tomorrow. But what is taught at 25 meters will also work at longer ranges. All that is necessary to go to longer distances is to change your sights to account for the ballistics at the longer ranges, and you will be taught how to do that tomorrow

ii. Shooters will be taught the three absolutely essentials ingredients of precision rifle marksmanship: Proper positions, the 6 Steps of Firing the Shot, and NPOA. They may have challenges with these because it may be challenges getting into the positions and they may have bad habits which are challenging to break. Point out that it is requires effort and persistence to attain a Rifleman's Score. On the average, only about 10% of the shooters at an Appleseed event accomplish this. It frequently requires two or three Appleseeds, or more, to achieve this score. Therefore, the shooters shouldn't be discouraged if they don't shoot this score this weekend. They will be taught the material necessary to achieve this score, and it may be practiced in their living rooms. They should PERSIST in this matter. A fundamental characteristic of Riflemen is that they PERSIST. The shooters have begun a journey that should be continued. This is highly preferable to being a quitter.

iii. The shooters will have a much better learning experience if they listen carefully and follow the instructions given to them. We must assume that they came here to learn how to shoot, and not simply for the shooting itself.

iv. An extensive and intensive set of instructions and exercises will be undertaken before we actually try to shoot the AQT.

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[1] .17 HMR Semi-Auto Firearm Safety Issues". http://www.americanrifleman.org/ArticlePage.aspx?id=1927&cid=6. Retrieved 14 March 2013.
[2] Safety Warning And Recall Notice". Archived from the original on 12 February 2010. http://web.archive.org/web/20100212054021/http://www.remington.com/pages/news-and-resources/safety-center/safety-warning-recall-notice.aspx. Retrieved 21 March 2019.

v. The Hits Count target (a.k.a. the Redcoat target) will be the first target to be shot. This exercise is designed to establish a base-line of their abilities. Later use of the target can be used to establish their progress.

vi. We don't use bipods at Appleseeds and you may not use your magazine as a monopod by resting it on the ground.

M. Caution the shooters to take care of their equipment. Try to keep everything clean. For example, don't let your muzzle dig into the dirt. This could cause a muzzle obstruction, a potentially dangerous situation. Additionally, the shooters should try to keep their magazines out of the dirt. Chamber flags should be kept clean to prevent introducing debris into the barrel. If necessary, wipe them off before inserting them into the chambers.

N. At this point, Appleseed's 4 Safety Rules and the concept of Safe Rifle, which means the process of clearing rifles, should be presented. They should be presented verbatim. Then they should be repeated and explained. The shooters should then be requested to repeat them as a group, or individually until they can do so confidently. This means to insist on TPI. This technique should be used repeatedly on various important topics during the weekend.

O. As we prepare to go to the firing line, please follow these instructions.

i. Bring your shooting mats to the firing line first.

ii. Make your rifles safe and bring them to the line safely, preferably cased.

iii. Lay your rifles on the mats being sure they are "Safe" and take your cases behind the equipment line.

iv. Bring a pencil or pen, and a staple gun, if you have one.

v. Place all your other equipment, except your rifle and mat, behind the equipment line.

vi. After you have finished shooting a string of fire, the only thing left at the firing line should be your Safe Rifle lying on your mat.

vii. No one should proceed downrange past the firing line until the rifles have been declared clear and safe by the instructors and you are told to go downrange.

viii. **Everyone is required to wear ear protection and encouraged to wear eye protection**. Shooters of minority age (i.e., <18 years old) are required to wear eye protection. Those of adult age (i.e., ≥18 years old) are strongly urged to do so. If the range rules require both of these items, we are obliged to enforce host range rules. Therefore, instructors should inspect the line for shooters without this safety equipment and remind them to make use of it. Shoot Bosses have the discretion to require adults to wear eye protection.

ix. Shooters may proceed to the parking area and bring their equipment to the shooting area.

Chapter 8: Line Duties and Procedures

To create a safe line and to standardize procedures, the following Line Duties and Procedures will be followed at an Appleseed event. The SB will assign the following duty positions in the pre-shoot instructor meeting.

Line Duties

Line Boss (LB)
The Line Boss is in charge of the line. To maximize safety and situational awareness, the LB will do absolutely no instructing during the SOF. Thus, the LB will not be distracted from watching the line and keeping the COF on schedule. The LB must pay attention to the "big picture."

The primary responsibility of the LB is for safety of the line. He shall watch the line at all times for safety violations, announce the COF, and NEVER leave the line unattended.

The secondary responsibility of the LB is keeping the event on schedule.

Instructor
The Instructor is the "point of the spear" for Project Appleseed. He is in direct contact with shooters and remains constantly engaged, correcting errors and offering tips and techniques to improve their shooting ability. The Instructor must constantly be vigilant for safety violations. Instructors, at specific times during the SOF, may also perform duty as an RSO or as an LSO.

Range Safety Officer (RSO)
Typically, there are two RSOs, one for each side of the line. The duty of the RSO is to clear the line after the "Unload and Clear!" command is given, ensuring all rifles on his section of the line are "safe." The RSO must perform his duty precisely and WITHOUT DISTRACTION, **focusing only on line safety**. When not performing RSO duties, he mentally "flips the switch" back to Instructor duty. The two RSOs on the line are direct safety links between the LB and the line itself. Accordingly, the RSOs will face, and report directly to, the LB.

Line Safety Officer (LSO)
When the line is too long for RSOs to safely and quickly clear the line, the LB may designate as many LSOs as necessary to assist in the process. The LSOs operate on the line between the LB and the RSOs. The duty of the LSO is to clear the line after the "Unload and Clear!" command is given, ensuring all rifles on his section of the line are "safe". The LSO will then face, and report directly to, the RSO. The RSO, who will be facing the LSO and the LB will receive the report from the LSO and report directly to the LB. The LSO, like the RSO, must perform his duty precisely and WITHOUT DISTRACTION when clearing the line, **focusing only on line safety**. When not performing LSO duty he mentally "flips the switch" back to Instructor duty.

Line Procedures

Line Boss
The LB will adhere to the SB's COF and run the line according to the schedule. The LB should have with him a copy of the line commands and a means to time the events (e.g., a watch, or stopwatch). A sample COF can be found in Appendix 4, Sample Course of Fire.

If the SB has not done so, the LB will designate two RSOs and an appropriate number of LSOs. The LB will ensure RSOs and LSOs know their duty and communication procedures. The LB will designate the "overlap rifles."

Normally, only the LB will issue line commands. He will use the standardized line commands, verbatim. If the Line is too long for all shooters to hear line commands the LB will direct Instructors to echo line commands. Only the commands "Load!", "Fire!" and "Cease fire! Cease fire! Cease fire!" will be echoed. Instructors will echo commands verbatim!

The LB shall refrain from unnecessary patter or commentary unrelated to the line commands once the command, "Shooters, your preparation period has ended!" has been given until the string of fire is complete.

The LB will time the preparation period, SOF, and time spent at the target line in order to keep the shoot pace moving and to minimize wasted time.

Instructor
The Instructor has a multifaceted job and is expected to perform to the best of his ability. **Safety is always the Appleseed Instructor's first priority**. Effectiveness is the next.

An Instructor is expected to remain in constant contact with the shooters. He should start at one end of his designated portion of the line and engage a shooter. Evaluate the shooter's position and technique. Offer correction for any problems noted (steady hold factors, 6 Steps of Firing the Shot, etc.) Remind the shooter to always shift and re-establish NPOA as he moves to a different target. When satisfied, the Instructor moves to the next shooter and repeats the process.

At no time should an Instructor be chatting with a shooter or another Instructor when he could be instructing. Likewise, while instructions are being presented to the shooters the instructors should NOT be engaged in discussions with other shooters or Instructors. It is distracting to the presenter and the other shooters. But at all other times, it is the duty of the Instructors to constantly ENGAGE the shooters to improve their shooting. This process begins when the Instructor steps onto the line. The Instructor is to be proactive.

Instructors should be where the shooters are. If the shooters are at the target line, the instructor should be as well, diagnosing, teaching, and engaging the shooters. If shooters are on

the firing line, in their prep period or during the SOF, that's where the Instructor should be, shouting out line patter, offering helpful tips, correcting positions, etc.

Instructors should engage in and accomplish as much instruction as possible before the "Fire!" command. Do not interrupt shooters unnecessarily during the SOF, especially during the 2nd and 3rd stages of the AQT, when time is a factor. But correct trigger control as necessary. Instructors during the SOF will evaluate the shooter for problems that can be quickly pointed out and easily corrected, such as touching a trigger finger to indicate dragging wood; however, the students are there to learn to shoot rather than attain high scores, except perhaps near the end.

If a shooter indicates he is not ready to fire, the Instructor nearest the shooter should determine the problem. If the problem is not a safety issue, he will face the LB and give the "thumbs up," allowing to the LB to proceed at his discretion. If the problem is a safety issue, the Instructor ensures the muzzle remains pointed in a safe direction, gives a "thumbs down", and shouts "Safety Issue!" advising the LB of the fact and awaits his command.

The command "Stand Easy!" from the LB keeps the line in place until the problem can be resolved.

An Instructor will work with the shooter to resolve the problem. Once resolved, he should face the LB and give the "thumbs up".

The LB should resume with the command "Is the line ready?" and proceed with the SOF.

Range Safety Officer
At the command "Unload and clear!" the Instructors so designated immediately transitions to RSO duty. The primary duty of the RSO is to clear his half of the line after "Unload and Clear!" The RSO communicates with and reports directly to the LB.

The line will be cleared from the center outward. The RSO will begin at the designated "overlap" rifle at line center, and both RSOs will clear that rifle. He will then walk the line from that rifle to the last rifle on his side, clearing each.

When he reaches the end of the line, he will turn to face the LB and watch the line to ensure that it remains clear and safe. When the LB asks "Is the Line Clear On the Right?" and "Is the Line Clear on the Left?", the RSO will display a "thumbs up" or "thumbs down" in the clear view of the LB, indicating the condition of his half of the line.

At the call, "The Line is Clear! The Line is Clear!" the RSO mentally "flips the switch" and resumes Instructor duty.

Remember: The Instructor's RSO duty starts with the command "Unload and Clear!" and ends with the command "The Line is Clear! The Line is Clear!"

Line Safety Officer
The LSO is an Instructor who clears a section of an RSO's half of the line. The LSO communicates with and reports directly to his RSO, not the LB. When the Instructor designated as LSO hears the command, "Unload and clear!" he mentally "flips the switch" and performs only LSO duty.

The LSO will begin clearing rifles at his overlap rifle nearest line center and continue clearing outward to his overlap rifle farthest from line center. When he reaches the outside "overlap rifle" of his section, which he will share with another LSO or the RSO, the LSO will face the RSO, and not the LB, and give a "thumbs up" or "thumbs down" in the clear view of the RSO, indicating the condition of his section of the line.

At the call, "The Line Is Clear! The Line Is Clear!" the LSO mentally "flips the switch" and resumes Instructor duty.

Remember: The Instructor's LSO duty begins with the command "Unload and Clear!" and ends with the command "The Line is Clear! The Line is Clear!".

Chapter 9: Parking Lot & Firing Line Drills

Parking Lot Drill

Instructors should be stationed in the parking lot to observe that the shooters transport their rifles and other equipment to the shooting area in a safe and efficient manner. In particular they should ensure that the rifles have been made safe and that the 4 Safety Rules are followed if the rifles are uncased.

Simultaneously, instructors should be stationed at the firing line to observe that safety precautions are followed there as well. In particular they are to ensure that rifles are laid on the mats and made safe, and that all other material is placed behind the equipment line. They should also observe that no shooters proceed past the firing line until all rifles have been cleared and shooters have been instructed to go forward. Instructors in both areas should hurry the shooters along, if necessary, by using the command, "QUICKLY, QUICKLY."

Initial Firing Line Drill

Instructors should clear the rifles as soon as all rifles are on the line.

1. The line commands are presented and explained. They should be given at this time without the commands associated with the transition commands associated with Stage 2 and Stage 3 of the AQT. These transition commands should only be given later, at the time they are to be used, to prevent confusion.
2. The shooters should be requested not to talk to or seek help from the instructors while they are clearing the line after the “Unload and Clear” command. It is their job to help at any other time and they will be glad to do so.
3. AMMUNITION DIFFICULTIES: This is an extremely important topic because of the possible danger involved.

   a. There are some possible ammunition difficulties our shooters may encounter. Some can be potentially dangerous or even deadly. Three and only three are of importance to us: misfires, hang fires, and squibs. (We do not discuss mechanical difficulties here.)

   b. A misfire is a round which simply does not fire. There is nothing that is particularly dangerous about this type of round, except that initially it is not distinguishable from a hang fire, which is potentially dangerous.

   c. A hang fire is a round which does not initially fire; nevertheless, the ignition process is proceeding, but very slowly. It may take several seconds for it to actually fire. Therefore, if the round is ejected immediately upon its failure to fire (FTF) it could ignite with disastrous consequences after its ejection.

   d. A squib results when a cartridge contains an insufficient amount of powder for the bullet to exit the barrel. It can usually be detected by the weaker, or rather muffled, noise of the report as the round fires; however, on occasion, a report may not even be noticed, particularly if other rifles are being fired at the time. As a result, it could be confused with a misfire. If another round is fired while the squib bullet is stuck in the barrel, the pressure within the barrel could cause it to rupture with disastrous consequences.

   e. Therefore, if any shot does not sound or feel right, the shooter should STOP IMMEDIATELY and call for an instructor while keeping the muzzle downrange. After

30 seconds, the cartridge may be ejected. Then, if necessary, a rod can be run through the barrel to ensure that it is clear. ALL THESE DIFFICULTIES DO OCCUR AT APPLESEEDS AND THE INSTRUCTORS AND SHOOTERS SHOULD BE AWARE OF THEM.

4. It should be stressed that all shooters on the firing line must maintain a straight line, not a wavy one. Therefore, we will insist that all muzzles be extended past the marked firing line at all times. In addition to this, no body parts should ever be extended past the marked firing line. This procedure will be in effect during all preparations for shooting, including transitions from standing position to sitting positions or prone position. The reason for this is that if a shooter is only a step behind his neighbors, he is much more likely to sweep his neighbors with his muzzle. This fact should be demonstrated by an instructor using his faux rifle.

5. The shooters should be again quizzed on the 4 Safety Rules.

FOR TUBE-FED RIFLES ONLY: *This may be explained to them as a group, while the rest of the shooters may be told that the tube-fed shooters will be following a slightly different set of commands.*

When the command, "Shooters! Your Preparation Period Has Ended!" is given, you will, preferably while sitting and keeping your muzzle downrange:

- Place your safeties on.
- Insert your chamber flags.
- Prep your tubes with the appropriate number of rounds.
- Lock the tube plunger.
- At the "LOAD" command, remove the chamber flag, insert a round in the chamber, and take the safety off.

Refer to the original command above in this manual "Shooters! Your Preparation Period Has Ended!" for a more complete explanation.

6. After the Hits Count target is explained and engaged, it is recommended that the shooters be checked for eye dominance. Corrective factors such as placing tape on their dominant spectacle lens could be suggested, if indicated. The shooters may also be informed that closing one eye for aiming purposes over a long period could induce eye strain. If it occurs, they may wish to place tape over the lens of the eye which they normally close so it can remain open while aiming. Furthermore, shooters with progressive bi-focal eyeglasses should be informed that they may encounter challenges with aiming, using either iron sights or scopes. As a result, their accuracy could be affected adversely. If they are not made aware of this, they could become very discouraged with their results.

7. After the Hits Count target is engaged, some alteration of the shooters' rifles may be suggested. For example, those with scopes will usually find that their scopes are mounted too far to the rear, thereby forcing the shooters to crane their necks too far back. In addition, scopes are naturally higher than iron sights. This may force the shooters to raise

their necks too high in order to see through their scopes, thereby preventing them from obtaining a proper cheek weld. This may be alleviated by taping pipe insulating foam onto their stock combs. If these two conditions are not addressed the shooters will be uncomfortable because of neck strain and tire quickly. Furthermore, they will certainly not shoot as well as they could otherwise.

Chapter 10: Verbatim Material

Project Appleseed has several blocks of instruction which are considered "verbatim material." This means the material must be presented word-for-word. Adding, deleting, or reordering the material is not allowed. That said, the words used to explain the material are yours. The following items are considered verbatim material and must be presented as such:

1. 4 Safety Rules
2. Safe Rifle
3. Line Commands

4 SAFETY RULES

1. Always Keep the Muzzle in a Safe Direction.
2. Do Not Load Until Given the "Load" Command.
3. Keep Your Finger Off the Trigger Until the Sights are On the Target.
4. Make Sure Those Around You Follow the Safety Rules.

Background

The 4 Safety Rules are Project Appleseed's safety rules. Every organization that teaches shooting skills has a set of firearms safety rules they have developed. Appleseed's 4 Safety Rules are the rules we have adopted to best serve our purpose.

EVERY Instructor should know the 4 Safety Rules verbatim – cold! When you teach the 4 Safety Rules, say them word for word. When we as Instructors know and say the 4 Safety Rules word for word, we demonstrate our serious unwavering commitment to the safety of our shooters and our professionalism as the best rifle marksmanship instructors anywhere.

Instructional Points

First present each of the 4 Safety Rules as given above. Then go back and explain what each rule means, as described below. Many of our shooters may have never handled a rifle or have had very limited exposure to a rifle. Therefore, they may not understand the terminology we use or how we have defined terms within our program. *The Instructor should then return to the 4 Safety Rules and have the shooters repeat them enough times to ensure they are well known. It should be emphasized that the order of rules is important.*

Project Appleseed's 4 Safety Rules

1. Always Keep the Muzzle In A Safe Direction.

A safe direction means that the rifle is pointed in a direction so that even if it were to unintentionally discharge it would not cause death, injury or damage. This rule demands the shooter control where the muzzle is pointed at all times. Common sense dictates the safest direction depends on the circumstances and rifle or range location. The safest direction may be

up in a rural area or down in a more urban area. Be aware of what's down, (i.e., dirt or a concrete parking lot). For our purposes at an Appleseed, the muzzle should be up during transport, and downrange at the firing line.

Always keep the muzzle in a safe direction applies at ALL times. Some specific times to remember are when removing the rifle from vehicles, from the case, during transport to the range, and especially on the line when slinging up or transitioning from standing position to either the sitting positions or the prone position.

Explain the term "muzzle sweep" (the unsafe and disrespectful act of carelessly pointing a rifle at another person).

Emphasize that shooters need to be aware of not only their muzzle but also their neighbor's muzzle.

2. Do Not Load Until Given the "Load" Command.

Explain to the shooters that "**preparing a magazine"** means to place cartridges into a magazine and that **LOAD** means to insert the magazine into the rifle.

Explain the difference between the instruction "**Prepare a magazine with X rounds**" (don't forget tube-fed rifles) and the command "**WITH X ROUNDS, LOAD.**" Again, emphasize the distinction of what you just said! The **LOAD** command will be explained more thoroughly later.

3. Keep Your Finger Off the Trigger Until the Sights Are On the Target.

Emphasize that the shooter's finger should stay outside the trigger guard, preferably along the side of their rifle or behind the trigger guard until their sights are on the target. Actually, the sights don't have to be on the specific silhouette or square to be engaged. It is sufficient that the sights be on the target or target backer. Remind the shooters to be cognizant of "muzzle control"!

4. Make Sure Those Around You Follow the Safety Rules.

Everyone shares the responsibility that we all go home without any extra holes. If anyone sees anything they remotely think might be a safety issue, they should immediately take corrective action! If necessary, call "Cease Fire! Cease Fire! Cease Fire!" Right now, right there – don't wait for an Instructor or anyone else.

Additional emphasis should be placed on MUZZLE CONTROL! It is not too unusual for someone to have hot brass land on them. In some cases, it may be very hot and surprise them so much that they automatically try to find relief; however, in the process their muzzle may stray and point directly at someone while the rifle is loaded and their finger on the trigger. Their FIRST reaction should be to ground the rifle so that the muzzle is in a SAFE direction! The act of grounding the rifle and making it safe will be explained shortly. After this is accomplished, then attend to the burn. Shooting someone will be several magnitudes worse than a burn could ever be!!! The same potentially dangerous reaction could be caused by any number of factors such

as a bee sting or an asteroid striking you from the sky. The FIRST thing they MUST do is to think about their muzzle!!!

A continual violation of the safety rules cannot be tolerated. The shooter may be asked to leave the line.

Specifically, talk to the children and their parents about how serious this matter is. Throughout the day the SB, Line Boss (LB), or Instructors should ask the shooters as a group, or individually, to quote the 4 Safety Rules. Regardless of how the shooter phrases the rule back to you - you should always come back with verbatim phrasing (i.e., "Always Keep the Muzzle in a Safe Direction.")

If an instructor sees anything he even remotely thinks is, or might lead to a safety violation, he should take IMMEDIATE ACTION. An example could be someone who seems to be in the process of moving his muzzle either up range or toward his neighbor. This instructor should immediately grab the muzzle and move it toward a safe direction. Or it may be a shooter who is about to LOAD prematurely. If immediate action fails to work, the instructor should quickly give the "Cease Fire! Cease Fire! Cease Fire!" command, and such actions are not confined to an instructor. Any shooter is obliged to do the same, according to Safety Rule #4.

SAFE RIFLE

Background

A Safe Rifle is fundamental to ensuring the safety of all those involved in Project Appleseed. Safety is everyone's responsibility. The two principals involved in making a "Safe Rifle" are the shooter and the Range Safety Officer (RSO). The final responsibility falls squarely on the RSO. The RSOs "thumbs up" is his assurance to the LB that "the line" is clear. All of us then, when cleared by the LB, can move down range with confidence that every rifle is a Safe Rifle

The following items constitute a Safe Rifle. Some items vary depending on the rifle and will be discussed below.

Safe Rifle
1. Magazine Out
2. Bolt Back
3. Safety On
4. Chamber Flag In
5. Rifle Grounded
6. No One Touching the Rifle

The instructor should introduce the Safe Rifle procedure by giving the brief version given above, and then explain each step carefully in turn, as given below. Following that, he should return to

the brief version, having the shooters repeat it until a good response is obtained from the shooters. It should be emphasized that the order of the steps is important. For efficiency, do not brief every possible exception to these steps. Simply tell shooters that if they think a step is not applicable to their rifle to ask an instructor for assistance when they bring their rifle to the line.

Instructional Points

If you are not familiar with a particular rifle, ask the shooter while the line is active (in prep or hot) to show you how to load, unload and make their rifle a "Safe Rifle." If you have any doubts, find a more experienced Instructor or better yet, an Instructor who has that same type of rifle to verify what the shooter has shown you.

1. Magazine Out

Ensure the magazine is out if it can be removed. If the magazine is fixed/internal, the shooter should ensure all cartridges are removed by ejecting each cartridge using the charging or bolt handle. Tube-fed rifles – tube plunger disengaged and out at least two to three inches. Garand rifles need the en bloc clip ejected. Ruger 10/22 factory magazines are black or clear, and fit flush with the bottom of the rifle. As a result, they are easily missed.

2. Bolt Back

The bolt should be locked back. This is not possible on all rifles, notably the AK-47, unless it has been modified. In this case, the bolt should be EASED FORWARD on the chamber flag. If the bolt is released quickly, it could cause the flag to break, leaving an obstruction in the barrel, which could be a potentially dangerous situation.

Specific Rifles:
SKS – Open the bolt with the magazine empty and the bolt will lock back. Then open the magazine well.
AKs – The bolt won't lock back with the Safety On unless the shooter has modified his rifle. The typical AK will have the bolt forward resting on the chamber flag with the Safety On.
Tube fed rifles –Tube-fed rifles don't have removable magazines. Nevertheless, they still must empty their tubes if any rounds remain in them. The shooters should NOT remove the plungers and hold the muzzle down to let the rounds fall out. Rather, they should keep the muzzle down range, keeping the plunger in place. Then they should actuate the bolt until all rounds have been ejected and they can see the follower. After this, the plunger should be extended a few inches from the tube and the flag placed in an empty chamber.

Remember: If at any time you are not sure a rifle is a Safe Rifle, ASK!

3. Safety On

This is an easy one to miss on AR-15 or AR-10 rifles. On some of these rifles the safety is not always easily verified as "on" when the rifle is lying with the ejection port up. One technique in this case is to mark a small line on the receiver and across the safety pin on the ejection port side with a Sharpie while the safety is on. First, ask the shooter if he minds. The Sharpie mark is

removable with rubbing alcohol. On AKs the safety can't effectively be "on" with the bolt back but can be applied with the bolt forward resting on the flag. In this case, EASE the bolt forward on the rifle. On bolt-action rifles, ensure the bolt is back and the magazine well is empty. There is no need to have the safety on.

4. Chamber Flag In

Every shooter will be given a chamber flag. Every rifle on the line will have a chamber flag. The chamber should be examined closely before inserting the flag to be sure it is empty. Remind shooters that the tip of the chamber flag must be in the rifle chamber as far as possible. For some rifles, such as AKs, the bolt should be forward on the flag, but shooters should not let the bolt slam forward on it since it may break, causing an obstruction in the barrel. When removing the flag, be sure it all comes out and that no part of it is left in the barrel. A potentially dangerous situation could develop if the rifle is fired with an obstruction in the barrel. As mentioned in the paragraph above, if the bolt can't be left back effectively, ease the bolt forward on the flag. Shooters should keep the chamber flag clean.

5. Rifle Grounded

The rifle must be lying on the ground or the shooters mat. The SB may modify this as necessary during exceptionally rainy, windy, or dusty conditions. Some shooters may choose to lay a towel or covering over their rifle in these situations to protect it from the elements after the rifle has been made safe.

6. No One Touching the Rifle

Neither the shooter nor the Instructor will touch the rifle once the "line is clear." When returning from the targets, shooters may be thinking about sight adjustments or adjusting the sling for the next stage and may try touching their rifles while others are downrange. The LB should maintain a sharp eye on the line to prevent this. Reemphasize that the shooters may only touch their rifles on the line during "prep time" or during a SOF.

Advice for RSOs and LSOs while clearing the line

Sometimes it is easy to overlook a magazine which is in a rifle. Some instructors prefer to actually stick their fingers in a mag well to confirm it is empty. Another suggestion is to mentally go through the following procedure for each rifle being examined. Think through the most obvious to the least obvious items which can be seen, and mentally say to yourself while you check each rifle: *flag, magazine, safety*, and anything else on the mat.

LINE COMMANDS

Line Commands

The line commands for all strings of fire are listed below in their proper order. There are 4 Stages in the AQT. Stages 2 and 3 are transition stages and the commands associated with them are different from all other SOFs. These differences are indicated below. In all cases, all the commands are to be given loudly and with authority.

List of Line Commands

- "Shooters! Your Preparation Period Begins Now!"
- "Shooters! Your Preparation Period Has Ended!"
- (Given during Stages 2 & 3 of the QDAQT Only) "Safeties On!"
- (Given during Stages 2 & 3 of the AQT Only) "Stand!"
- "With X Rounds, Load" (Not to be given during Stages 2 and 3 of the AQT)
- "Is the Line Ready?"
- "Ready On the Right?"
- "Ready On the Left?"
- "All Ready On the Firing Line!"
- "Fire!"
- "Cease Fire! Cease Fire! Cease Fire!"
- "Unload and Clear!"
- "Is the Line Clear On the Right?"
- "Is the Line Clear On the Left?"
- "The Line Is Clear! The Line Is Clear!"
- "Shooters You May Proceed Downrange To Check/Post/Score Your Targets!"
- "Stand Easy!" *(If Needed)*

Background

To maximize safety, the line commands will be delivered verbatim. The LB should deliver the commands with a cadence which allows himself to be heard and understood by the shooters.

The line commands should initially be presented to the shooters without the commands associated with the transition stages of the AQT to avoid confusion and sensory overload at the beginning. Those commands should be given, and transitions demonstrated, at the time those stages are encountered.

The line commands will be presented after the rifles have been cleared and the shooters are centered up on the firing line. They will be given verbatim and then followed up with a brief explanation. Keep the explanation simple and concise. Instructional points are given along with the commands below.

Additionally, after delivering a Line Command, the LB should take specific actions and watch for the accomplishment of specific events. These will be noted "Specific Actions" in the explanations which follow.

Experience has shown that excessively short preparation periods can be counterproductive to learning. However, the LB will ensure that time during preparation periods is not wasted. Dry firing should be encouraged during every preparation period. Once the majority of the shooters have finished dry firing, end the preparation period and move forward. The SB has discretion to vary preparation period times as necessary to keep the event moving forward while best accommodating shooter skill levels and the Instructor-to-shooter ratio. The preparation period time may be decreased as shooters develop familiarity with line procedures and their equipment.

Additionally, as LB, you may establish a time period at the target line, for breaks, or for lunch. Communicate with the shooters what you expect and hold them to it.

Instructional Points

"Shooters! Your Preparation Period Begins Now!"

Explain to the shooters that when they hear this command, they may touch their rifles. During the preparation period or the SOF are the only times the shooters may normally touch their rifles. During the preparation period shooters may sling up, remove their chamber flags, assume the firing position, dry fire, make sight adjustments, etc. In fact, they can do anything EXCEPT load their rifles.

Be sure to make the concept of DRY FIRE absolutely clear to the shooters. Any time dry fire is called for, the rifles are NOT to be loaded.

Specific Actions: Start the clock and watch the shooters for safety violations or indications that you can end the preparation period early.

"Shooters! Your Preparation Period Has Ended!"

The shooters should now be prepared to shoot the SOF. Those with magazine fed rifles should have the necessary "prepped" magazines ready at hand.

Instructors should be constantly on the alert for safety violations. One of the most common is shooters who are attempting to LOAD before the command to do so is given.

Specific Actions: The Line Boss should refrain from unnecessary patter or commentary after this command has been given until the string of fire is complete.

Tube Fed Rifle Procedure

Those shooters with tube-fed rifles will follow a different pattern with this command, and this procedure should only be explained to the tube-fed shooters as a group; however, the other shooters should be told that the tube-fed shooters will be following a different procedure here. This avoids shooters unnecessarily calling out their peers under Safety Rule #4.

Tube Fed Rifles Only

When they hear the command **Shooters, Your Preparation Has Ended** – they will**:**

- Place their safeties on
- Insert their chamber flags
- Prep their tubes with the appropriate number of rounds
- Lock the tube plunger.

While this can be done while kneeling, it is preferable and safer to sit cross-legged, perpendicular to the target with the muzzle downrange, with the rifle butt under one thigh and the barrel over the other, and this prepping can be done faster with a speed loader, which may simply consist of a large diameter straw.

At the **LOAD** command:

- remove the flag
- insert a round in the chamber
- take the safety off.

For the transition stages, there will be no LOAD command. For these stages this LOAD process will begin when the shooters assume the appropriate firing position after the FIRE command.

For the transition stages (Stage 2 and Stage 3,) the appropriate number of rounds will be 11. After firing two rounds, the next one will be ejected and firing will continue.

While the tube-fed rifles are being prepped, the LB can use the time to briefly explain again, if necessary, the SOF, especially when the SOF may still be new to everyone.

"Safeties On!" - (Given only during transition stages)

"Stand!" - (Given only during transition stages)

Previous to these commands the shooters may be in the sitting or prone position.

Do not explain these commands during the initial briefing. Instead, wait until an explanation is given for the transition stages prior to performing the transition stages. A brief pause should occur between the "Safeties On!" and the "Stand!" commands. Furthermore, the shooters

should follow these commands as they are given. This means that no one should stand before that command is given! In addition, please notice that the LOAD command is NOT given during the transition stages. The proper time for them to LOAD is after they have been given the command to FIRE and have completed the transition to their final position.

Instructors should be alert for shooters standing with magazines in their hands or shooters attempting to load before they are fully in the Sitting or prone position.

Some specific precautions should be observed during the transition stages. These are spelled out clearly in a section which follows this one on line commands. It is entitled Transition Stages. Please read that section closely.

Specific actions: Be especially alert for the many safety violations which are possible in these transition stages. One of the most common is wandering muzzles. Some shooters may become unsteady and unbalanced during the transitions.

"With X Rounds, Load" - *(Not given during the transition stages [i.e., Stages 2 & 3)*

The shooters may now make their rifles ready to fire. Load the prepped magazines or clips into their rifles and chamber a round. Their safeties may be taken off, or disengaged. Those with tube-fed rifles will remove their flags, chamber a round and disengage their safeties. The shooters should be in position, ready to shoot upon the appropriate command. Allow some extra time for shooters with tube-fed rifles to continue loading, if necessary; however, you don't have to necessarily wait until they are finished loading before proceeding with the line commands. In transition stages, there will be no LOAD command. Instead, the commands: "Safeties On! Stand!" will be given, and the shooters will NOT load their rifles yet.
And again, instructors should be constantly on the alert for safety violations.

Specific Actions: Observe for safety violations and shooters struggling to load. Direct Instructors to shooters who need assistance. Give shooters sufficient time to load their rifles before proceeding.

"Is the Line Ready?"

The LB is specifically talking to the shooters now, not the RSOs, and this is a rhetorical question. If the shooters are ready, they should not do or say anything. If a shooter is not ready, he should signal by raising a hand and shout "NO!" (or something to indicate the shooter is not ready.) If a shooter is not ready because of a safety issue, that issue should be resolved before proceeding; however, if the issue is not safety related, the LB may use his discretion about proceeding. He may wish to be somewhat more lenient near the beginning of the event.

Specific Action: Listen for a NO and watch for safety violations.

"Ready On the Right?"

Specific Actions: Turn your head to the right to speak to that side of the line and look for any indications that the shooters are not ready.

"Ready On the Left?"

Specific Actions: Turn your head to the left to speak to that side of the line and look for any indications that the shooters are not ready.

"All Ready On the Firing Line!"

Specific Actions: Check down range to verify the target line and beyond are clear.

"Fire!"

The shooters will begin the appropriate SOF. Emphasize they should focus on shooting the correct number of rounds on THEIR OWN TARGET, not someone else's target.

On the transition stages, the loading process will begin only when the shooters are in the appropriate positions, sitting or prone, after receiving the FIRE command.

Specific Actions: Begin timing the SOF. Observe the line and watch for any safety violations.

"Cease Fire! Cease Fire! Cease Fire!"

Emphasize and reemphasize that when shooters hear this command they will stop firing IMMEDIATELY! "Cease Fire!" is a red light, NOT a yellow light. They are not to "machine gun" any remaining rounds, but instead stop IMMEDIATELY! Explain that the reason for the "Cease Fire!" may not be evident to the shooters. There may be a safety reason for the "Cease Fire!" EVERYONE "owns" and anyone can call "Cease Fire!" Emphasize that anyone who observes anything they think might even be close to a safety issue should loudly yell three times, "Cease Fire! Cease Fire! Cease Fire!" Explain there is no harm if they mistakenly call "Cease Fire!" The harm is if they don't call "Cease Fire!" and someone is hurt.

When required, the Line Boss should direct RSOs and Line Safety Officers (LSOs) to echo the "Cease Fire! Cease Fire! Cease Fire!" command in order for all shooters to hear it. If there is still difficulty with the shooters hearing this command, a suggestion is to drive a vehicle near the firing line and blow the horn at the appropriate time.

"Cease Fire!" is the only command "owned" by everyone on the line. Anyone, Instructors and shooters alike, who observes a safety problem, can shut down the line immediately by yelling "Cease Fire!"

If an instructor observes a safety problem, he should take IMMEDIATE ACTION to rectify it whenever possible. If this is not possible, he can resort to "Cease Fire!"

If shooters still fail to adhere to this command, particularly with short firing lines, it is permissible to exhibit some controlled anger and threaten to take the violators off the line. Explain that it is a safety issue. A safety issue could arise quickly and someone could be in immediate danger while those on the firing line may not be aware of it.

Specific Actions: Turn your head left and right to project your voice to all the shooters on the line.

"Unload and Clear!"

Each shooter should now make his rifle safe quickly, and then step back away from the rifle, behind the equipment line, which should be at least 15 feet behind the firing line.

Shooters with tube-fed rifles are not to remove the plunger and let the unfired cartridges fall out. Instead, they are to actuate their bolts, removing all the cartridges until they can see the follower. After this they should release the plunger, letting it extend out two or three inches from its normal position.

If the magazine is fixed/internal, the shooter should ensure all cartridges are removed by ejecting each cartridge using the charging or bolt handle.

Furthermore, the shooters should not engage the RSOs/LSOs in conversation while the clearing process is going on because this occupies too much valuable time.

Specific Actions: Ensure that the RSOs/LSOs begin their duty quickly.

"Is the Line Clear On the Right?"

Now the LB is specifically talking to the RSOs, and not the shooters. Explain to the shooters that as LB you will be looking at the RSO on the right for the RSOs thumbs up signal that the right side of the line is safe.

Specific Action: Look for a thumb up signal from the RSO on the right end of the line.

"Is the Line Clear On the Left?"

Explain to the shooters that as LB you will be looking at t the RSO on the left for the RSOs thumbs up signal that the left side of the line is safe.

Specific Action: Look for a thumb up signal from the RSO on the left end of the line.

"The Line Is Clear! The Line Is Clear!"

This command informs everyone that the line is clear; however, **nobody** is to step across the firing line toward the target line until given permission to proceed down range.

Typically, at this point you will inform the shooters what to expect next (e.g., “Shooters, after checking and scoring your targets, center up for instruction.”)

Specific Action: Turn to the left and right as you give this command to project your voice to all the shooters on the line.

“Shooters You May Proceed Downrange To Check/Post/Score Your Targets!”
Emphasize that this is a “Simon Says” moment. Until the shooters hear this command, everyone must stay behind the firing line!

Specific Actions: Remain on the line, or designate another instructor to do so, in order to watch for safety violations as the shooters proceed to and return from the target line.

“Stand Easy!”
A problem may exhibit itself on the line before the **Fire!** command is given which may require that the line be temporarily put on hold before proceeding with any further commands. To affect this, the command to be given is: “Stand Easy.”

Specific Actions: When the problem has been resolved, the LB should follow it by receding back to the command **“Is the Line Ready!”**, and repeat the commands from that point forward again.

Note: The Stand Easy command should be briefed with the Line Commands.

Emergency Cease Fire
Unusual situations have occurred in the past and could occur in the future. An emergency could arise wherein it is not advisable or possible to take the time to clear the line in the manner just described by the normal sequence. The previous situation involved something which obviously should not have happened. A tracer round was fired and set a field on fire. Immediate action was required. Otherwise, a catastrophic fire could have occurred and burned a few thousand acres, or worse. The recommended procedure in such situations would be for the LB to immediately call “Cease Fire! Cease Fire! Cease Fire!” Then call for safeties to be engaged and for everyone to take care of the emergency situation immediately, even if it requires that they proceed down range. At least one person should be left on the firing line to ensure that nobody approaches the rifles until the situation is resolved and everyone returns behind the firing line. Then the rifles should be rendered safe.

Dry Fire Line Commands
Sometimes it is beneficial for the shooters to perform a dry fire exercise. Many mistakes they make cannot be observed during live fire because of recoil, whereas they can be easily seen during dry fire. Some SBs make use of this by splitting up the 6 Steps to firing each shot into two segments of three steps each and dry firing after the presentation of each segment to cement the lessons learned during these steps. This method helps the shooters retain the desired

information much better than repeated attempts to simply memorize the 6 Steps. An example of this is contained in Appendix 4: Sample Course of Fire. It takes time to perform this exercise but the results seen upon live firing at the very first 1-inch square are dramatic.

The line commands for the first segment above, where no ammunition should be brought to the line, can be as simple as, "Shooters! Your Preparation Period Begins Now!" And at its conclusion; "Shooters! Your Preparation Period Has Ended!", then skipping to "Unload and Clear!" and continuing. For the second segment, the full set of line commands can be used. The shooters can be told to bring their magazines to the line, but to place them at the foot of their mats. When dry firing is complete, the instructors can bring the magazines to the front of the mat and live fire can begin according to the usual line commands.

Other variations of the above procedures could be used with appropriate adaptions. In the use of these variations, the commands LOAD and FIRE could lead to safety problems. Therefore, these commands should be replaced with SIMULATE LOAD and SIMULATE FIRE respectively. One variation can be applied to Stages 2 and 3 of the AQT. To determine the safety abilities of the shooters, as well as to better prepare them for live fire on these stages, it is advisable to practice dry firing these stages first. In these cases, it is more appropriate to replace the FIRE command by the command to "DROP QUICKLY". This will be discussed again in the section following this one, transition stages.

Transition Stages

Some material associated with the transition stages is included in Chapter 9.

It should be stressed that all shooters on the firing line must maintain a straight line at all times, not a wavy one. Therefore, we will insist that all muzzles be extended past the marked firing line at all times. In addition to this, no body parts should ever be extended past the marked firing line. This procedure will be in effect during all preparations for shooting, including transitions from standing position to sitting positions or prone position, and while shooting.

If a shooter is only a step behind his neighbors, he is much more likely to sweep his neighbors with his muzzle. This can be easily demonstrated to shooters by an instructor with a faux rifle standing in an imagined straight line and then taking a step or two backward while moving his rifle in a reasonable horizontal arc.

With the above paragraph in mind, it is important to address some transition processes that have been employed earlier and that should not be used in the future. In Stage 2, the process was to stand from the sitting positions while keeping the legs crossed so as not to lose the position of the feet for NPOA. This was followed by sitting from the standing cross-legged position. Too many instances of this procedure have resulted in shooters losing their balance and falling backward while sweeping their neighbors with their muzzles.

In Stage 3, the process was for the shooters to stand while keeping their feet in the same position they were in while prone in an effort to regain their NPOA quickly. This process

violated two of the rules stated above. First it results in the rifle's muzzle being withdrawn a considerable distance behind the firing line, and second it results in the shooters forming a wavy line instead of a straight one.

In order for these transitions to be performed safely, SBs should insist on shooters making the transition with their rifles in their SUPPORT HANDS ONLY, and pointed down range continuously. For example, suppose a round happens to be in the chamber, for whatever reason. If the trigger hand is touching the rifle, it is possible for the trigger finger to get inside the trigger guard and cause an accidental discharge. It has happened before. The trigger hand should not be touching the rifle at all. It should only be used for support with the ground to assist in standing and in returning to the sitting or prone position. Again, these transitions should be performed such that the muzzle is extended past the firing line at all times.

In order to ensure that these violations don't occur, and the transitions can be made safely, it is strongly urged that each of these stages be practiced without ammunition. During this practice session all the commands should be given while the shooters follow them; however, instead of the FIRE command being given, it is suggested that it be replaced by *DROP QUICKLY.*

Furthermore, it will be a tremendous aid to the shooters if the SOF is timed exactly as it will be during live fire, and that they go through the simulated process of firing all their rounds on the target, with a simulated mag change, along with NPOA shifts. Preceding this dry fire practice segment, an instructor should demonstrate the proper steps to the SOF while being given the line commands by another instructor. If the shooters don't demonstrate this procedure safely during the practice session, it should be repeated until it is done safely. If a shooter seems incapable of performing this safely, individual exceptions may need to be made. Perhaps such a shooter should not make the transition, but simply assume the appropriate position. If so, he should not fire until someone else fires first.

To help ensure that these dry fire exercises are indeed performed with no ammunition it is suggested that the shooters be instructed to place their prepped magazines at the foot of their mats. When it is determined that the transitions can be performed safely, the Instructors can place the magazines at the front of the mats in preparation for live fire.

Safety During Transition Stages

Finally, during transition stages, shooters are to load only when they are in position. For transition to prone, this means the support elbow is on the ground. For transition to seated, the shooter is seated on the ground.

When briefing transition stages, instruct the shooters to "Load the two round magazine and fire both rounds before changing magazines." Instructors should be watchful for hot/tactical reloads (a.k.a. "shoot one round and drop the mag".) This practice is a safety issue during the AQT and is not permitted at Project Appleseed. Furthermore, hot reloads are not necessary for success on the AQT if a shooter is trusting his NPOA and firing in Rifleman's Cadence. This does not preclude Shoot Bosses from using other mag change drills.

Chapter 11: 6 Steps of Firing the Shot

The 6 Steps of Firing the Shot

5. Sight Alignment
6. Sight Picture
7. Respiratory Pause
8. Focus (two parts)
    - 4a. Focus Your Eye on the Front Sight
    - 4b. Focus Your Mind on Keeping the Front Sight on the Target
9. Squeeze the Trigger
10. Follow Through
    - Hold the trigger back, and
    - Call Your Shot, which means; take a mental snapshot of where the front sight or the crosshairs were when the shot broke.

Background
This is the most complex and challenging instructional component that a shooter has to learn. It should be presented early Saturday and chorused early and often to enhance memorization. Instructors should use TPI ferociously.

When teaching the 6 Steps of Firing the Shot, an Instructor should know each of the 6 Steps in order and verbatim. First list the 6 Steps to the shooters. Then, go back through each step with a complete explanation. Finally, have the shooters repeat the 6 Steps back until it is clear they know them.

The Instructional Points below give you a recommended explanation of how to initially teach the 6 Steps of Firing the Shot. Visual aids are a great help in doing so.

NOTE: An alternative method of presenting this material will be presented later which could make the learning process easier and shorter. This method is located in the practice session section in Chapter 13.

Instructional Points

1. Sight Alignment
Sight alignment is the process of aligning the eye with the front and rear sights or optic. Sight alignment has nothing to do with the target. A shooter can acquire sight alignment against a clear blue sky.

Aperture or "Peep" Sights
Center the top of the front sight post in the ring of the rear sight (Figure 1-A).

Open Sights

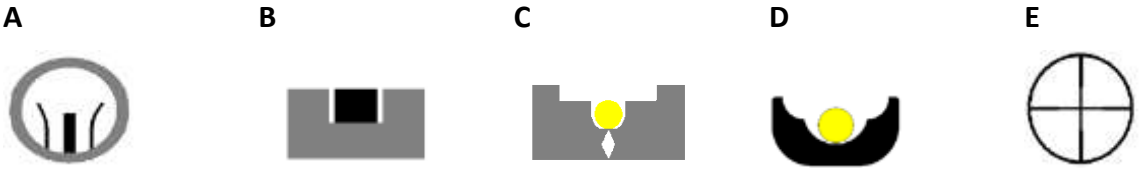
Center the front sight post in the notch of the rear sight (Figure 1-B). The post should have an equal amount of daylight on either side of it and the top of the post should be the same height as the top left and right sides of the notch. The Ruger 10/22 factory rear sights have a plate with a semi-circular notch in it (Figure 1-C). This plate is adjustable vertically, and the front sight bead needs to drop into that notch. The "ears" of the 10/22 factory sights do not move when the plate is adjusted, therefore, they should not be used while aiming.

Scopes
Center the eye so that there are no "shadows". You should see a full, clear picture (Figure 1-E). You may have to move your head back and forth to achieve the proper "eye relief" in order to obtain this full picture.

It is important that the crosshairs be very sharp and distinct. To achieve this, point the scope at the blue sky, preferably, and adjust the focus until the desired result is obtained.

It should be noted that when aligning the sights that they don't have to be aimed exactly at the target, but should be aimed near it. Aiming at the target will be accomplished in the next step, sight picture, however, your body should be totally relaxed when your sights are aligned.

Figure 1. Sight Alignment



2. Sight Picture

While maintaining sight alignment, bring the sights onto the target. BUT don't simply use muscles to move the rifle into position. You must move your body to accomplish this act, and at its conclusion your body must again be totally relaxed. You will be taught a method later to confirm your relaxed state.

There are two methods of placing your sights on a target to obtain your sight picture (Figure 2). They each have their advantages and disadvantages. First, recognize that your target will have a definite size. With the 6 o'clock hold, you would place the top of your front sight on the center of the bottom edge of the target. This method is frequently referred to as the "pumpkin on a post" method, and you would have to adjust your sights so that the point of impact (POI) would be at the center of the target. The second method is called the center of target (COT) method, or point of aim (POA) = POI. You would simply place the top of your front sight on the exact point in the center of the target where you want the bullet to strike and adjust the sights so that the bullet strikes this point.

The 6 o'clock hold is actually the more accurate of the two because you are placing your sights on a well-defined and observable point. In using the COT method, it can be more challenging to locate the precise center of the target, and that is complicated by the fact that the front sight will obscure part of the target.

But there is a complicating feature of the 6 o'clock method if you have to shoot different size targets quickly. The sights will have to be changed for each size target in order for the POI to be at each target center. An alternative would be to raise your front sight higher into a larger target, but that naturally incurs a measure of inaccuracy and obscures a part of the target. A demonstration with a simulated front sight and an AQT target will make these ideas very clear.

As you can see from the AQT target, different size targets will have to be engaged fairly quickly, with little time to make sight changes. Therefore, if your rifle's sights can't be adjusted very quickly and easily, you will probably find it more advantageous to use the COT method; however, there are conflicting opinions on this subject.

If using a scope, the suggestion is to simply place the crosshairs directly on the point where you wish the bullet to strike.

Figure 2. Sight Picture

6 o'clock Hold Aim

A

Military Peep

B

"OPEN" Post and Notch Sights

C

Ruger 10/22

D

Buckhorn

Center Hold Aim

E

Military Peep

F

"OPEN" Post and Notch Sights

G

Ruger 10/22

H

Buckhorn

I

Scope

3. Respiratory Pause

You can't shoot accurately while you are moving. Breathing causes movement, so you will have to stop breathing at some point to make an accurate shot. This is what we call the respiratory pause.

In the prone position you will notice that as you inhale, the front sight will dip, and when you exhale, it will rise. Use the natural action of breathing to help hold the elevation. When the

front sight reaches the desired place on the target, simply hold your breath at that point. In a later section we will show you a way to increase accuracy even further by completely relaxing the respiratory system.

How long can you hold your breath and expect good accuracy? In five to eight seconds your vision begins to diminish. You won't be able to see as well as you'd like. You may even begin to tremble a bit. If you don't get the shot off within a few seconds, take another breath and start over.

4. Focus

This step has two parts. The first part is physical; the second part is mental.

4a. Focus Your Eye on the Front Sight

The eye can't focus at more than one distance, and you are now trying to keep three things aligned. Years of shooting experience by thousands of riflemen have proven that the best way to sight your rifle is to focus on the front sight and not on the target. Therefore, the **target will be fuzzy** in the distance and the **rear sight will be fuzzy** in your periphery. But this is the only way your eye can line up all three things accurately. It is imperative that you focus ONLY on the front sight.

This is not a natural thing and requires constant monitoring and correction. If your groups start to expand, the first thing you need to ask yourself is; are you are truly focusing on the front sight?

Scopes will form an image of the target in the same plane as that of the reticle. Therefore, it is NOT necessary to focus only on the reticle, although it may be advantageous to do so as the reticle is brought on to the target.

If you experience **eyestrain**, simply focus at a distant object for a few moments and then back to the front sight. This relieves the eye muscles and will allow you to again clearly focus on the front sight.

4b. Focus Your Mind on Keeping the Front Sight on the Target

Up until this point, the steps have been sequential physical steps. Now we encounter a mental step. With all that you can muster, **focus your mind on keeping that sharply focused front sight precisely where it belongs, on the fuzzy target**. This will require a considerable amount of concentration and effort and is why the steps must be practiced, becoming automatic, leaving the mind free to concentrate on the front sight and target.

The story of a 59-year-old shooter with coke bottle eyeglasses is frequently told to emphasize this concept. Stage 4 of the AQT features four very small targets which count double the value of all the other targets. This shooter shot the maximum score of 100 points on this challenging

stage. This is an extremely rare occurrence. When the SB asked him how he did it, he replied that he just held his sharply focused front sight on the fuzzy little targets.

5. Squeeze the Trigger

Shooters have a tendency to jerk the trigger when the sights are momentarily on the target and before the sights can move off again. Instead, **squeeze the trigger straight to the rear using a steadily increasing pressure**. Use the ball point pen demonstration to further drive this point home. **The difference between a squeeze and a jerk is CONTROL.**

There is an additional related point of interest here which is hinted at in the paragraph above. Jerking the trigger will indeed throw the shot off target. But shooters are predisposed to do this because their sights are probably constantly moving across the target. This movement occurs because the shooter is not in a relaxed position. The shooters will be taught later how to achieve this relaxed position and how to check to see if they are indeed relaxed. Once they achieve this relaxed position their sights should remain steady on the target and they won't be tempted to jerk the trigger.

The problem with jerking the trigger is that the bullet is not yet out of the barrel. The added motion you impart to the trigger will start the bullet downrange at a slight angle. This diverging path from the target will continue to grow the farther the bullet travels.

By squeezing the trigger, **you can stop at any moment** if the sights wander off the target. If they do, DO NOT release the existing trigger pressure. Simply continue to hold the pressure you have until the sights return to the target, then continue squeezing the trigger. Repeat, as necessary, until the rifle fires.

Generally, the middle of the first pad of the trigger finger should contact the lower portion of the trigger. This provides increased sensitivity, greater mechanical advantage, and it prevents the finger from dragging against the bottom of the receiver; however, there are exceptions to this. If the trigger is exceptionally hard to pull, as many are, it may be advisable to place the first joint of the finger on the trigger, and if the trigger is exceptionally easy to pull, it may be advisable to have the portion of the finger touching the trigger to be near, but not at the fingertip. But regardless of which portion of the finger touches the trigger, the trigger must be SQUEEZED straight back. Furthermore, once the finger comes in contact with the trigger, it should not be removed from the trigger until the SOF is completed.

6. Follow Through

Follow through has two parts. The first part is physical; the second part is mental. When the shot goes off:

- Hold the trigger back, and
- Call your shot, which means take a mental snapshot of where the front sight or the crosshairs were when the shot broke.

Part 1: Hold the trigger back

Just as with squeezing the trigger straight to the rear, you must continue holding the trigger to the rear after the shot breaks, and long enough to allow the bullet to clear the barrel. Try to hold the trigger back until the sights are realigned on the target after recoil. Incidentally, it will be easier for an instructor to determine if a shooter is doing this correctly or not if he observes the trigger action from the support side of the shooter.

When you begin to release the trigger pressure**, release just enough pressure to reset the trigger**. It is of utmost importance that the finger is not removed from the trigger. The ball point pen should be used to demonstrate this concept. It is practically impossible to perform this exercise during a normal dry fire session because the trigger won't reset in that case. Furthermore, it will be challenging for the shooters to initially detect this reset during live fire. The best way to detect it, and become accustomed to it is to have the shooters do a **trigger control exercise**.

During a trigger control exercise, **no ammunition** should be on the line. A shooter will sit in the crossed leg position and begin by placing the rifle across the lap with the trigger guard facing away from the shooter and the muzzle pointed towards the target backer. He will simply actuate the bolt, squeeze the trigger and hold it back with his trigger finger. He will continue holding the trigger back while using his other hand to actuate the bolt again. Then he can slowly release the trigger until he feels and hears it reset, and hold it at that exact point. He shouldn't let it go any further forward. He will then squeeze the trigger again and hold it back again. This process should be continued until it becomes a habit. Once the finger contacts the trigger, it should not be removed from the trigger until the SOF is completed. It is strongly suggested that the shooters be given a chance to practice this exercise until it begins to become a habit with them. Again, there should obviously be no ammunition on the line during this practice session.

Part 2: Call Your Shot

In order to call the shot, you MUST keep your eye open as the shot is fired. This will enable you to take an INSTANT mental snapshot of exactly where the front sight was in relation to the target when the shot broke. Initially it will seem very challenging to do but it will become easier with practice. It should be obvious that you can't do this if your eyes are closed as the shot breaks. It may take a great deal of effort and practice, but you simply must keep your eyes open until after the shot is fired.

If you are using a scope, you must take this instant mental snapshot of exactly where the crosshairs were as the shot broke. DO NOT simply look at the bullet hole which appears and call your shot there! Calling the shot is a mental thing you do BEFORE checking the hole. Furthermore, if the hole did not appear where you called it, or wanted it to go, don't change anything. Keep the SAME sight picture for the rest of the SOF. In other words, don't chase your shots and try to get them into the target. You are trying to obtain a good group with the same sight picture. When that is accomplished, it may be necessary to change your sights in order to center the group on the target. You will be taught how to do this. This procedure will be adhered to for most of an AS event.

The ability to call the shot is important. As an example, suppose a shooter called the shot at 5 o'clock and just out of the black. When he checked the target, that is where the bullet hit. The shot was effectively called. It actually went where it was told to go. The shooter needs to practice executing the 6 Steps to put the shot in the center.

Dry Firing

Dry firing is the perfect time to develop this skill because there is no noise or recoil. Don't waste your prep period; dry fire as much as possible. You should "call the shot" even during dry fire. During live fire, even if you can't see a hole in the target, you will know where that shot went and could actually draw it on paper to compare with the real thing when you get to the target.

The most important thing you can do while dry firing is to see if your sights moved off the target as the trigger broke. If this is the case, you must determine what caused the sight to move and correct this defect.

Teach to Students: Dry firing at home is a great way to make the "6 Steps of Firing the Shot" second nature. If you dry fire in your home, you must check and recheck that the rifle is empty. Remove all live rounds from the room in which you are practicing. Know what is behind the wall your target is on. If anyone comes into your practice room, stop and ask him to leave. Re-check that the rifle is empty and that there are no live rounds in the room! You are responsible for every round that leaves your barrel, even the accidental/negligent ones!

Alternative Presentation of 6 Steps

NOTE: With this NPOA process in mind, an ALTERNATIVE PRESENTATION of 6 Steps of Firing the Shot should be considered. In fact, it is suggested that the 6 Steps of Firing the Shot and the practice session both be broken up into three segments.

1. After the first 3 steps are presented, the above NPOA discussion can be given. Following this, the shooters will get into prone position and practice obtaining their NPOA, placing it on the target, and squeezing the trigger without cocking the bolt, as described above.

2. Next, the first 3 steps should be reviewed and the remaining 3 steps covered. Then the practice session is continued, beginning with the trigger control exercise first.

3. Shooters then move to prone position and learn to dry fire properly. The shooters practice of all 6 Steps of Firing the Shot, with NPOA, racking the bolt and dry firing while seeing if the sights move off the target.

With the 6 Steps of Firing the Shot broken up and practiced like this, the shooters should find it easier to remember and apply them more quickly. In addition, it emphasizes the extreme importance of NPOA by giving the shooters a session devoted almost solely to it. Experience has shown that this is a very effective method. This manifests itself in a dramatic fashion when the very first 1-inch square is engaged with live fire.

Time Lag

You may be wondering why we insist that you do, or not do, some of the things discussed previously, such as dragging wood, holding the trigger back, not letting your trigger finger fly off the trigger quickly, jerking the trigger, or squeezing the trigger straight back. Each of the things we instruct you to avoid will apply a small force to the rifle, and the bullet does not exit the rifle the moment you squeeze the trigger. There is a finite time lag, and as a result, these small forces will have a significant effect on where your bullet strikes the target. This time lag is, in fact, the sum of three individual time lags: lock time, ignition time, and barrel time. The total can amount to $^{1}/_{10}$ of a second, or more, depending on the rifle and ammunition.

Another movement which will enter, of necessity, is RECOIL. The amount of rifle movement due to recoil and, therefore, bullet placement, will be affected by anything which touches the rifle such as your hands, shoulder, cheek position, and sling tension. The amount of cant of the rifle will also affect bullet placement due to recoil. Therefore, cant should be minimized. All of this means that the rifle should be held exactly the same each time it is fired. Consistency is the key to precision rifle marksmanship.

This discussion on recoil brings up an important point. Because of recoil, and its damping due to objects which touch the rifle, different zeroes will be obtained when shooting from a bench,

with a bipod, or from the field positions using a sling. Therefore, since the prone position with a sling is the most accurate field position, shooters at Appleseeds should use this position for zeroing their rifles. In fact, it could be said that a Rifleman never shoots from a bench, except perhaps to check the accuracy of different ammunition.

Chapter 12: Sling Use

A sling, used correctly, will steady the rifle substantially and increase accuracy. Most shooters believe that the purpose of a sling is for carrying a rifle and have no idea how to use the sling to improve their shooting; however, the PRIMARY purpose of the sling is as a shooting aid. There are three types of sling configurations we demonstrate at an Appleseed:

1. The hasty-hasty sling
2. The hasty sling
3. The loop sling

All three sling configurations need to be taught before the prone position is taught. Not all students will have the G.I. slings and some will choose to use the slings they bring. Nonetheless, all three configurations can be used successfully, in all positions, at an Appleseed event. The "Hasty" and "Hasty, Hasty" sling configurations can be used with all slings, not just the G.I. slings, while the loop sling configuration can only be used with the G.I. sling. The loop sling is especially useful and efficient in and the prone position and sitting positions. Those shooters who are really serious about shooting proficiently will obtain a G.I. sling. Furthermore, they can be adjusted more easily and precisely than other slings. They also have the advantage of being much less expensive than many other slings.

"Hasty, Hasty" Sling

This sling can be used in all positions if necessary, and should be taught first. It is particularly useful in the field if you need to "sling up" quickly. For instance, with the sling at carry length and the rifle at "port arms" (held with both hands, tilted approximately 45 degrees, with the muzzle to the support side,) held with both hands; suppose you are met with a sudden opportunity, or threat, and there's no time for a hasty sling or loop sling? In those situations, is the hasty-hasty sling is the one to use.

Demonstration

Holding the rifle with both hands, with the sling hanging below it, quickly move the rifle in a circular fashion toward your support side while tilting the barrel upward at about a 45° angle. As the sling moves toward your support side, insert your support elbow between the sling and the rifle stock. Now with the sling on the outside of the elbow, raise the support elbow at an angle that places tension on the sling and place the rifle butt in your shoulder pocket. The advantage of the "Hasty, Hasty Sling" is that it is quick, easy and far better than no sling at all. The disadvantage is that it is not as steady as the other sling configurations and may cause the rifle to cant (or tilt) slightly.

Hasty Sling

The advantage of the hasty sling is that it is quick, and provides a more stable platform than the hasty-hasty sling. This sling works especially well in the standing position. The downside of this sling is that if not properly adjusted it tends to slip down the bicep as you shoot.

Demonstration
Hold the rifle horizontally with the sling hanging about one spread hand width below the trigger guard, (approximately 8-10 inches). This will give you the approximate length for the sling, but it may need to be fine-tuned later (see Figure 3). Then hold the rifle with the trigger hand on the rifle grip with the muzzle pointed up. Raise the rifle up until you can insert your support arm all the way through the sling so that the lower end of the sling and the swivel lie deep in your armpit (see Figure 4). With the rifle still held at that height, and while still maintaining tension on the sling, reach around the sling with the support hand and place it **between the sling and the stock from the support side** and grasp the fore stock (see Figure 5).

Grip the butt of the stock with your trigger hand and place it into your shoulder pocket while still maintaining tension on the sling (see Figure 6). As this operation is being performed, the sling MUST slide in your armpit, otherwise it won't fit into your shoulder pocket. Furthermore, if the rifle can be grasped near the trigger instead of by the butt during this operation and placed in your shoulder pocket, the sling is probably a little too long to give you the proper support. If this process is done properly, the sling will remain high in your armpit, be snug, and will become part of a good triangle with your upper arm and forearm thereby giving a good support for the rifle (see Figure 7 and Figure 8). In effect, your arm should form a sharp "V" at your elbow. If this process is done improperly, the sling will slide down your arm, not form a good triangle, and will simply lie along your forearm, giving little support. This would be the result of the sling length not being adjusted properly or not maintaining sufficient tension on the sling during the process. Your support elbow should be under the rifle. It may become necessary to adjust the length of the sling several times in order to achieve the proper length. If you observe a shooter with his support elbow extended outward from under the rifle while in the standing position his sling is adjusted too long and he is taking up tension with their elbow. This should be corrected by adjusting his sling appropriately. While standing you should feel most of the rifles weight supported by the sling. This support will be enhanced by the sling being stretched across your chest.

Note that if the sling is allowed to slide in your armpit and is the proper length for the shooter, as described above, it is NOT necessary to pull the rifle down when employing the Hasty Sling. The most important thing is to achieve a good triangle with your upper arm, forearm, and sling. To achieve this, you must be standing, or sitting, during the operation. Afterward you may assume one of the sitting positions or the prone position. While describing the tension in the sling, you should use the word, "snug," not tight.

This sling is most typically used in the standing position, which is the least stable position we use. Therefore, a steadier sling procedure will be presented as an alternative. It is similar to the one just described but the sling is lengthened more to allow the shooter's upper arm to rest firmly on the shooter's ribs. Furthermore, it will be steadier if the upper arm is not placed on the side ribs, but on the ribs closer to the center of the body. The sling should still form a good triangle with the upper arm and forearm but it will require a much sharper "V" at the elbow. It will require the shooter to place his support hand closer to his body, perhaps on the bottom of the rifle's magazine, or even on the bottom of the trigger guard. But he should take precautions

that his support hand fingers won't be struck by the bolt handle during its rearward travel. This should supply a much steadier support for the rifle and also keep the shooter from becoming as tired from supporting the rifle as he would otherwise. This will be especially true for those shooters using heavier rifles. Moreover, shooters should still be reminded to take a brief rest after every few shots while using the standing position on Stage 1 of the AQT and this rest should entail relaxing the support arm, letting the rifle muzzle drop down, with the rifle butt still in the shoulder pocket. The finger should not be on the trigger during the rest since the sights are not on the target. It should be emphasized that this procedure will result in a much more stable shooting position for everyone and, therefore, should result in a higher score.

Figure 3. Approximate Length for the Hasty Sling

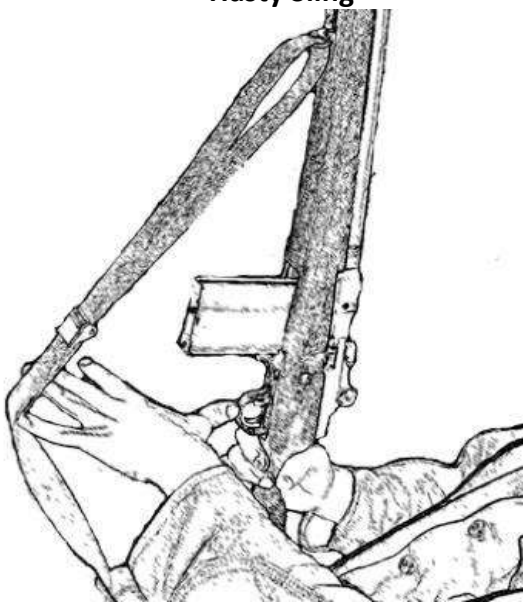


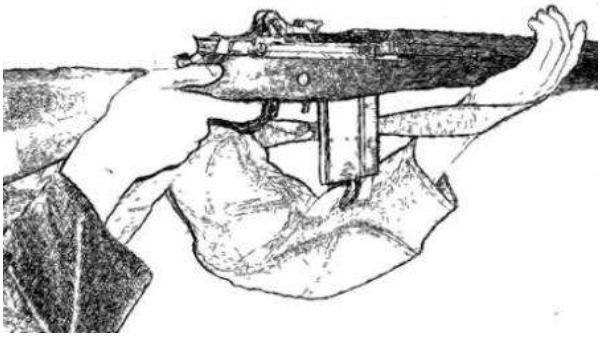
Figure 4. Hasty Sling Position on Arm

Figure 5. Grasping the Rifle

Figure 6. Raising the Butt of the Stock into Position

Figure 7. The Hasty Sling (Standing Position)

Figure 8. Triangle of Support



Loop Sling

This sling configuration is the most stable sling option in the prone position and sitting positions. It provides a stable triangle from the hand to the elbow to the upper arm (see Figure 8). The loop sling can only be accommodated with the G.I. slings; not with customary slings that

are only used to carry a rifle. Since it furnishes such stability in these positions, and results in much better marksmanship, all serious shooters will eventually obtain such a sling. The loop should be located as high in your armpit as possible. A challenge which may occur with this sling is that your support hand or arm may become numb. This is because the loop may be applying pressure to a bundle of nerves on the inside of your arm, as well as an artery; however, this numbness may be alleviated by placing a hard sponge, or other pad, on your inner arm under the sling loop.

Shooters should be discouraged from disconnecting the sling from the fore stock and keeping it on their arm. This is to ensure that they become thoroughly familiar with the process of getting into the sling properly through repetition.

Demonstration
Initially, some shooters seem to have a challenge in forming the proper loop. Therefore, it is advisable to first demonstrate which loop not to use, the false loop (i.e., the one containing the swivel). This is the only time they should be shown anything which is wrong!

There are two acceptable methods of fitting the loop sling: the kneeling method, which is the more customary Appleseed method, and the sitting method. Because we encounter shooters with physical limitations, Instructors should be proficient in teaching both methods of employing the sling.

In the sitting method, the muzzle is continually pointed downrange and should never move. This alone makes this method much safer than the kneeling method. Moreover, in the kneeling method, with shorter rifles that have become popular, the muzzle is frequently pointed at the shooters neck or head, and the rifle is also more likely to be dropped. Since the sitting method is the safer choice, it is highly recommended and will be presented first.

Method 1: Sitting
The benefit of getting into the loop sling from the sitting positions is that the muzzle is constantly pointed down range and can be kept motionless during the entire process. First assume the cross-legged sitting position; however, your body should be indexed at 90° to the trigger side with respect to the target. (PLEASE NOTE that Figure 9 through Figure 12 describe sling features depicted from the aspect of getting into the sling from the kneeling NOT from the sitting positions, which is being described here. For an illustration of this method, please see the Appleseed Academy video about Slings.)

Lay the rifle across your lap with the trigger facing you. Disconnect the sling from the rear swivel or post place the rifle butt under your trigger thigh, and lay the forestock across your support thigh with the trigger facing you. This will give you more usable slack in the sling and will make it easier to place the loop over your arm without moving the muzzle. The preceding simple instructions MUST BE FOLLOWED EXACTLY. Otherwise, there is a good possibility that the rifle may be pulled from its perch, slide down your lower leg, and sweep someone while you are trying to attach the sling to your arm. Take the sling and form a loop by pulling the

webbing from the CENTER of the H-buckle. Pull the webbing out from the H-buckle until a loop is formed that is big enough to easily place your support arm through it. Orient the sling into the same position it was originally attached to the rifle, then grasp the H-buckle, lifting it up until the loop is suspended below it. If you slip your support arm through the loop now, the J-hook (for the USGI sling) will probably not be oriented toward your support side as it should be. Therefore, if necessary, flip the loop around through 180 degrees and slip your support arm through the loop, being sure that the J-hook is on the outside of your support arm. Then slide the loop up deep into your armpit. Pull on the sling to tighten the loop around your arm. The J-hook should now be located in the outside center of your arm and oriented toward your back. If this is not the case, the loop won't remain tight on your arm but will instead become loose quickly and slide down your arm. The loop MUST be as deep into your armpit as it will go. If necessary, pull your sleeve down through the loop so the loop won't slide down your arm with the sleeve. As you attach the sling to your arm, the muzzle should remain motionless while pointed down range, thereby adding to the safety of the procedure. Once the sling is secured snugly to your arm, insert your hand between the sling and rifle from the support side. This will sandwich your hand between the sling and the rifle.

If, after getting into the sling as described above, your next string of fire is from the sitting positions all you have to do is index your body properly to engage the target, and it is not necessary for your support elbow to be under the rifle. If your next SOF is in the prone position, simply lie down on your support side and roll into the prone position while holding the rifle downrange in your support hand and using your trigger hand against the ground for support during the process.

If everything is done properly, the sling should form part of a good triangle with your upper arm and forearm, thereby supplying a good support for the rifle. Your upper arm and forearm should form a sharp "V." This will allow the sling to supply a better support for the rifle and also help prevent the sling from slipping down on your arm while shooting. The sling should be adjusted in the shooting position until it is snug and will totally support the rifle by itself. This means that your support arm should, and MUST, be totally relaxed. If this arm cannot be totally relaxed, the sling needs to be adjusted a little shorter. If it is not adjusted properly, the muzzle cannot be held steady, and as a result, the sights will wander on the target. Indeed, it should be emphasized that your whole body must be relaxed while firing. A procedure on how to accomplish this is presented in Chapter 13 – Natural Point of Aim. While shooting, the sling may slip down toward your elbow, thereby offering less support. Try to keep it adjusted high up into your armpit.

The safest way to get out of the sling after the SOF is completed is to reverse the procedure used to get into it.

The shooter can mark the sling once some experience is gained in how much tension is required for the sling; however, the marking may need to be modified depending on the shirt or jacket you wear. Fine adjustments to the sling should be made in increments of approximately ½ inch.

Especially in the prone position it is possible for your support arm and hand to begin tingling and even hurting because the loop is so tight around your arm. This occurs because a bundle of nerves and an artery are located in the vicinity of the loop. The problem can be corrected by placing a hard sponge or plate on the inside of your arm between the loop and your arm.

Method 2: Kneeling

Please notice that the Figures below depict the process of getting into the sling from kneeling and not from the cross-legged. Begin by kneeling and placing the rifle butt on the ground with the rifle barrel leaning back against your shoulder so both hands can be used while still controlling the muzzle of the rifle (see Figure 9). Remove the clip from the rear swivel or post and form a loop from the webbing in the CENTER of the H-buckle (See Figure 10). Pull the webbing out until a loop is formed that is big enough to easily place your support arm through. Look down at the sling while it hangs in a "natural" position, (as it lays flat normally). Rotate the loop about a quarter turn clockwise and insert the support arm through the loop until the loop is high in the armpit (see Figure 11). If the sling is situated over a shirt or jacket, the sleeve should be pulled down through the loop to prevent the loop from sliding down the arm with the sleeve. Cinch the loop snug by pulling on the sling. The J-hook should now be located in the center of your arm and oriented toward your back (See Figure 12). The appropriate shooting position may now be assumed and the sling lengthened accordingly. From this point on, refer to Method 1, the sitting positions as described above.

Figure 9. Loop Sling: Detach the Sling from the Lower Swivel

Figure 10. Loop Sling: Create a Loop at the Center of the Buckle

Figure 11. Loop Sling: Support Arm Through the Loop

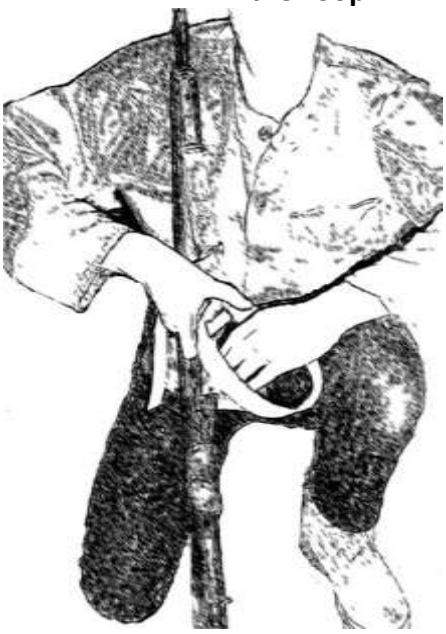
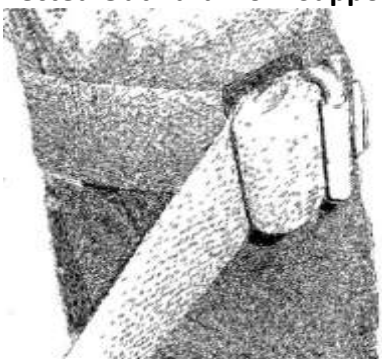


Figure 12. Loop Sling: Metal Clip or Swivel Directed Outward from Support Arm



Chapter 13: Natural Point of Aim

Natural point of aim (NPOA) is the single most important item for a shooter to learn. It is defined as the place where your body, in its RELAXED state, would place the shot. It demands bone support, not muscle support. Muscles are the enemy of precision rifle shooting! Once again, we will emphasize that your body MUST be relaxed, and as you breathe, your sights will be moving in what should be a vertical plane. As a result, your body will be at its most relaxed state at the completion of a normal exhale. Therefore, your NPOA should ideally be obtained at the end of a normal exhale. Although your entire body must be relaxed, it is especially important in the prone position that your support arm be TOTALLY relaxed, with the sling being snug enough to completely support the rifle by itself.

The process of obtaining NPOA should begin with the 6 Steps of Firing the Shot. The first step is to obtain sight alignment. Following that, obtain sight picture. You are probably wondering; why not just obtain the sight picture in the first place. The answer is that it would require muscles to do so. Therefore, obtain sight alignment and then RELAX YOUR BODY. Ideally this should yield your NPOA; however, your NPOA won't be on the target.

Now move your body to place the aligned sights onto the target (i.e., obtain your sight picture). To do this, keep your support elbow in place and use it as a pivot point as you move your body. To adjust your sights horizontally, move your body sideways while keeping your support elbow in place. To adjust your sights vertically, move your body forward or backward while keeping your support elbow in place. After doing this it may appear that you have placed your NPOA on the target to obtain your proper sight picture, however, it needs to be CONFIRMED.

To do this, close your eyes. Then take a deep breath and exhale. At the end of this exhale, open your eyes. If the sights are still on the target, you have placed your NPOA on the target and are ready to continue the remaining steps to firing the shot. In fact, you have just performed Step 3, respiratory pause, at the end of your normal exhale, and are ready for step 4; however, it is highly probable that your sights will have moved off target at the end of this confirmation process. Therefore, you must repeat step 2 again by moving your body to obtain the sight picture again, and go through the confirmation process again.

Initially, it may take SEVERAL attempts to obtain a good sight picture. What has happened is that you have been using muscles without realizing it, and as you go through the confirmation process, those muscles are relaxing and, therefore, moving the sights off target. At the conclusion of this process, with a good NPOA, your sights should remain STEADY on the target. If they are moving, this means you are still using muscles and further refinement of your position is called for. Furthermore, if the sights are moving on the target, you will be tempted to jerk the trigger as the sights move across the target. This will contribute to increased inaccuracy. The more you practice this procedure, the faster and easier it will be to achieve. Ultimately it will become a fairly quick maneuver, allowing you to begin shooting accurately more quickly.

It may be helpful to succinctly review the steps of finding NPOA to students and have them chorus the steps. The steps are, with a relaxed body:

1. Close your eyes
2. Take a deep breath and let it out to a normal exhale
3. Open your eyes & check your sight picture

At this point, your sights should be directed at your NPOA. The next task is to move your body in order to shift the NPOA onto the target and confirm it by going through the steps again. You will find that most shooters at an Appleseed will initially place their mats, and their bodies, perpendicular to the firing line. But as they move their bodies to place their NPOA on the target, their bodies will become oriented at a different angle with respect to the firing line. The particular angle will depend on the individual shooter, but generally it will be approximately 30° to the perpendicular. It should also be noted that the shooter's rifles will still be perpendicular to the firing line while their bodies are about 30° to the perpendicular. Therefore, they should be encouraged to move their mats to this angle.

Practice Session

It could be advantageous at this time to have a practice session, with no ammunition on the line, to drive home the concepts of the 6 Steps of Firing the Shot, the prone position, and NPOA.

A good beginning would be for the shooters to first perform an exercise in TRIGGER CONTROL, as discussed in the 6th step, follow through. This process should be demonstrated to the shooters by an instructor. Otherwise, many will fail to understand it. Some will fail to understand it regardless; therefore, instructors should monitor the shooters for mistakes.

Following this, the shooter can assume the prone position and begin practicing placing his NPOA on a 1-inch square. Then he can begin squeezing the trigger WITHOUT cocking his bolt so that he doesn't lose his NPOA. As the trigger is squeezed, he should concentrate on seeing if the front sight moves off the target. After acquiring some experience with this, the shooters should begin cocking the bolt and actually begin dry firing, using all 6 Steps of Firing the Shot, and taking particular note of whether the sights move off target as the hammer falls. This latter observation is extremely important because it can't be observed during live fire because of the accompanying recoil.

Laser Bore Sight Demonstration

One method for demonstrating NPOA is to use a laser bore sight to allow shooters to see the results of the proper procedure. It is best to place a bore sight in a stock without a barrel or receiver so you don't have to worry about "sweeping" anyone. Care should be taken not to sweep anyone with the laser since it could cause eye damage.

Ask an Instructor to take a solid prone position with the laser turned on. Place a 25m Drill Target about 10 feet in front of him with the laser dot located a few inches to the side and a

few inches high or low to the target. Now have the Instructor shift his body laterally to place the laser dot directly over or under the square. Next have him shift his body to bring the dot up or down until it is directly centered on the square. Then the demonstrator can breathe while emphasizing that the dot will move vertically as he does so and that the dot will return to the square and remain steady at the end of each respiratory pause

Coaching NPOA

Coaching NPOA requires a method that will give the instructor immediate feedback while teaching the shooter how to do it properly on his own. A very effective way of accomplishing this is called Carding the Sights.

Carding the Sights

General Process

The shooters will be instructed to bring one magazine to the line prepared with five or six rounds. They will be told that an instructor will come to each of them individually and lead them through the process of obtaining their NPOA and placing it on the target. To confirm that the shooter actually has their NPOA, the instructor obscures the sights with a card for a while and then removes it. When this is done, they will be instructed to fire all of their rounds at the target, assuming that their NPOA is still on the target, taking care NOT to try and be overly precise with each round, trying to make it perfect, but to TRUST their NPOA. The perfect is the enemy of the good enough. Then when all rounds are fired, the shooter should try to shift his NPOA onto the other targets, and confirm it, while the instructor moves on to other shooters.

The inactive shooters, while awaiting their turn, should be on the firing line practicing the maneuver by squeezing the trigger without actuating the bolt, since this would cause them to lose their NPOA. This should help them become more proficient, as well as saving time for the performance of the exercise.

Instead of proceeding through the line commands, the LB will simply issue the command, “The Line is Hot!”, at which time each instructor will engage one shooter and lead him through the exercise. When everyone has been led through the exercise, the LB will announce, “Cease Fire! Cease Fire! Cease Fire!”

Two similar methods of Carding the Sights are presented below. Method 1 is a traditional carding method and Method 2 combines the principles of the first method with the Appleseed principle of Rifleman’s Cadence. Therefore, before the second method is presented, it will be preceded by a section on Rifleman’s Cadence. Method 2 is superior and results in shooters better prepared for the AQT.

Carding the Sights – Method 1

Tell the shooter to take a good prone position and to load. This would be a good time to observe if his SFHs are correct. Ask him to place his NPOA onto the target and confirm it like he has been taught by moving the fingers of his support hand. And remember that NPOA occurs at the end of a normal exhale. When the shooter confirms that he has his NPOA, place a card on the target side of his scope or rear sight and let him take a couple of breaths. Remove the card and ask where his sights are now with respect to the target. Chances are that he will have to repeat the process a few times. If he does so without moving their body, you can be reasonably sure that he is using muscles and does not have a good NPOA.

When the shooter is convinced that he has a good NPOA after the card is removed, have him fire all his rounds at the target while retaining his relaxed position and trusting his NPOA. Then you can move to another shooter while he practices shifting his NPOA to other targets.

Rifleman's Cadence

Rifleman's Cadence is the rate at which a rifle should be fired. It is frequently referred to as Rapid Fire, but perhaps a more descriptive term is Controlled Rapid Fire. It is controlled by your NORMAL breathing cycle, and it begins with inhalation. The sequence is: inhale, exhale, fire, inhale, exhale, fire, etc. You may find it advisable to take somewhat deeper breaths than normal to keep yourself better oxygenated. Therefore, at the end of EVERY NORMAL EXHALE, when your diaphragm is relaxed, you should take your respiratory pause and FIRE the shot. It is at this point that your body is in its most relaxed state. It is frequently said that this process takes about three seconds, but the rate should be determined by the shooter's individual breathing pattern, not by any specified time. There are a number of advantages to this process: it keeps you well oxygenated, and it forces you to TRUST YOUR NPOA instead of trying to fuss each shot to make it perfect. It could well be said here that the perfect is the enemy of the good enough, and in addition, most shooters find that their marksmanship improves when firing at this rate. In fact, we like to say that a Rifleman fires every shot in Rapid Fire, or at the Rifleman's Cadence. Some of the stages on the AQT have short time intervals in which you must shoot. It is absolutely imperative that you shoot these at the Rifleman's Cadence. If you try to rush through these strings and fire faster, you will be too inaccurate. If you take too much time for each shot, you won't finish the string. The proper thing to do is just take your time and shoot at the Rifleman's Cadence; however, if your breathing cycle is exceedingly slow, and some are, you may have to speed it up some. A good way to introduce Rifleman's Cadence is to combine it with an alternative method of Carding the Sights. That method follows this topic.

During this process, a shooter should look to be sure that his sights return to the target after recoil. If they don't, he may have to regain your NPOA. Several things could cause this to occur: the butt could slip in the shoulder, the sling could slip down the arm, and there are numerous other things which could change.

Carding the Sights – Method 2

This method is similar to the first method except that steps are taken to ensure that the rounds are fired only at the end of the shooter's normal exhales. You will recall from the section on NPOA that this is when your body is most relaxed and is ideally the time when the respiratory pause should be taken and shots should be fired. It is common to see shooters on an Appleseed firing line taking shots at random times in their breathing process. This will most likely result in vertical stringing on the target, and inaccuracy. This method is designed to minimize that problem. Because the instructions for this method are more complicated than those of the first method, it is important that the process be explained thoroughly to the shooters before they are sent to the line; however, even with this precaution, you may expect to have to re-explain it to some shooters when it is their turn.

Instructions for Method 2

Tell the shooter to take a good prone position and to load. This would be a good time to observe if his steady hold factors are correct. Ask the shooter to place his NPOA on the target and confirm it like he has been taught, and this confirmation should occur at the end of a normal exhale. When this has been accomplished, the shooter should inform the instructor that he is ready. It is recommended that the shooter wiggle a finger on his support hand as an indication he is ready, as talking would disrupt NPOA.

The instructor will then place a card on the target side of the rear sight or scope and watch the shooter's back rise and fall as he takes a couple of breaths. The instructor will then lift the card, preferably while the shooter is inhaling. At the end of the shooter's following exhale, one of two things can occur. If the shooter finds that he no longer has his NPOA on target, he will tell the instructor, and the process will be repeated. On the other hand, if the shooter does have his NPOA still on target at the end of his exhale, he will immediately begin firing his rounds using Rifleman's Cadence, which means firing at the end of EVERY normal exhale, until his rifle is empty. The instructor will be continuously watching the shooter's back rise and fall to ensure that he is firing at the end of every normal exhale. If the instructor notices that the shooter is not following these instructions, he will stop the shooter and start the entire process over again, and since this repetition is a likely possibility, it would be better to do this exercise with 6 rounds instead of just 5.

When this is completed, the Instructor can move to another shooter while the former shooter practices shifting his NPOA to other targets.

Chapter 14: Positions

The basic building block for all shooting instruction is a proper position. If a proper, stable position is not built and maintained, the other instruction fundamentals will be irrelevant; however, many shooters will have great challenge in achieving some of these positions. They should not be discouraged, but allowed to do the best they can. They should be told that the best thing they can do is to practice the positions at home after the event. If this is done for just a few minutes a day they will soon notice a big difference, and as a result, their shooting will improve.

Recall Appleseed Guideline #28: only teach what the students need when they need it. Therefore, we only teach prone position early on the first day. Later, we can teach sitting and standing as we come to them in our course of fire.

An extremely important item will be mentioned in this section, but has not been discussed yet. Essentially it is a method of relaxing your body, then moving your body in order to place the sights on the target, and then confirming that indeed your body is relaxed while the sights are on target. This is called natural point of aim, or simply NPOA. It will be discussed more fully soon, but in this section, you will be told how to move your body to place your sights on the target, using NPOA, instead of simply using muscles to do so.

During the demonstrations for the different shooting positions there are several new terms that will be introduced to the shooter: “dragging wood”, “turkey neck”, and “cheek weld”, and “chicken wing”. It is important to thoroughly and completely explain these terms, both verbally and visually.

The three shooting positions used at Appleseed are:

1. prone position
2. sitting positions
3. standing position

These will be addressed shortly, but some items are applicable to all positions and will be discussed first.

The first of these is called “dragging wood.” If any part of the trigger finger is touching the stock, then you are dragging wood. Normally the only part of this finger which should be touching the rifle is the middle of the last pad, which should be in contact with the trigger. In fact, it should be in contact with the lower part of the trigger to avoid letting the top of the finger touch the stock. There are a couple of exceptions to the part of the finger touching the trigger. If the trigger pull on a rifle is exceptionally easy, then the part of the finger which should be touching the trigger is that portion near the tip, but not the tip itself. This makes it easier to squeeze the trigger straight back; however, if the trigger pull on a rifle is exceptionally

hard, then it is better to place the trigger in the last joint of the trigger finger. This is the case on many stock rifles, especially ARs.

Most shooters wrap their thumb around the rifle stock. Some can do this without dragging wood. It depends on their hands and their stock. Nonetheless, it is very challenging for most shooters to do this without dragging wood. There is much better alternative, which virtually assures the shooter won't drag wood.

Rotate your trigger hand around the stock toward the trigger hand side and slide your hand forward, placing your thumb near the corner of the receiver on the trigger side. Depending on the size of your hand, you may even have to rotate your hand farther around the stock so that your thumb is on the trigger hand side of the stock. Curl your trigger finger into the shape of a "C" and place the middle of the last pad of that finger onto the lower part of the trigger. The last three fingers of your trigger hand should grip the stock with a firm handshake grip and pull the butt snugly into your shoulder pocket. For centerfire rifles, it is important that the butt be held snugly into the shoulder in order to mitigate the painful effects of recoil; however, with rimfire rifles it is not a serious issue.

Many shooters place their trigger hand too far back on the stock. This causes the finger to meet the trigger at a steep angle. When the trigger is squeezed, the finger will force the rifle slightly to one side, which will cause the bullet to impact on that side of the target. Therefore, the hand must be placed forward on the stock, as explained above, and the finger pad must be flush with the trigger face. Then the trigger must be squeezed straight backward, slowly.

It should be noted that all shooters may not be able to physically accomplish some of the suggestions described above, and this will be true for many suggestions which follow, especially with the sitting positions. In all cases, the shooter must not be discouraged. He should be permitted to perform the tasks by whatever method he can.

If the sights happen to wander off target while the trigger is being squeezed, don't release the trigger and start the process over. Instead, simply maintain the same pressure on the trigger until the sights are again on target. Then resume squeezing the trigger again.

The two most challenging habits for shooters to break are dragging wood and failing to hold the trigger back after the shot is fired. Instructors should concentrate on these items, as well as the methods to correct them. Incidentally, it is easier to observe if a shooter is releasing the trigger too early by observing him from their support side. A technique to combat releasing the trigger too early, or failing to follow through is called "trigger buddies." The instructor will place his finger on the shooters trigger finger as the shot is being fired.

Another item which instructors should be aware of involves shooters using scopes. Sometimes they can't obtain a good cheek weld because their scopes are too high, forcing them to elevate their heads too high in order to secure a good sight picture. This can be cured by taping some sort of pad on the stock comb. Perhaps the best item for this is a section of black foam pipe

insulation which can be slipped over the comb and taped in place. Sometimes two or more layers of this foam may be advisable.

Yet another challenge encountered with those who use scopes is that the scopes are usually located too far back on the rifle. This forces the shooters to hold their heads too far to the rear by using neck muscles, which becomes tiring very quickly and introduces an NPOA problem. This challenge is especially noticeable in the prone position. It will help the shooters tremendously if these features can be treated and alleviated at an early stage in an event.

Prone Position

This is the most stable shooting position.

Demonstration

Face the target and index (turn) about 30° to the trigger hand side of the target. Lie down on your stomach and pull your trigger leg up as high as you can, bending your knee at about a 90° angle. This will position your diaphragm partly off the ground, thereby reducing the effect of your breathing on the movement of your rifle. This will also help in recovering your original position after recoil of the rifle. This will be particularly noticeable with centerfire rifles. While propping up on the "flat" or back of your support elbow, shoulder the rifle in your shoulder pocket. Watch that you don't put the muzzle in the dirt! The rifle should rest on the heel of the support hand and lie diagonally along its flat, horizontal, palm. This hand should remain open and relaxed, serving only as a support for the rifle, and the support elbow should be directly below the rifle, if possible, acting as a sort of monopod. The sling loop should be as high into your armpit as possible, and the support hand should be inserted between the sling and rifle from the support side. The shooters should be told that if the front sight does not fall and rise vertically, but does so on a diagonal or slanted line when they inhale and exhale, then their elbow is not far enough under the rifle. Conversely, if the sights do rise and fall vertically, then the elbow is far enough under the rifle. They should also notice that as they inhale, the sights and muzzle will drop, and as they exhale, the sights will rise.

Instructors should note that many shooters will have a tendency to cock their support hands at a steep angle to the rifle instead of holding their hands flat. This should be discouraged since it requires the use of muscles.

The support arm should make a sharp "V" at the elbow so that the sling makes a good supporting triangle with the upper arm and forearm. This will make it easier for the sling to support the rifle while the support arm is TOTALLY RELAXED. This will also help prevent the loop from slipping down the arm toward the elbow. If the shooter has a shooting jacket, placing the loop above the pad on the support arm sleeve, not on the pad, will also prevent the loop from slipping down. If the shooter has challenges in totally relaxing his support arm, then the sling is probably not quite tight enough.

The support leg should be extended straight back and the support foot should be relaxed, flat on the ground, not sticking upward. The trigger leg should be drawn up as far as possible, as mentioned above. The trigger elbow should be on the mat and spaced properly so that weight is on it. The last three fingers of the trigger hand should grip the stock with a "firm handshake grip," pulling the butt back into the shoulder pocket snugly. The shooter will then stretch his neck forward and drop it on the stock in order to achieve a good turkey neck and cheek weld, with perfect sight alignment. If a shooter has a long magazine, make sure it is not touching the mat or ground to form a monopod. For additional information, see the section on steady hold factors for the prone position.

Now we shall address the process of the shooter moving his body to place the sights on the target to achieve a good sight picture. First, he should relax his body. As his body is relaxed, his sights will probably not be on the target but should be near it. He should have good sight alignment. Using his support elbow as a pivot point, keeping it in place, he will move his body sideways to adjust his sights horizontally. Then he will move his body forward or backward to adjust his sights vertically until the sights are on target. His entire body should be relaxed now, most especially the support arm, which should be TOTALLY relaxed so that the sling TOTALLY supports the rifle. He will be taught later how to confirm that this is the case, or that he has acquired his NPOA. A similar process will apply to all the positions, and once he has acquired your NPOA, his exact angle of orientation to the target will be defined.

While dry firing in this position, or any other position, a shooter should check carefully to see if his sights move off the target when the trigger breaks.

An ideal time to introduce the shooters to the concepts of Talking Targets is when Instructors are demonstrating the prone position to them. Therefore, this topic will be addressed again at the conclusion of the steady hold factors for the prone position.

Sitting Positions

These positions are less stable than the prone position but more stable than the standing position. Some shooters may need to loosen their belt for this position. There are different alternatives for this position that the shooters may choose from. Many shooters will have much trouble getting into any of these sitting positions. As mentioned earlier, they should practice them at home. Some suggestions will be offered here, but many will just have to do the best they can at the event.

Demonstration

Cross-legged

This is the most stable of the sitting positions. To achieve it, face the target and index about 30 to 45° toward the trigger hand side and sit down. Cross your legs so that the trigger leg and foot are drawn in first, close to your body (see Figure 13). The support leg and foot should then be drawn in and crossed under your trigger leg. Some shooters may find they have to reverse this procedure.

The elbows should be on the target side of the knees (see Figure 14). They should definitely not be on your knees or your thighs. If that were the case, you would lose your NPOA with every shot. The sling loop should be high into your armpit and your support hand should be inserted between the sling and rifle from the support side.

There is a tendency in this position to cant (or tilt) the rifle to the trigger side. If this occurs, there are a couple of ways to correct the situation. First, instead of resting the rifle near the center of your support hand, move the rifle totally onto your relaxed fingers. Your hand should still remain open, not gripping the rifle. A second way is to twist the rifle with your trigger hand in an effort to "straighten" the rifle. This method uses muscles and is, therefore, not a preferable solution.

It is NOT necessary in this position to have the support elbow under the rifle. Your body geometry will dictate its placement. As usual, the last three fingers of your trigger hand should pull the rifle snugly into your shoulder pocket, and furthermore, as usual, you should obtain a good turkey neck and cheek weld

You may find it challenging to elevate your rifle enough to place the sights on the target in this position. It is the nature of this position, and as a result, it is an ideal position for shooting downhill; however, there are some things you can do to change the elevation of your rifle to engage the target. One method is to slide your support hand forward or backward on the stock. Another method is to adjust the amount your elbows overhang your legs. Elevation can also be adjusted by sliding your feet closer together or farther apart, or by sliding your feet closer to or farther away from your body.

One thing you do NOT want to do is to raise your legs to achieve elevation. This will require the use of muscles, which contributes to instability. This will cause the sights to wander continuously on the target and it will be impossible to shoot accurately. Remember that your body MUST be relaxed.

To alter the horizontal position of your sights to place them on target, simply rotate your derriere slightly on the ground. As you do this, your NPOA is obtained, and your exact angle of orientation with respect to the target will be defined.

If you find it too challenging to get into this position, an alternative is to place your elbows in the pockets of your knees. Your thigh and lower leg will form a sharp angle at your knee, and the pocket is formed at this angle, just to the inside of your knee. The elbows should be inserted into this pocket. Again, this is not on your thighs, but in the deep pockets formed in the angle at your knees. This will also allow you to achieve a somewhat higher elevation with your rifle.
Some alternatives also present themselves by mixing some of these suggestions. For example, if possible, it is important to at least try to place your trigger elbow forward of your trigger knee.

Your support elbow could then be placed in the pocket of your support knee, or if necessary, on your support thigh.

You should also notice that, just as in the prone position, the sights will drop as you inhale and rise as you exhale.

Every shooter will have slight variations in his sitting positions due to body geometry. Work with the individual shooters to find what works best for them. Proper NPOA will usually cure many position problems and should be taught in conjunction with the basics of the position.

Figure 13. Sitting Positions, Trigger Side

Figure 14. Sitting Positions, Support Side

Crossed-Ankle

The crossed-ankle position can be achieved by simply extending the legs out from the crossed legged position. The support side ankle will be on top of the trigger side ankle and the feet locked together. The elbows should be on the target side of the knees. All other steady hold factors are the same as the crossed-legged position. Some shooters are unable to attain the proper elevation of their rifle in this position.

Open Leg

Face the target and index toward the trigger side approximately 30 - 45° and sit with your legs straight and flat on the ground and spread at about a 30 - 45° angle. Raise your knees in such a manner that, as observed from above, each of your legs remains in a straight line and each is perpendicular to the ground. This means that your knees are closer together than your feet are. Do not allow your knees to bow outward. Place your upper arms on top of your kneecaps with your elbows on the target side of your knees. Your elbows must not rest on your kneecaps or on your thighs. If your knees bow outward, you will have to use muscles to keep them in position, and the use of muscles should be avoided. Remember that relaxation is the key to precision shooting. This position makes it easier to achieve a higher elevation with your rifle than does the cross-legged position and it is also a very stable position. To adjust to higher elevations, the knees can be raised higher, or the support hand can be moved forward or backward on the rifle stock, as before, and again, many shooters will find it challenging to get into this position. Most of them will try to bow their knees outward. With a heavy rifle, the support foot may have to be placed more to the outside to maintain stability.

Kneeling Position
This position is not as stable as the cross-legged, crossed-ankle, or open-leg positions, but is much faster to get into.

Kneel with the support leg forward, directed toward the target, bent at the knee with the shin nearly vertical and directed toward the target. The trigger knee is placed on the ground at about a 90° angle with the support leg. You should sit on the inside of the trigger foot/ankle. If you aren't flexible enough for that, then place your toes on the ground and sit on your heel with the heel at the base of the spine. Place your support upper arm on top of your kneecap with the elbow on the target side of the knee. Your trigger arm should be "chicken winged" holding the elbow out to form a good shoulder pocket. Explain the term "chicken wing." Rifles with pistol grips will require less of a "chicken wing" to prevent "dragging wood." Turkey neck and get a solid cheek weld with proper sight alignment.

To obtain your NPOA, move your body sideways for a gross horizontal adjustment. To fine tune this adjustment, make small movements with your support foot. For vertical adjustments, you may slide your support hand forward or backward on the stock, slide your upper arm on your knee, or move your support foot forward or backward.

Standing Position
This is the least stable of all the positions. There are two variants to the standing position: the Traditional method and the Improved method. Shoot Bosses have the discretion to teach one or both to shooters. Some have found it beneficial to teach the traditional method on Day 1 and the Improved method on Day 2.

Traditional Standing Method
Face the target and index 90° to the trigger side. Stand straight and space your feet about shoulder width apart. Keep the forward hand open, as usual. Remember that the "Hasty" sling is usually recommended for this position, although some do prefer the "Loop" sling. You may want to hold the fore stock a bit further back than the other positions. When getting into position, adjust the sling and hand placement so the support hand is not so far back on the stock (towards the trigger) that it would cover the magazine well if a long magazine is to be inserted later.

The elbow should be under the rifle. If it is extended outward, this is an indication that the sling is too loose. The sling should be deep into your armpit and the support hand should be inserted between the sling and the rifle from the support side, and the sling should form a good support triangle with your upper arm and forearm. The trigger side arm is held high forming a "chicken wing" to obtain a better shoulder pocket; however, this is not recommended for a pistol grip rifle such as an AR. The last three fingers of the trigger hand should pull the rifle butt back snugly into the shoulder pocket. Watch that you don't drag wood. The head should be as near vertical as possible and the rifle butt should be raised higher into the shoulder pocket than the other positions so that the stock meets your cheek. This will result in the top portion of the butt sticking up above your shoulder. In other words, you are to bring your rifle up to your face,

which remains stationary, rather than rotating your head over to the rifle. Turkey neck and obtain a cheek weld with proper sight alignment. You will notice that one thing differs from the other positions. As you inhale, the sights will rise instead of falling, and the sights will fall as you exhale. Therefore, this observation should be taken into account as you employ the Rifleman's Cadence.

Improved Standing Method

A modification to the position described above will make the position much more stable for all shooters. First, instead of using muscles to hold the torso upright, relax and let the torso slump. At least initially, ignore the sling and place the support hand under the trigger guard. On an AR type rifle an alternative could be to place it under the magazine, especially if it is a 10-round magazine, but it would be better under the trigger guard. For additional support, the support upper arm should be resting firmly on the ribs toward the center of the body rather than the ribs on the side. For a pistol grip rifle the trigger elbow should be held low. Even without the sling, this method will be more stable than the typical position described above. However, it can be made even more stable by lengthening the sling to accommodate this method so that it supplies even more support. However, precaution should be taken so that the support hand fingers are not struck by the bolt handle during its rearward travel.

NPOA with Standing

An optional exercise dealing with NPOA could be employed here. As you shoulder the rifle and assume the standing position you should close your eyes and begin moving your upper body and the rifle in horizontal arcs which decrease in size until you feel comfortable in a stationary position. (Note that this is not muscling the rifle in arcs, but instead swiveling the entire upper body from the hips.) As you open your eyes and look through the sights, they will be directed to your NPOA. Now you should shift your body to place your NPOA onto the target in the manner described in the following paragraph.

As in the other positions, you must move your body to place the sights on the target properly to achieve a good sight picture. To adjust your sights horizontally, move your rear foot to your front or back. To adjust them vertically, move your rear foot closer to or farther away from your front foot. Your front foot is to be the pivot point in these adjustments and, therefore, should remain stationary, and once you find your NPOA, don't move your feet.

Resting & Wind

There is an extremely important aspect of firing Stage 1 in the standing position which must be emphasized to the shooters, and it is especially of interest to those firing heavier center fire rifles. During the time required to fire this stage the rifle will begin to tire the shooter's muscles in the support arm and this will result in poor shot placement due to the muzzle wandering. This can be minimized by relaxing after every two or three shots for a brief period. This should be accomplished by retaining the rifle in the trigger shoulder, but relaxing the support arm, or bending at the waist letting the rifle muzzle drop down to a comfortable position. The trigger hand may remain on the rifle with the trigger finger outside the trigger guard. There should be ample time during the stage to take these relaxing periods.

There is an additional problem which is more pronounced in the standing position than in the other positions. That is the effect of wind. We are all familiar, to some extent, with how the wind will affect the path of a bullet; however, this problem is minor compared to the effect of the wind on a standing shooter. There are two things a shooter can do to help minimize this effect if the wind is steady and strong. First, extend the support hand out further on the stock to improve the leverage on it. Second, lock every muscle in your body, even though this is counter to what we've taught about relaxing. On the other hand, if the wind is not steady, but is gusting, it is better to wait until a break in the wind occurs before firing the shot.

Chapter 15: Steady Hold Factors

Appleseed Instructors are tasked to provide shooters with as much useful information as possible in only two days. One way to do this is by teaching skills that can be learned quickly in small blocks of information which build on skills the shooter already knows.

The building blocks follow a logical progression. The basic building block is "**building the position**" and it is the most important. This is the cornerstone of learning to accurately shoot a rifle.

To teach the shooter how to build a proper position, you must have a standard foolproof method the shooter can use to check each time he assumes a position. Additionally, it must work for all positions with little variation until it becomes muscle memory.

The best way to accomplish this is by using the "steady hold factors" (SHFs). The following is a synopsis of the SHFs with examples for each position we teach. You will notice a pattern to the SHFs, and also that they apply to any position with very few differences. This will also make the SHFs easier to remember.

We will start with the prone position because it is the first position taught and it will form the basis for the SHFs in all other positions. The other positions will use the same format and we will add one SHF for the standing position.

The SHFs are used in troubleshooting both on the firing line and for diagnosing problems at the target line. Refer to "Troubleshooting on the line" for additional information.

<u>Common Steady Hold Factors</u>

All SHFs will follow the same basic sequence, starting with the support hand and moving in a counterclockwise circle that ends with the cheek weld: This is what we **TEACH**.

- Orientation angle (The angle your body makes with respect to the target.)
- Support hand
- Support elbow
- Sling
- Support leg
- Trigger leg
- Trigger elbow
- Trigger hand
- Turkey neck
- Cheek weld

In addition to the items we teach, there are also items we **LOOK FOR, but don't teach**. If you discover an error, correct the individual shooter at that time. These common errors follow a particular SHF and are in parentheses.

Always begin teaching each position by demonstrating how to "index" to the target. Face the target, turn toward the trigger hand side and index approximately 30° in and the prone position and sitting positions and almost 90° in the standing position The individual shooter's body, and his NPOA, will dictate the specific angle required. Taller shooters with shorter rifles may nearly face the target; shorter shooters with longer rifles will have a greater angle. Once they understand NPOA, the angle will be easy for them to determine. This is because the process of obtaining NPOA and placing it on the target will determine the shooter's orientation angle.

NOTICE: When demonstrating and explaining the SHFs to shooters, an instructor will begin with the orientation angle, move to the support hand, and then proceed in a counter-clockwise fashion, moving around the one demonstrating the position as the remaining SHFs are encountered.

At the conclusion of teaching each position, discuss how to move the body to place the sights on target for a good sight picture, or how to place your NPOA onto the target. Refer to Chapter 13 for this topic.

Immediately preceding the demonstration of the prone steady hold factors below, the demonstrator should again show how to properly get into the loop sling from the sitting positions, and then roll over into the prone position, as discussed previously.

Furthermore, the conclusion of the SHFs for the prone position would be an ideal time to begin a discussion of Talking Targets.

Prone Steady Hold Factors
(Using the format shown above)

Orientation angle
Approximately 30° index (the angle your body makes with respect to the target).

Support hand
The support hand should be relaxed. The rifle should rest on the heel of the hand and lie diagonally along its flat, horizontal, palm and the hand should be open and relaxed. Do not use the term, "Lifeline" to describe this. This will consistently allow the rifle to recoil straight up and back down to a platform that doesn't move. If canting occurs, the rifle may be moved out onto the relaxed fingers.

Notice that some "experienced" shooters will tilt their support hands at a large angle, supporting the rifle with the portion of their hand near their index finger. This requires the use of muscles. Therefore, it should be corrected.

Support elbow

The support elbow should be as far under the rifle as possible, keeping in mind that if the shooter is dry firing there won't be a magazine in the rifle. During live fire they may have a long magazine protruding down and the forearm should just touch the magazine and index there.

Sling
The sling should be snug, with the support hand inserted between the sling and the rifle from the support side, and the loop should be anchored deep into the armpit. In describing the tension in the sling, use the word "SNUG", not tight. The support arm should not be too flat. The upper arm and forearm should form a sharp "V", and the sling should form a good triangle with this "V" for enhanced stability. This will also help ensure that the sling won't slip down on the upper arm. Furthermore, the support arm should be TOTALLY relaxed so that the sling completely supports the rifle.

Check to make sure the sling doesn't go straight from the rifle to the armpit! This is a common "newbie" error. The sling passing below the hand keeps the rifle in contact with the hand for consistency from shot to shot. Make sure the sling is not too loose or too tight. If the sling is too tight it will cause the rifle to cant, which may wrongly tempt the shooter to use muscles to "straighten" the rifle.

Support leg
The support leg should be straight and parallel with the spine.

Check the shooter's foot to ensure that it is not up on the toes and applying pressure that would push the shooter forward, thereby resulting in vertical stringing on the target due to "muscling." The foot should be relaxed and nearly flat on the ground.

Check for canting! As you transition from the support side to the trigger side, look at the rifle to ensure it is not canted slightly left or right from vertical. If canting is observed, it can most probably be eliminated by moving the rifle out onto the relaxed fingers of the support hand, and again, canting could be caused by the sling being too tight.

Trigger leg
The trigger knee should be drawn up toward the body as high as possible with the knee bent at approximately 90°. The shin should be parallel to the rifle. Experience shows that many shooters hardly ever do this; therefore, the instructor can be very active in correcting this fault.

Trigger elbow
The trigger elbow should be planted with enough weight to prevent displacing the position during recoil.

Trigger hand
The last three fingers of the trigger hand should hold the rifle with a firm "handshake" grip and pull the rifle firmly back into the shoulder pocket.

Look for “Dragging Wood” or other trigger errors at this time. If the shooter is dragging wood, suggest they rotate their hand toward the trigger side with their thumb near that corner of the receiver, or further, and curl their finger in the shape of an exaggerated “C”.

Turkey neck
The neck should be extended so that the head is as far forward as possible. The reason for this is to achieve a consistent cheek weld. Remember, you are introducing a new term to the shooters here, so explain it well. There are two key features to achieving a good turkey neck. Stretch your neck forward and drop your cheek onto the stock for a good cheek weld.

The two key words are stretch and drop (this creates a consistent sight picture because the eye relief is constant).

Cheek weld
Recall that in achieving a good turkey neck the neck was stretched and the cheek was dropped onto the stock. The cheek should be snug against the stock to hold sight alignment. This accomplishes cheek weld. The weld should not change or be moved throughout the entire shot string. The achievement of a good turkey neck helps to ensure a good, consistent cheek weld. Cheek weld IS sight alignment! An inconsistent cheek weld, or breaking the cheek weld, will cause groups to suddenly shift to a different POI.

Remember to show the shooters how to move their body forward or backward, or sideways, to achieve a good sight picture, or how to place their NPOA onto the target.

NOTICE: One of the goals Appleseed is to make the shooters self-sufficient. At the conclusion of the presentation of these SHFs, while the demonstrator is still in the prone position, we are provided with an ideal opportunity to do this by beginning a discussion of Talking Targets. While it is inappropriate to place a section on Talking Targets into the manual at this point, it is strongly suggested that Chapter 16 be referred to and some of the more pertinent and simpler items be discussed and demonstrated to the shooters at this time. Include the following:

- Vertical stringing – failure to fire at the respiratory pause
- Diagonal stringing – support elbow not under rifle, and failure to fire at the respiratory pause
- Horizontal stringing – improper trigger control or the support arm not totally relaxed

Sitting Steady Hold Factors
Some shooters will have a challenge achieving any of the sitting positions properly. Some will be able to do better in one position than others. Therefore, all of these should be presented to the shooters, and they should be given time during their Preparation Period to see which of the sitting positions suits them best. Some won’t be able to do well in any of the positions. They should be encouraged to do the best they can in whichever one they choose and to practice the positions at home until improvement is achieved.

Cross – Legged Steady Hold Factors
This is the most stable of the sitting positions.

Orientation angle
Approximately 30-45° index (the angle your body makes with respect to the target).

Support hand
The supporting hand should be relaxed and open. The rifle should rest on the heel of the hand and lie diagonally along its flat, horizontal palm; however, canting the rifle is a common phenomenon in this position. To prevent canting, the rifle may be moved totally onto the relaxed fingers.

Support elbow
The support elbow should rest on the "target side" of the knee; however, many shooters will have great challenges doing this, especially those whose bodies are not very limber, or those who are "girth challenged." These might be advised to place their elbow deep in the pocket formed at the angle of their support knee. The elbow should not be placed on top of the knee. It is NOT necessary for this elbow to be under the rifle in this position.

Sling
The sling should be snug, with the support hand inserted between the sling and the rifle from the support side, and the loop should be anchored deep into the armpit. In describing the tension in the sling, use the word "SNUG," not tight.

Support leg
The shin and ankle of this leg should be crossed over the shin and ankle of the trigger leg.

Trigger leg
The shin and ankle of the trigger leg should be brought close up to the body and lie on the inside of the support ankle and shin. The trigger leg should be inside/under the support leg if possible.

Trigger elbow
The trigger elbow should rest on the "target side" of the knee if at all possible. If shooters can't do this, you can suggest that they place the elbow deep in the pocket formed at the angle of their trigger knee. It should not be placed on the knee itself.

Some shooters will probably not be able to place their elbows in any of the locations indicated. If that is the case, they could be advised to simply do whatever they can to attempt this position, or to try the open leg or kneeling position. Furthermore, they should be encouraged to practice the position at home.

Trigger hand

The last three fingers of the trigger hand should hold the rifle with a firm “handshake grip” and pull the rifle firmly back into the shoulder pocket. Watch for dragging wood and offer suggestions to eliminate it.

Turkey neck
The neck should be extended so that the head is as far forward as possible. Remember, you are introducing a new term to the shooters here, so explain it well. There are two key features to achieving a good turkey neck. Stretch your neck forward and drop your cheek onto the stock. The two key words are stretch and drop (this creates a consistent sight picture because the eye relief is constant).

Cheek weld
Recall that in achieving a good turkey neck, the neck was stretched and the cheek was dropped onto the stock. The cheek should be snug against the stock to hold sight alignment. This accomplishes cheek weld. The weld should not change or be moved throughout the entire shot string. The achievement of a good turkey neck helps to ensure a good, consistent cheek weld.

Remember to show the shooters how to achieve a good sight picture, or how to place their NPOA onto the target. Horizontal adjustments are made by rotating their derrieres right or left. Vertical adjustments can be made by sliding the support hand along the rifle stock. They can also be made by varying the distance the elbows extend beyond the knees. In addition, they can be made by moving the feet closer to or farther away from the body, or by moving the feet closer to or farther away from each other.

Many shooters may have challenges in attaining enough elevation in this position. A greater range of vertical adjustment can be obtained in the open leg or kneeling position.
It should be stressed that the shooters SHOULD NOT attempt to achieve elevation by raising their legs because this will necessitate the use of muscles. The legs should be relaxed.

Open Leg Steady Hold Factors
This is also a very stable shooting position.

The SHFs in this position are the same as in the cross-legged steady hold factors, except for the position of the legs themselves.

The legs should be at an angle of about 30-45°, with the knees raised. As observed from above, the legs should be straight and perpendicular to the ground. It is of the utmost importance that the knees not be bowed outward. To do so would require that muscles be used. The elbows should be on the target side of the knees and the upper arms should be placed directly on top of the knee caps for a better bone on bone support. They should not be placed on the inside of the knees, which would require the use of muscles. As with the cross-legged position, many shooters won’t be able to achieve this position properly either.

With a heavy rifle the support foot may have to be placed farther outward to maintain stability.

Remember to show the shooters how to achieve a good sight picture, or how to place their NPOA onto the target. Vertical adjustments can be made by sliding the support hand on the rifle stock or by raising or lowering the knees. Horizontal adjustments may be made by rotating the body right or left.

Kneeling Steady Hold Factors

This position is less steady than the sitting options, but has the advantage of being very quick to achieve from the standing position.

Orientation angle

Approximately 0° index (the angle your body makes with respect to the target).

Support hand

The support hand should be relaxed and open. The rifle should rest on the heel of this hand and lie diagonally along its flat, horizontal, palm.

Support elbow

The support elbow should rest on the "target side" of the knee with the upper arm resting on the knee cap for good bone on bone support and it should be under the rifle.

Sling

The sling should be snug, with the support hand inserted between the sling and the rifle from the support side, and the loop should be anchored deep into the armpit. In describing the tension in the sling, use the word "SNUG", not tight.

Support leg

The thigh should be pointed approximately toward the target while the shin should be near vertical.

Check for canting! As you transition from the support side to the trigger side, look at the rifle to ensure it is not canted slightly left or right from vertical. This can be corrected by moving the rifle onto the relaxed fingers of the support hand.

Trigger leg

The trigger knee should be planted on the ground at about a 90° angle with the support leg, with the buttocks resting on the foot. Some can sit on the inside or outside of the foot creating a lower, more stable platform. Others must sit on their heel with toes curled under.

Trigger elbow

The trigger elbow should be "Chicken Winged," although those with pistol grips won't have to hold their elbows as high as others since it may induce dragging wood.

Trigger hand

The last three fingers of the trigger hand should hold the rifle with a firm “handshake” grip and pull the rifle firmly back into the shoulder pocket.

Turkey neck
The neck should be extended so that the head is as far forward as possible. Remember, you are introducing a new term to the shooters here, so explain it well. There are two key features to achieving a good turkey neck. Stretch your neck forward and drop your cheek onto the stock to achieve a good cheek weld.

The two key words are stretch and drop (this creates a consistent sight picture because the eye relief is constant).

Cheek weld
Recall that in achieving a good turkey neck the neck was stretched and the cheek was dropped onto the stock. The cheek should be snug against the stock to hold sight alignment. This accomplishes cheek weld. The weld should not change or be moved throughout the entire shot string. The achievement of a good turkey neck helps to ensure a good, consistent cheek weld.

Remember to show the shooters how to achieve a good sight picture or how to move their NPOA onto the target. Vertical adjustment may be achieved by sliding the support hand on the stock, by sliding the support upper arm forward or backward on the support knee, or by moving the support foot forward or backward. Gross horizontal adjustments may be made by rotating the body to the right or left. Finer adjustments may be accomplished by making small movements with the support foot.

Standing Steady Hold Factors

Orientation angle
Approximately 90° index (The angle your body makes with respect to the target).

Support hand
The support hand should be relaxed and open. The rifle should rest on the heel of the hand and lie diagonally along its flat, horizontal, palm.

Support elbow
The support elbow should be as far under the rifle as possible.
Not having the support elbow under the rifle as far as possible is probably the most common error in this position. This could also be an indication that the sling is too loose and the shooter is trying to “add tension” by moving his elbow outward.

Sling
The sling should be snug, with the support hand inserted between the sling and the rifle from the support side, and the loop, if used, should be anchored deep into the armpit. In describing the tension in the sling, use the word “SNUG”, not tight. If the shooter is using the

recommended Hasty sling, the sling should also be high in the armpit, form a good support triangle with his upper arm and forearm, and be tight across the chest.

Support leg
Look for a "normal" spread between the feet, approximately shoulder width initially. Some adjustments will be made later in order to move the NPOA onto the target. The support leg should serve as the pivot point for NPOA adjustments and, therefore, should not be moved.

Check for canting! As you transition from the support side to the trigger side, look at the rifle to ensure it is not canted slightly left or right from vertical. Canting can be corrected by moving the rifle out onto the relaxed fingers of the support hand.

Trigger leg
This leg should be directly behind the support leg initially and moved appropriately for NPOA adjustments.

Trigger elbow
The trigger elbow should be "Chicken Winged," however, it need not be lifted as high if a pistol grip rifle is used.

Trigger hand
The last three fingers of the trigger hand should hold the rifle with a firm "handshake" grip and pull the rifle firmly back into the shoulder pocket.

Rifle Butt
The rifle butt should be raised high enough to allow the head to be near vertical with a good cheek weld. You may see a considerable amount of butt exposed above the shoulder pocket. The idea is to bring the rifle up to your head, not your head down to the rifle.

(Checking the height of the rifle butt is the only SHF that differs from the other positions).

Turkey neck
The neck should be extended so that the head is as far forward as possible. Remember, you are introducing a new term to the shooters here, so explain it well. There are two key features to achieving a good turkey neck. Stretch your neck forward and drop your cheek onto the stock to achieve a good cheek weld.

The two key words are stretch and drop (this creates a consistent sight picture because the eye relief is constant).

Cheek weld
Recall that in achieving a good turkey neck, the neck was stretched and the cheek was dropped onto the stock. The cheek should be snug against the stock to hold a good sight picture. This

accomplishes cheek weld. The weld should not change or be moved throughout the entire shot string. The achievement of a good turkey neck helps to ensure a good, consistent cheek weld.

Remember to show the shooters how to achieve a good sight picture or how to place their NPOA onto the target. First have the shooters attain a good standing position. Then have them close their eyes and swing the rifle in decreasing horizontal arcs until they achieve the most comfortable position. Upon opening their eyes, they will see their NPOA. This can then be moved onto the target by moving their trigger foot closer to or farther away from their support foot for vertical adjustments and forward or backward, with respect to the shooter, for horizontal adjustments.

Recall that an alternative to this position involving the support elbow and sling was described in the Improved standing position detailed in Chapter 14, which may prove beneficial to many shooters.

Chapter 16: Talking Targets

There are two aspects to listening to information the shooters' targets impart to them. The most elementary one can be stated simply as: What size is a shooter's group and how does he place it directly onto the specified target? To attack these questions directly requires information not yet covered in this manual; however, it is information with which an instructor has some familiarity because of his past experience. This information is included in the section dealing with Inches Minutes and Clicks and minutes of angle (MOA). Actually, these questions are addressed explicitly in those sections. Therefore, they won't be dealt with further in this section, except to discuss the process which the shooters follow which leads up to the solutions to these questions.

The shooters should be told that they should use the information which has been given to them and apply it to the goal of achieving good, small groups. This means that they should keep the same sight picture while shooting, even though their rounds don't hit directly on the specified target. In other words, they should not change their sight picture in order to try to place their hits in the black targets. Once they have achieved good groups somewhere on the target, then they will be taught how to place those good groups exactly onto the specified target. The question now becomes, how good, or how small, the groups should be. Some maintain that the group size should be 8 MOA, and indeed this is a good size; however, it would most likely take too long for all shooters to achieve this. Therefore, their groups should be considered good enough when the shooters can determine the centers of their groups, at least to a good approximation.

The other aspect of using information from the targets deals with learning how to diagnose mistakes the shooter makes. One method of doing this is for the shooters to look at their targets and compare the shot patterns on them to the patterns contained on the Guidebook to Rifle Marksmanship supplied to the shooters.

The shooters should be introduced fairly early in the event to some basic mistakes they will make and how these mistakes will manifest themselves on the targets. When presenting each of the basic errors: name the error, describe the root cause, and give the corrective action. The five basic errors to cover with shooters are:

1. Vertical stringing. Failure to fire at the respiratory pause. To correct, only fire during an extended respiratory pause.
2. Horizontal stringing. Improper trigger control. To correct, ensure there is a gap between the trigger finger and the stock, the finger is properly placed on the trigger, and the trigger is squeezed slowly and straight back.
3. Diagonal stringing. A combination of two errors: failure to fire at the respiratory pause and improper support elbow placement. To correct, fire only during an extended respiratory pause and get the elbow properly under the rifle.
4. Shotgun small. Failure to focus on the front sight (iron sight shooters). To correct, focus on the front sight and hold the sharp front sight in the center of the blurry target. Also,

could be failure to find and maintain NPOA (scope shooters). To correct, use the NPOA drill to find and move NPOA onto target.

5. Shotgun large. A failure of one or more of three major fundamentals of rifle marksmanship: proper position, 6 Steps, or NPOA. To correct, go back and review the basics. Alternatively, if a shooter has been shooting well all day and now has a shotgun large pattern, odds are something has come loose in the shooter's equipment.

As the event progresses additional mistakes and their diagnoses can be presented to the shooters. You can find these additional errors listed on the page in Appendix C.

It is important that the shooters thoroughly understand this process of diagnosing their targets at an Appleseed. This can be reinforced by the instructors asking them individually throughout the event to interpret the information the targets are trying to tell them. Our goal should be to ensure that the shooters become SELF-SUFFICIENT, and this can only be accomplished if they UNDERSTAND the process involved. It can't be accomplished if we simply tell them things to memorize. Some exercises below will serve to illustrate how this can be done.

After learning the diagnostic techniques taught at the event, the shooters should be advised to retain the Guidebook to Rifle Marksmanship, take it home, and thoughtfully consider it.

An ideal time to begin the explanation of these diagnostic techniques will be after the 6 Steps of Firing the Shot and NPOA have been presented, and at the conclusion of the prone position demonstration and explanation. For example, they will have been taught that if the support elbow is under the rifle properly, that the sights should move vertically as the shooter breathes, and the instructor demonstrating the prone position can demonstrate this fact by accentuating his breathing while the shooters observe his muzzle. The shooters can then be asked what mistake would be implied by vertical stringing of the rounds on their targets. They should quickly respond that it would be due to a breathing problem; they aren't taking their respiratory pause at the same point in their breathing cycle.

Furthermore, if their support elbow is not under the rifle, the instructor can demonstrate that the muzzle will move in a diagonal line as he breathes. Therefore, the shooters can be asked how to interpret diagonal stringing on their targets. It should be easily seen that it is because their elbow is too far away from the rifle, and it is also most likely combined with a breathing problem.

An additional item can be demonstrated during the prone position demonstration. If the shooter has a good prone position with the elbow under the rifle, and a good NPOA so that he is relaxed, especially his support arm so that the sling is totally supporting the rifle, then the muzzle should be stationary during the respiratory pause; however, if the support arm is not relaxed and the muscles in it are tense while the sling is fairly snug, the muzzle will be moving slightly. In that case, the predominant motion of the muzzle will be horizontal. This can also be demonstrated. Therefore, it should be obvious that this would result in horizontal stringing on the target, and this is a very common mistake shooters make. It should be emphasized that the

support arm MUST be totally relaxed. In fact, an instructor can stand behind a shooter with this condition and easily observe his muzzle moving in this fashion. It can be recognized as an NPOA problem. The challenge this presents to the shooter is that his sights will be moving across the target continuously and he will, therefore, try to jerk the trigger when the sights are momentarily on the target, and this will lead to further inaccuracies.

One further item may be mentioned to the shooters at this time. The shooters have been instructed earlier to concentrate on the sharply focused front sight and not the fuzzy target. If they focus on the target instead, the front sight will be fuzzy, and while they are focusing on the target, the fuzzy front sight can be moving slightly and, therefore, not be noticed by the shooter. As a result, the rounds on the target will be scattered in a shotgun pattern on the target. A similar result will also occur if the shooter blinks or closes his eye in anticipation of the rifle firing, and the shooters should be reminded that they can't call their shots if their eyes are closed.

After the shooters have shot their first square on the 25m Drill Target, and before they proceed downrange to examine their targets, they should be quizzed on all these items. Then when they examine their targets, instructors should ask them what their targets are telling them. This process should continue throughout the event.

Other mistakes could influence the shot pattern on targets. These should be discussed as the event progresses. In fact, some of these can be demonstrated with the instructor's faux rifle to increase the shooters' understanding of the various situations. Some examples follow, and the shooters can also be told to observe if, or how, their sights move on their targets during dry fire exercises in order to diagnose their own flaws before shooting actually begins. Below, various errors are described.

<u>Improper Trigger Control:</u> The shooters have been instructed to squeeze the trigger straight back. If the trigger is pulled instead to the left or right, the muzzle will be pushed in the resulting direction, causing horizontal stringing. In relation to this, many shooters will be observed holding their trigger hand far back on their stocks with the result that their finger barely reaches the trigger, and as a further result, their finger will be in contact with the trigger at a steep angle. When they pull the trigger, this will force the rifle slightly toward their support side causing the bullet to impact the target on that side. Therefore, those shooters should be instructed to move their hands further forward on the stock, preferably with their trigger thumb near their trigger side corner of the receiver, or even lower on the stock, and to make an exaggerated "C" with their trigger fingers.

Shooters have been instructed to hold their triggers back and to avoid dragging wood. The results of dragging wood, as well as releasing the trigger quickly, can be easily demonstrated by holding the instructor's faux rifle vertically with the trigger hand only and performing these undesirable motions.

Flinching: A problem some shooters have, particularly with a center fire rifle, is flinching. Due to recoil, these shooters will withdraw their shoulder from the rifle butt as the rifle fires. This will cause diagonal stringing on the target. This problem and its analysis are also easily demonstrated with a faux rifle. This problem is also frequently exacerbated by the shooter blinking his eye as the rifle fires.

Bucking: A similar problem is called bucking. This occurs as the shooter either tries to help the bullet along by hunching his shoulder forward on the rifle butt as the rifle fires, or as a counter move to an anticipated flinch. This will also result in diagonal stringing, and this too can be demonstrated with a faux rifle.

Sling Slipping: Yet another problem which a shooter may encounter is the loop sling slipping down toward his elbow (see Chapter 15). This causes the muzzle to progress downward with time and results in vertical stringing.

Other slippage: If the butt stock of a shooter's rifle is slick it could slip in his shoulder. And if the forestock is slick, the shooters support hand could begin slipping. Both of these afflictions would result in vertical stringing. And they could both be cured by taping some sort of friction material to the offending areas.

Mechanical Issues: There is another problem for which the instructor should be alert. A shooter's shot pattern may be doing very well, and then gradually begin to deteriorate and become worse. This is most likely a mechanical problem such as some screws coming loose. One of the first and easiest items to check is whether the barrel is coming loose in the stock. Another is that the scope may be coming loose. These challenges are most likely to occur Saturday afternoon or sometime Sunday.

Most of a shooter's errors will be caused by a failure to follow the three essential requirements of precision shooting: Good Positions, 6 Steps of Firing the Shot, and using NPOA.

While monitoring the line, instructors can discover many of these errors by carefully observing the shooters. One item not to be overlooked is that of relating the shooter's firing pattern to his breathing pattern by watching his back rise and fall as he breathes. For example, he can determine if the shooter is using Rifleman's Cadence properly by observing if he fires at the end of his exhale or at some random point in his breathing cycle by observing the shooter's back. Or the shooter may be firing too many rounds during his respiratory pause. If the shooter holds his breath too long his body could be depleted of a sufficient supply of oxygen, which will affect his vision. The length of time for this varies with the shooter, but is generally in the range of five to eight seconds.

The Shot Group Analysis page (Appendix 3) is included in this manual primarily for Instructor development. Notice that the patterns on some targets are very similar to others and it would be hard to distinguish between those patterns on the shooters' targets. Therefore, Shooters are provided a **simpler** handout in the Guidebook to Rifle Marksmanship.

Chapter 17: Inches - Minutes – Clicks
and Associated Material

Inches – Minutes – Clicks (IMC) is the method a Rifleman should use to take the information on a target and adjust the rifle sights to move the existing point of impact (POI) to the point of aim. It is also a method used to measure group sizes independent of range. But before this topic can be introduced and explained, most of the shooters must be able to shoot groups which are defined well enough that their centers can be determined. The center of a group will be the existing POI, and it will be the shooter's duty to place this point onto the desired POI, which will be the center of the target. Many shooters seem to approach this task by a lengthy series of sight settings based mostly on guesses. This is inefficient, time consuming, and expensive. A true Rifleman must be able to do this quickly, using a well-defined procedure with which he must be very proficient, and since there is an angular relationship between the line of sight to your target and the line of sight to your existing POI, this procedure must hinge upon angles. In addition, most rifle sights, and especially scopes, are based upon angular relationships. Therefore, this discussion must begin with a study of angles.

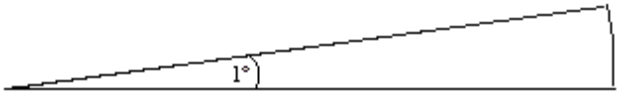
Before we begin the material about IMC, here are some Pro-tips which will help you present the topic to shooters in a way that will help them understand more easily:

- First, draw your diagrams neatly and large enough that everyone can see the details. Rather than having some large pre-printed display, it's recommended you draw your diagram as you go. This will ensure shooters aren't jumping ahead of you and missing the points you share.
- Second, use units of inches throughout the presentation rather than switching to units of feet. This will be less confusing to shooters as they learn new information.
- Third, ensure you use a value, label, and direction when teaching. For example, 3 inches up, 7 minutes left, and 5 clicks down are all examples of using a value, label, and direction when going through the block. This will help you be methodical and deliberate in your presentation.
- Fourth, it is recommended that sight adjustments be expressed in clicks per MOA rather than MOA per click. It is a subtle difference, but shooters seem to make the conversion more easily in this direction.
- Fifth, organize your data. Using a tic-tac-toe style chart works well for this.
- Finally, be precise when describing the difference between angles and length. While it's commonly said that one MOA equals to one inch per 100 yards, that is incorrect. Angles and lengths are two entirely different measurements and, therefore, can never be equal to one another. That would be like saying 6'2" is equal to 250 pounds. The correct description is that <u>one MOA is REPRESENTED by one inch per hundred yards</u>.

Minutes of Angle

Suppose you are looking at the vertical and horizontal crosshairs in a rifle scope. You are seeing 4- 90° angles. If you consider the top right 90° angle, it is easy to imagine ½ of it, a 45° angle, or a smaller angle, say 30°, or even a 1° angle (see Figure 15).

Figure 15. A 1 Degree Angle



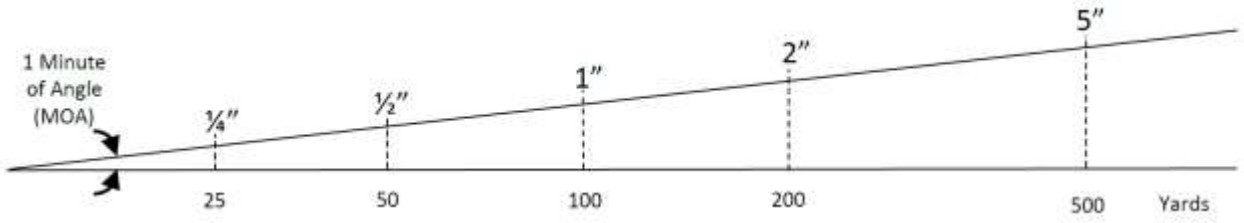
The descriptions below will be enhanced tremendously with visual aids. An excellent method is with a white board, which may be transported with some ease. But if this is not possible, an alternative is to draw it on poster board which may be rolled up for transport or use a clean target backer.

Suppose that your rifle's sights are directed at the center of a target 100 yards away. Imagine a line drawn from your sights to the target center. Consider another line drawn from your sights to the point of impact on the target which makes a 1° angle with the original line to the target center and which lies directly above the target center. You will find that the point of impact will lie 60 inches above the target center. We have constructed a triangle with the side opposite the 1° angle having a length of 60 inches. Therefore, it is clear that if we wish to make precise sight adjustments, an angle much smaller than 1° will be required. This could be achieved by dividing the 1° angle into 60 equal parts. Each of these smaller angles is defined as 1 minute of angle (MOA); or to state this another way, 1 MOA = 1/60 of a degree.

Furthermore, if we examine our triangle again, we can see that if we divide the 1° by 60, resulting in 1 MOA, that the side opposite that angle, 60 inches, must also be divided by 60. Therefore, it will become 1 inch, which is an acceptably small unit of measurement for sight adjustment. Therefore, suppose we miss the center of our target by 1 MOA at 100 yards. The point of impact would lie only 1 inch above the target center, at least to a very good approximation.

To apply this unit of measurement, MOA, to different distances, construct an exaggerated triangle with 1 line drawn to the target center and another line making an angle of 1 MOA above the first line. The remaining side of the triangle will be 1 inch at the 100-yard target. Now extend both of these longer lines to greater distances. At 200 yards the distance between these lines will be 2 inches; at 300 yards the distance between these two lines will be 3 inches (see Figure 16); at 1,000 yards the distance between these two lines will be 10 inches. Therefore, if you miss your target by 1 inch at 100 yards, you will have missed your target by 1 MOA and will have to make a 1 MOA adjustment to your sights. If you miss your target by 5 inches at 500 yards you will have missed your target by 1 MOA and will have to make a 1 MOA adjustment to your sights. Therefore, it could be said that 1 MOA is represented by 1 inch per 100 yards.

Figure 16. Minute of Angle at Distances



It also follows that if you miss your target by 3 inches at 100 yards, you have missed by 3 MOA, and if you miss by 4 inches at 200 yards, you have missed by 2 MOA.

Let us consider the 1 MOA triangle again, but at distances less than 100 yards. At 50 yards, 1 MOA would be represented by ½ inch, and at 25 yards, 1 MOA would be represented by ¼ inch. Since most of our shooting will be done at 25 meters, and there is little difference between this distance and 25 yards, this latter figure will be of utmost importance to us. Thus, if you miss your target at 25 meters by ¾ inch, horizontally or vertically, you must make a 3 MOA adjustment to your sights. If you miss by 2½ inches, you must make a 10 MOA adjustment.

At this point on the white board, you can place a group of dots representing a group at 25 meters. (This is a good opportunity to add a flyer in your group, to emphasize the value of Step 6: Call Your Shot. The flyer is discounted because that's when a piece of hot brass landed on the shooter's neck, they flinched, and called their shot wide.)

Tell the shooters the diameter of the group and then ask them what the group size is in MOA. Then indicate the center of the group. This would be your POI. Also indicate the target center. Then draw a horizontal line and a vertical line through the center of the target. Indicate the perpendicular distance in inches from these lines to the POI, and ask the shooters how many MOA, horizontally and vertically, they would have to change their sights to place the POI onto the target center. Then how many clicks would they have to make if their rifles had 1 click per MOA, as many older military rifles do. Then ask how many clicks they would have to make with their scope if it was 4 clicks per MOA. You can tell them that most scopes, but not all, do have 4 clicks per MOA. Some scopes have 2 clicks per MOA and some have 8 clicks per MOA. It will enhance the students' ability to understand this if you consistently use the expression clicks per MOA rather than MOA per click.

This process is simplified by the 1-inch square practice targets in current use at 25 meters. The 1-inch squares are placed on a grid of ¼ inch squares. It follows that each of these ¼ inch squares represent 1 MOA. Therefore, to determine how to adjust your sights, you simply count the resulting number of squares from the point of impact to the center of the 1-inch square, both horizontally and vertically. Then adjust your sights by the appropriate number of MOA in both the horizontal and vertical directions.

We must determine which direction to move the POI onto the target. A rifle scope will indicate the appropriate direction to move the POI onto the target. With iron sights, the rear sight is

moved in the direction you want the POI to move. The front sight is moved in the opposite direction you want the POI to move.

An alternative explanation which is frequently used is to compare the rear sight with a well-behaved and considerate child who does what you tell him, and compare the front sight with an unruly and contentious child who always does the opposite of what you tell him.
The only thing remaining now is to relate the rifle's sighting mechanism with the number of MOA needed for adjustments.

Clicks

Many sights operate with a detent mechanism such that the number of clicks will correspond with a number of MOA. For example, 1 click of the sights on a typical Garand or M1A will correspond with a 1 MOA adjustment. Therefore, we could say that the sights on these rifles have 1 click per MOA. Most, but not all rifle scopes, have the description of: ¼ inches at 100 yards. Thus, 4 clicks would be required to move the POI 1 inch at 100 yards. Therefore, such a scope would have 4 clicks per MOA. A listing of clicks per MOA sight adjustments for various rifles is presented in Table 2.

The process of sight adjustments, therefore, can be reduced to a simple three step procedure:

1. Determine the number of INCHES which the POI must be moved, horizontally and vertically, to bring it onto the target center.
2. From these numbers of inches, determine the number of MOA, horizontally and vertically, required to bring the POI onto the target center.
3. Then, knowing the number of clicks PER MOA for your sights (Table 2), calculate the number of clicks required to accomplish the task, horizontally and vertically.

Therefore, it is seen how this entire procedure can be reduced to the simple three-word description: Inches – Minutes – Clicks, or IMC.

Table 3. Sight Adjustments – Various Rifles				
AR15 variants:				
Front sight posts		**Windage**		**Elevation**
A1 20” = 1 MOA	*	A1 20” = 1 MOA	*	A2 20” = 1 MOA
A1 16” = 1.5 MOA	*	A1 16” = 1.5 MOA	*	A2 16” = 1.5 MOA
A2&3 20” = 1.25 MOA	*	A2&3 20” = .5 MOA	*	A3 20” = .5 MOA
A2&3 16” = 1.875 MOA	*	A2&3 16” = .75 MOA	*	A3 16” = .75 MOA
SKS/ AK				
Front Sight Elevation		8 MOA per turn		
Front Sight Windage		10 MOA per turn		
Rear Sight Elevation		3 MOA per detent out to 300 m (approximately)		
SOCOM M1A				
Rear Sight Elevation		1.5 MOA (approximately)		
Rear Sight Windage		1.5 MOA		
FAL				
Front Sight		6 MOA		
Rear Sight		4.5 MOA (approximately)		
.22 Rifles with Tech- Sights				
Front Sight Elevation	†	Some are approximately 1 click per MOA		
Rear Sight Elevation	†	Others are approximately 2 clicks per MOA		
Rear Sight Windage	†			
Ruger Mini 14				
Windage		1 MOA		
Elevation		1 MOA		
HK 91				
Windage		1.25 MOA per turn of the drum		
Elevation		1.25 MOA per turn of the drum		
HK93				
Windage		1.6 MOA per turn of the drum		
Elevation		1.6 MOA per turn of the drum		
Steyr AUG				
Windage		1.5 MOA per click		
Elevation		1.5 MOA per click		

* *If zeroed at 25 m with small aperture, zero is for 300 m, large aperture is 200 m*

† *Note: Details for Tech Sight click values vary between sight models and barrel length of the rifle. See chart here: https://www.tech-sights.com/wp-content/uploads/2016/03/MOA-chart-clicks-per-sight-w-logo.pdf (Source: Tech-SIGHTS, LLC)*

Many shooters find this to be a challenging concept to grasp. Therefore, the presentation should be undertaken with much care and precision with carefully chosen words. To help implant the concept into their brains, the shooters should be frequently asked throughout the event how large their groups are in MOA, and how many MOA they should move their groups to place them on target. They should also be asked how many clicks per MOA their sights have.

Pro-tips on Rifle Sights:

Clicks per MOA: Most shooters won't have any idea about the number of clicks per MOA for their sights. They will, therefore, be at a loss as to how to apply this procedure. A table with that information for a variety of rifles will be included in this section and you can be of enormous help to the shooters by providing this information to them.

Tech Sights: Some .22 caliber rifles with Tech-Sights operate with approximately 1 click per MOA and some operate with approximately 2 clicks per MOA. It is a simple matter to try an adjustment to see which one is appropriate for a particular rifle, and since these values may not be exact, additional fine-tuning adjustments may be required for more precision.

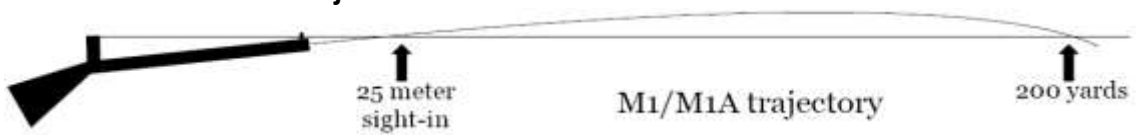
.30 Caliber Rifles: Some 30 caliber rifles, such as the M1A, will have approximately the same zero settings at both 25 yards and 200 yards because of the ballistics. Therefore, if applicable, the rear sight should preferably be set on 200 yards while zeroing at 25 yards (see Figure 17). Furthermore, .223 AR's have practically the same zeros at 25 yards and 300 yards. As a result, ARs should have their sights set at 300 yards while zeroing at 25 yards, and keep in mind that for our purposes, there is no significant difference between 25 yards and 25 meters. The main reason for the 200-yard and 300-yard zeros for these rifles is the typically different height of the sights above their bores. Therefore, if different sights, or scopes, are used on these rifles, the resulting zeros would also be changed.

AK/SKS Sights: These sights don't operate with a detent mechanism. Instead, their front sights must be changed by rotations of a tool. Therefore, instead of clicks per MOA, the number of "rotations" per MOA must be known (Table 2). These are: vertically, ⅛ rotation per MOA; and horizontally, $^{1}/_{10}$ rotation per MOA. The rear sights on these rifles operate differently and can only be adjusted vertically in units of 100s of meters.

Unknown/Unmarked Sights: If the sight adjustments on a particular rifle are unknown, a fairly simple method exists to determine it. First, fire a group with the present sight setting. Then make a fairly large sight adjustment, counting the clicks associated with it, and fire another group. Measure the distance between the two groups in inches and calculate the MOA this represents. Thus, it is a simple matter to calculate how many clicks resulted in the MOA change.

Drift Adjustments: A few rifles must have their rear sight adjusted with a hammer and punch to drift the sight. This is mostly a "guess and try" procedure. In this case, it is suggested that you use a pencil to make an index mark to indicate the starting position. It is also suggested that the shooters perform this operation on their own rifles in case the rifles are damaged in the process.

Figure 17. 30 Caliber Rifle Trajectories



When the shooters proceed to a KD range, those with their rifles zeroed at 25 meters, according to the above instructions, should shoot at the appropriate distance of 200 yards or 300 yards WITHOUT changing their sight settings, sight picture, to observe the results. If necessary, they can then fine tune their sights and then use the appropriate Come-Ups for different distances. This topic will be covered in more depth in Chapter 22, Known Distance.

Chapter 18: Ball and Dummy

Ball and Dummy is an effective drill to improve the shooters' performance. First, it allows effective diagnosis of flinching, a common error by many novice shooters, and, when using centerfire rifles, a common error made by even experienced shooters. Second, a shooter makes their best shot when they are slightly surprised when the round goes off. They are completely relaxed, and the shot will be placed exactly where their NPOA is pointed. As an aside, it is also an extremely effective drill in shooting handguns.

Ball and Dummy is an exercise in which the shooters work in pairs: a shooter and a coach. The coach will prepare the shooter's rifle in a manner such that the shooter does not know if a live round or an empty chamber is available to him. The coach will observe the shooter carefully to see what errors he may make.

Every participant will be issued two 25m Drill Targets and will post one of these on the target line. The shooter will bring the following items to the firing line: his remaining 25m Drill Target, a pen or pencil, an empty magazine, and five loose rounds of ammunition. For certain rifles that cannot be dry fired with an empty chamber, a snap-cap should be issued to the coach.

The coach will begin the drill with an empty magazine. The coach will load the magazine into the rifle and actuate the bolt while the shooter closes his eyes and turns his head so he doesn't know how the rifle is prepared.

If the coach isn't familiar with the shooter's rifle, he should inquire how it operates. In order for the coach to perform his job properly he must lay down beside the shooter to observe if he blinks his eyes, drags wood, flinches, bucks his shoulder against the rifle butt, fails to hold the trigger back, jerks the trigger, or any of the other many errors possible. These errors should immediately be discussed with the shooter.

During this process, the coach should position his hand to shield his face from the ejected brass. It is the coach's job to fool the shooter, to the best of his ability, so that the shooter does not know whether he has a live round or a dummy in his rifle. It will be easy to spot some errors when dummy rounds are used. If an error is detected, it is preferable to continue with dummies until the error is corrected. The coach should learn as much from this exercise as the shooter. The instructors should monitor the line during this exercise to point out errors which the coaches miss.

While all five live rounds can be fired into the same target, it is highly preferable for each of them to be fired into separate targets. This will make it much easier to diagnose each single round afterward, as well as forcing the shooter to shift his NPOA.

It is especially important that the shooter call each of his live shots out to the coach. The shooter should then mark on his target copy where the shot was called. After the event is concluded, the shooter should then compare the marked shots on the coach's 25m Drill Target

to the holes in the target downrange. This enhances the interpretation of each called shot. Furthermore, the shot placement can reveal consistent or inconsistent patterns which may need to be addressed. It can also reveal if a sight adjustment is called for.

Thirty minutes should be devoted to the exercise. A suggestion is for the LB to simply give the command, “The Line is HOT!” and start his timer instead of proceeding through the line commands. Shooting may begin when the line is called HOT, and the shooter and coach may change positions when the five live rounds have been fired. At the end of 15 minutes, the shooter and coach must switch positions if they haven’t already done so. Then at the end of 30 minutes, “Cease Fire! Cease Fire! Cease Fire!” should be called.

This exercise should be preceded by a clear and complete explanation of instructions to the shooters.

Chapter 19: The AQT and Target Size; Transition to AQT

The preponderance of initial instruction and practice at an event focuses on the prone position. Therefore, this presents an opportunity to approach the AQT from a perspective that experience has shown to be effective, even though it is not typically employed at an event. Actually, it is fairly common for some shooters to earn a Rifleman's Score on their first attempt with this approach.

After completing the typical prone position instruction and associated material, a pair of 1-inch squares could be engaged under a time restriction while implementing an NPOA shift, with a magazine change. This could be repeated if desired. Then an AQT could be begun with Stage 3 since the targets for Stage 3 are the same size as the 1-inch squares they have been shooting. For the sake of safety, as well as preparing the shooters for this stage, a "dry run" with no ammunition on the line, and timed appropriately at 65 seconds, should be run while simulating the entire stage. This means that each target should be engaged the proper number of times with the appropriate simulated magazine change and NPOA shifts; however, bolts should not be actuated during this performance since they won't be engaged by the shooter during an actual live fire run. Furthermore, actuation of the bolts now would force the shooters to lose their NPOAs.

If the instructors are convinced that the shooters can perform the transitions safely, then Stage 3 may be engaged with live ammunition.

Following this action, the sitting positions may be presented and Stage 2 engaged, again preceded by a simulated dry run.

Then the standing position may be presented and Stage 1 engaged. Finally Stage 4 may be engaged.

But before beginning this approach, or any approach to the AQT, something else should be considered. The AQT contains targets which are of different sizes. According to the discussion on sight picture, found in the 6 Steps to Firing the Shot that was presented earlier, remember that a choice of the 6 o'clock hold or the COT hold is to be made. This choice exists because the shooter is faced with targets of different sizes in the different stages and there is little time to adjust most sights between stages. Because of this, it may be advisable to use the COT method; however, if the 6 o'clock method is chosen, we shall proceed with the sight adjustments which must be made. This process could be accomplished by giving an IMC quiz on the different target sizes. In fact, it would be beneficial to give this quiz to all the shooters regardless of which method they choose to use in order to better drive home the idea of IMC to everyone. Time limitations could very well dictate that this quiz not be given at all. Nevertheless, it is a good instructive lesson for all instructors.

The quiz will begin by recognizing that all the preceding work leading up to the AQT is done on the 25m Drill Targets, and the shooters should be reminded of this. They should be asked how

many inches it is from the bottom of these targets to their center, and how many MOA this represents. Then they can be told that for the Stage 3 targets it is ½ inch from the bottom of the gray to the center of the "V." Then IF they have been using the 6 o'clock method on these squares, they can then be asked what they would have to do to their sights to hit the center of the "V?" The answer is nothing.

After this Stage is shot, you may proceed to the Stage 2 and tell them it is ¾ inches from the bottom of the gray to the center of the "V", and ask how many MOA this represents, and assuming they have just shot the Stage 3 using the 6 o'clock hold, what would they have to do to their sights to hit the center of the "V" for this stage? The answer is to raise their sights by 1 MOA. At this point, they could be introduced to the sitting positions and shoot Stage 2.

When moving to the first stage, it is 1½ inches from the bottom of the gray to the center of the "V". If they are sighted in on the 1-inch squares, what must they do to their sights to hit the center of the "V?" Raise their sights 4 MOA. If they are sighted in on the second stage, what should they do? Raise their sights 3 MOA. At this point, they could be introduced to the standing position and shoot Stage 1.

If you move to Stage 4 now, it is ⅜ inch from the bottom of the gray to the center of the "V". Assuming their sights are set for the 1-inch square what should they do to their sights now? (Lower their sights ½ MOA)

If the shooter's sights are easily changed, the above procedure could be followed. If not, the simplest procedure would be to use the COT hold.

Chapter 20: Rifleman's Bubble and Dance

Rifleman's Bubble

The Rifleman's Bubble is a description of the intense concentration a Rifleman should have toward the task at hand. *When the shooter is so deeply absorbed in concentrating on his shooting, he becomes oblivious to any distractions.* For anyone to excel at any type of activity requires exceptional mental concentration. When this is accomplished, the physical part comes almost unconsciously.

Rifleman's Dance

This is a topic which shouldn't be introduced to the shooters until they have been shooting awhile and have their rifles zeroed properly. But it is an important topic which they need to know and be able to use. *Rifleman's Dance is utilizing feedback from the impact our shots have on our target.* If we aren't hitting where you want, our target will give us feedback in what may need correcting.

Initially shooters are taught to apply the information given to them in order to shoot good groups, irrespective of whether they hit the desired target or not. Specifically, they are taught to use the same Sight Picture and Talking Targets. Next, they are taught how to place their groups on the target, or how to "zero" their rifles using IMC. This same procedure should continue throughout most of the Appleseed exercises until one or two AQTs have been shot. By this time, they should have acquired enough proper experience to become more flexible if it is warranted. This is the time shooters should be introduced to the Rifleman's Dance. It should be noted that both Talking Targets and Rifleman's Dance use the impact our shots have on our targets. But the Rifleman's dance is used by actually changing the Sight Picture, especially if a scope is used. The next two paragraphs describe examples of the Rifleman's Dance which were favored by our founder, Fred.

An example of its use could occur on the next AQT, and it would be more likely to be noticed if a shooter was using a scope, which would make it easy to see his bullet holes in the target. The shooter could be doing everything correctly, but then he notices that his holes begin to consistently group differently from his previous good shots. This should immediately prompt him to change the sight picture to bring the rounds back onto the target. In other words, he should now begin to "chase his shots," something he had previously been cautioned against. This could be compared to riding a bull as he tries to hone in on his exact target. At the conclusion of that string of fire he could examine his rifle for a possible reason for the change, or if necessary, change the sights accordingly. For shooters without scopes, the change in shot pattern could be picked up by examining the AQT afterward and making whatever changes are found necessary. A ruler would come in handy at this point.

Another example where it can prove useful is when a shooter is attempting to shoot at a different distance from what they are zeroed for. A favorite story is frequently told to demonstrate the usefulness of this concept. A corporal at the Home Range in Ramseur, North Carolina was assigned the task of hitting a metal pop-up target with 30 rounds. His first shot hit

in the dirt right at the base of the 300-yard target. So did the following 29 rounds. Obviously, he was a good shooter, but not a very smart one. He could easily have changed his sight picture to that of a higher vertical POA and struck the target with the last 29 rounds.

Chapter 21: Coaching on the Line

To successfully detect and correct shooter errors at an Appleseed event it is necessary to have an orderly plan of attack. The information described below is that plan. The diagnoses implied by the plan are repeatable and can be consistently used with each shooter. This plan by no means contains a description of all the possible problems and fixes you may find and need on the Appleseed trail; however, this plan will go a long way toward helping develop the skills and confidence required to aggressively engage shooters at an Appleseed event, and in turn, help the shooters progress rapidly. Furthermore, much similar material was presented in the chapter on Talking Targets, and should be referred to while studying the present section.

Aside from equipment issues, almost all shooter problems are caused by the lack of, or the improper application of fundamentals; however, the progress of some shooters may be limited by their equipment. An example might be a shooter with a rifle which has poor factory sights and limited adjustment available. This rifle might be virtually impossible to zero down to a 1-inch black square; however, an instructor should never tell a shooter He is wasting time and can never shoot Rifleman with that rifle. Instead, the instructor should encourage this shooter to concentrate on perfecting the fundamentals. Shooters should be encouraged to do the best they can with the equipment available to them.

The Instructor must be proactive on the line. There are many things an Instructor can easily point out just by observing the shooters without having to even look at their targets. Among these are the following:

- Trigger issues – these can be some of the most challenging to cure;
- Trigger knee issues when prone – place his knee higher;
- Sling issues – slipping, or improperly positioned.
- Flagrant NPOA issues – stand behind a shooter and see if his muzzle wanders erratically.
- Respiratory pause issues – Look at the shooter's back as it rises and falls to see if firing occurs at the end of an exhale or at random points in the breathing cycle.

Our goal is to teach the shooters to be self-sufficient – to make them aware of what they are doing and to begin learning to self-diagnose their problems.

Remember, a Rifleman persists! The following information is divided into four areas of concern: Position, The 6 Steps, NPOA Problems, and Mechanical Problems.

Position

Since **establishing** and **maintaining** the proper position is the basic building block of shooting, it is important to first rule out position error as a cause for not consistently hitting the target. If the shooter can't establish and maintain a proper position, all other aspects of placing rounds on target will be difficult if not impossible; however, it should also be kept in mind that some shooters simply are unable to achieve the positions properly because their bodies are not limber enough or because of other physical limitations.

Begin by observing the shooter's position. Evaluate and check off each of the steady hold factors in order. Use the steady hold factors as a checklist to evaluate the position. There are many steady hold factors that the positions share in common. The standing steady hold factors adds raising the butt stock to meet the cheek and not leaning the head over to meet the stock.

SHFs include:

- Orientation angle properly referenced to the target
- Support hand relaxed and open, loosely cradling the rifle
- Support elbow placed directly under the rifle (except for Sitting)
- Sling smooth across the back of the hand, high in the armpit, and is SNUG
- Support leg straight and in line with the spine (foot relaxed to one side, prone)
- Trigger knee pulled up high (prone)
- Trigger elbow firmly planted, (Both elbows on the forward side of the knees if sitting/chicken winged for standing)
- Trigger hand firm handshake grip, pulling buttstock into shoulder pocket
- Trigger finger exaggerated C-shape with space between finger and side of stock
- Turkey neck stretched forward in a turkey neck
- Cheek weld - cheek dropped on stock in a good cheek weld with the full weight of the head on the stock

As an Instructor, you need to know the SHFs cold. Knowing the SHFs will allow you to quickly find and correct any problems with the shooter's position.

For instance: A shooter complains of diagonal shot stringing. Begin by asking yourself, which improper SHF could cause the problem?

- Would not having the hand open and the rifle resting on the palm cause this?
  - Doubtful!
- How about the elbow not under the rifle?
  - Absolutely! Check and correct this.
- How about improper sling use?
  - Maybe, but this is not likely; however, make sure the sling is correct.
- Legs?
  - No!
- Trigger elbow?
  - No!
- Trigger hand or finger?
  - No!
- Turkey neck and cheek weld?
  - No!

Continue checking the steady hold factors and apply this logic until you have one or more possible solutions to offer. Explain the correction to the shooter and watch that he actually implements the necessary correction. Then move on to the next shooter starting the process over. You must continually reevaluate each shooter for the correct steady hold factors.

Other items to be concerned with are turkey neck and cheek weld, particularly as it relates to shooters using scopes. Often, scopes are mounted too far back and are too high on the rifle for a shooter to properly obtain a good turkey neck and cheek weld. This results in the shooter trying to contort his neck into positions which quickly result in strain and pain. This will prevent him from shooting well, or for extended periods of time. This challenge can be alleviated, to some extent at least, by building up the comb of the rifle with pipe insulation and tape, and by moving the scope as far forward as possible. This will aid the shooter in obtaining a much better NPOA.

Remember again that our goal is to instill self-sufficiency, to train the shooters to THINK for themselves.

The 6 Steps

Next, we will reference either FIRING LINE ERRORS, or TARGET LINE ERRORS, and use 6 Steps of Firing the Shot to diagnose problems. Once you are certain that the shooter's position is correct, begin to look for other errors.

Based on your observations at the target line or from a shooter's specific complaint you should be able to quickly determine one or more possible causes to the problem and apply corrections. Or better yet, you should be able to get the shooter to quickly determine for himself one or more possible causes. Ask the shooter if he has any possible answers to the problem.

Begin by asking yourself; following the order of the 6 Steps of Firing the Shot, which step of firing the shot, would cause the problem you see?

For instance: A shooter displays constant horizontal stringing.

- Ask yourself if Sight Alignment would cause this?
    - Not likely.
- How about Sight Picture?
    - Again, not likely.
- Respiratory Pause?
    - No, that would likely show up as vertical stringing, right?
- 4a. Focus Your Eye on the Front Sight (Or Reticle)?
    - No, not likely.
- 4b. Focus Your Mind on Keeping the Front Sight on the Target?
    - No, not likely.
- Squeeze the Trigger

    - Yes! Maybe the shooter is jerking the trigger or squeezing it back at an angle. Watch the trigger finger on the next shot. This could also be caused by the shooter having his hand too far back on the stock, causing his finger to meet the trigger at a steep angle, thus causing him to squeeze the trigger back at an angle.
- Another possible solution would be that the shooter's support arm is not relaxed.
    - This would be an NPOA problem and not a 6 Steps problem.
- Follow-through?
    - This could be another possible culprit. The shooter could be releasing the trigger too quickly?

Another example: A shooter regularly places a nice tight group in the square. Then his groups begin to open up, but remain centered on the square.

- Would Step 1, Sight Alignment, do that?
    - No, the group was still centered on the square.
- Step 2, Sight Picture?
    - Not likely for the same reason.
- Step 3, Respiratory Pause?
    - No, for the same reason.
- Step 4a, Focus Your Eye on the Front Sight?
    - YES! Remind the shooter to focus his EYE on the front sight. Remember, the 6 Steps of Firing the Shot constitute a skill set that must be learned and reinforced until they are second nature, and each and every one must be done – and done right in order to fire an accurate shot.
- Step 4b, Focus Your Mind on Keeping the Front Sight on the Target?
    - Not likely, since the group is still centered.
- Step 5, Squeeze the Trigger?
    - No, same reason.
- Step 6, Follow Through?
    - No, not likely.

Remember that using 6 Steps of Firing the Shot in a logical sequence is another tool that helps to analyze and correct shooter errors.

You should always be on the lookout for the signs of **flinch, buck, or jerk.** Large groups with no appreciable decrease in size as they go along could be a flinch, buck, or jerk problem, depending on its magnitude. These same mistakes could also manifest themselves as diagonal stringing.

Different types of target strings bring on even more problems involving NPOA.

NPOA Problems

Natural point of aim challenges plague many shooters throughout an event and can lead to many problems. An instructor can easily diagnose a shooter who is having a severe NPOA problem by simply standing behind him. Such a shooter's muzzle will be in constant motion and his rounds on target will be scattered wildly.

One common NPOA challenge results when shooters fail to totally relax their support arm. This failure results in horizontal stringing and is, therefore, relatively easy to diagnose. Instructors should ask such shooters if they are making this mistake.

Some shooters can achieve a good NPOA, but lose it when changing magazines or making NPOA shifts. These can be fairly easy diagnoses to make by simply looking at the shooter's targets and observing that their groups become larger during these times. For example, on Stage 2 of the AQT, the shooter may have two rounds close together on the first target while the remaining three rounds are more scattered. Also, on Stages 2, 3, and 4, the rounds on the first target may form a good group, while the groups on the subsequent silhouettes are larger.

Nonetheless, sometimes when everything looks good the shots still fall where they aren't supposed to. Frequently this phenomenon occurs when a shooter who has been shooting well finds that his accuracy begins to deteriorate. He could be getting tired, but more likely, mechanical problems have developed.

Mechanical Problems

After exhausting the Position, 6 Steps of Firing the Shot, and NPOA Problems as issues, you may want to start thinking about problems with the rifle itself. This is especially true if shot groups begin to rapidly and suddenly get bigger. Appleseed events have a way of bringing out problems caused by wear, tear, and inattention to maintenance, especially after an extended shooting period. Mechanical difficulties should immediately be suspected when a shooter has been shooting well and his accuracy rapidly begins to decline.

The most likely offender is a scopes or other sight which came loose. Other screws can loosen as well, and these are easy items to check. Perhaps the easiest thing to check is whether the action has become loose in the stock. This would indicate that the action screw has become loose. Care must be exercised when this occurs on Marlin 795 rifles because the screw that controls this is in the trigger guard. If this screw is adjusted too tightly, the plastic trigger guard will break. Other items which are easy to examine are front and rear sights or scope bases which may have worked loose. Anything that should be immobile and is now moving with each shot is bad news. Closely inspect the rifle and secure anything that is loose or out of place, and this inspection should be performed regularly, but especially late Saturday and Sunday in order to prevent such difficulties. Moreover, the rifles should be inspected immediately if shot groups begin to unexpectedly enlarge.

Example: The shooter has been shooting well all day, and then suddenly the shots go crazy vertically. Check the rear sight for looseness.

Sudden horizontal excursions mean you may need to check the front sight for looseness. Ask the shooter, or other instructors, what to look for if you are unfamiliar with a particular rifle. Another example: The shooter begins the string on target, but as the shots progress the rounds hit lower and lower.

- Forward hand?
    - No, not unless it slips forward with recoil which could indeed happen.
- Elbow?
    - No
- Sling?
    - Yes. Is the shooter using a hasty sling? Is it loose and sliding down the arm with each shot? Is the shooter using a loop sling? It could be slipping down too, perhaps because his shirt sleeve has moved down or his shirt sleeve may be slick. Or perhaps he is using the wrong loop. Maybe the G.I. locking cam is loose enough to allow the sling to loosen with each shot? Also, rear sights on an M1 or M1A can become loose.

The techniques described above can be applied either on the **firing line** or when diagnosing errors at the **target line**.

Conclusion

An instructor who has good knowledge of the steady hold factors, 6 Steps of Firing the Shot, and NPOA can rely on that knowledge to help diagnose shooter errors. Having a logical plan to diagnose errors will quickly lead to one or more likely causes. A little practice will greatly improve your skills as an instructor.

In fact, with some dedication and experience you will be able to simply look at a shooter, or his target, and quickly determine 1, or at least a few, reasons for a shooter's issues without having to sift through the many possibilities discussed in the examples above. This is a characteristic of a truly efficient instructor.

Nevertheless, always allow the shooter to try self-diagnosis. After all, the next time he goes to the range you will probably not be there to serve as his personal coach.

- Check Position (steady hold factors)
- Check The 6 Steps
- Check for NPOA Problems
- Check for Mechanical Problems

Chapter 22: Known Distance at a 25m Event

Preface

Every Appleseed weekend shall provide a simple Known Distance lesson even if it is impossible to shoot at ranges beyond 25 m. This lesson should cover the Three Challenges of a Rifleman. Target Detection, Range Estimation and Making the Shot (including trajectory, come-ups, battlesight zero, and wind) are the minimum topics to include. If the range has the capability to shoot further than 25m, the Shoot Boss should make every effort to afford selected shooters the opportunity to use their skills at longer distances.

Much of the material presented here should be included in a regular 2-day Appleseed event, probably at lunch Sunday; however, some of the material should not be covered. This additional materiel is included here for the benefit of instructors since it may be of some interest to them, and it will enable them to answer shooter questions when they arise. The sections which may not be suitable for presentation have been foot noted or placed inside boxes as "instructor notes." As lengthy as the written material appears here, experience has shown most of it can be presented orally and with a white board in a very reasonable period of time (30-35 minutes), and some of the material can be asked of the shooters for an exercise in TPI.

Care has been taken to be as accurate in this presentation as possible; however, in some instances reasonable approximations were made for simplicity in presenting the material to shooters. But these approximations were still within the limits imposed by the trajectories of different rifles firing different ammunition. This means that the approximations should still get the bullets on paper so that data could be obtained, analyzed, and written down for future use with individual rifles.

It would be a good idea to suggest that our shooters take notes during this block of instruction.

Rifleman's Quarter Mile

A Rifleman should be able to shoot 4 MOA with a stock rifle and ammunition, using only a sling. At either 25 yards, or meters, this means being able to place all his rounds in a 1-inch square. Let's continue this concept out to larger distances. You should remember that 1 MOA at 100 yards is represented by 1 inch, and shooting 4 MOA means hitting a 4-inch square at that distance. At 200 yards, 1 MOA is represented by 2 inches, and shooting 4 MOA means hitting an 8-inch square. Likewise, at 300 yards, 1 MOA is represented by 3 inches, and shooting 4 MOA means hitting a 12-inch square. At 400 yards, 1 MOA is represented by 4 inches, and shooting 4 MOA means hitting a 16-inch square. At 500 yards, 1 MOA is represented by 5 inches, and shooting 4 MOA means consistently hitting a 20-inch square.

Twenty inches is typically used to represent the width of a man-sized object. Therefore, being able to shoot 4 MOA means that a Rifleman can control everything within 500 yards, and this is called the Rifleman's quarter mile. Furthermore, this tells you that if you can place all your

rounds into a 1-inch square at 25 meters, then you could hit a man size object at 500 yards. This is the definition of a Rifleman.

Three Challenges of a Rifleman

Working within that Quarter Mile, a Rifleman has Three Challenges: (1) Target Detection, (2) Range Estimation, and (3) Making the Shot. The latter constitutes the bulk of the material presented at an Appleseed, and it is the easiest of the three. Target Detection is the most challenging of the three, especially in some military situations; however, in hunting situations it is absolutely critical that targets be identified with certainty. Otherwise, devastating situations can occur.

Target Detection

When discussing the First Challenge of a Rifleman, Target Detection, give a brief overview of the topic. At most, this should take about five minutes. Be precise in your terminology – this instruction is entitled Target Detection, not Target Identification. They are not the same. Target Detection is the process of seeking out a target. Target Identification is the judgement call deciding if an object is or is not a valid target.

A SB has discretion about what to cover and how much, so long as he doesn't into modern tactics. It's important to remember Project Appleseed doesn't teach modern tactics or snipers. Hunting analogies are pretty safe.

The structure of Target Detection is straightforward: Introduction, Target Indicators, Scanning Methods, and a Conclusion.

In the Introduction, frame the topic, touching on the what, why, and how.

When teaching Target Indicators, cover visual and auditory. With visual target indicators, include moving targets as it reinforces the idea of Minutes of Angle.

There are three scanning methods: Hasty Scanning, Deliberate Scanning, and Detailed Scanning. Briefly describe them.

Finally, conclude the lesson with a smooth transition to Range Estimation. Like any other part of KD at a 25m event, if the shooters are really enjoying the instruction, an Instructor can stretch it out a bit but beware of the dreaded Time Monkey.

Target Detection Example

The First Challenge of a Rifleman is Target Detection, so let's talk about that for a moment. Target Detection is the most challenging of the Three Challenges of a Rifleman. It's a task not practiced very often.

The most important reason for a Rifleman to be able to effectively detect targets is because he is responsible for every round that leaves his barrel. When he squeezes the trigger, he must be

absolutely sure of his target.

It sounds obvious, but you're not likely to hit a target you can't see. When it comes to seeing a target, you need to be able to see the target long enough for your brain to recognize it. Also, your brain must be able to visualize the target you're trying to detect. It's suggested we think smaller. Hunters in the woods will often look for parts of a deer rather than the whole deer silhouette.

Targets that don't want to be found often take advantage of shadows, which makes detection more challenging. On the other hand, people and animals are creatures of habit and often travel along predictable routes. For a Rifleman, *patience* is the key to successful Target Detection.

Most of our Target Detection will be visual, but there's more to it than just looking around. What are some of the visual indicators a Rifleman can use? Color, absolutely. Shape, that's a good one, too. There are things like shine, contrast, pattern, or even something that's changed or is missing. Going back to the deer example, a deer laying in an open field might press down grass we would expect to be standing up.

An astute observer might recognize there are very few straight lines or perfect circles in nature. These could also be visual indicators of a target.

Movement is yet another visual indicator. However, it's possible for an object to move too slow for us to detect. For the human eye to detect movement, an object must be moving at least 1 minute of angle per second. Let's think back to IMC. If a target is 400 yards away, how fast must it be moving for a Rifleman to detect the movement? That's right, at least 4 inches per second. Any slower and we'll miss it.

If a Rifleman is trying to detect movement, she looks in one area with her head very still. She focuses on one spot in the middle, being aware of movement within her field of view.
Noise is another possible indicator of a target, but it can be deceptive. It bounces around due to terrain and structures. Also, noise seems to travel further at night.

We've talked about what to look for, so let's talk about how to look. There are three methods to scan for targets. They are: Hasty Scanning, Deliberate Scanning, and Detailed Scanning. A Rifleman chooses his scanning method based on how much time he has to search for a target. Hasty scanning is quick, like its name implies. A Rifleman will scan for about a minute. He'll scan from close to far focusing around paths which are most likely to be used by the target. The drawback to this method is that it can be jerky and details get missed.

Deliberate scanning is longer than hasty. Think 3-5 minutes. It's the same as hasty, but using optics. Optics will force a Rifleman to slow down to avoid jerks and jumps that skip over details. Finally, there is detailed scanning. Detailed scanning has no time limit. The technique is to divide the search area into a grid. Scan each sector back & forth and then near to far. A

Rifleman will look for target indicators rather than the target itself.

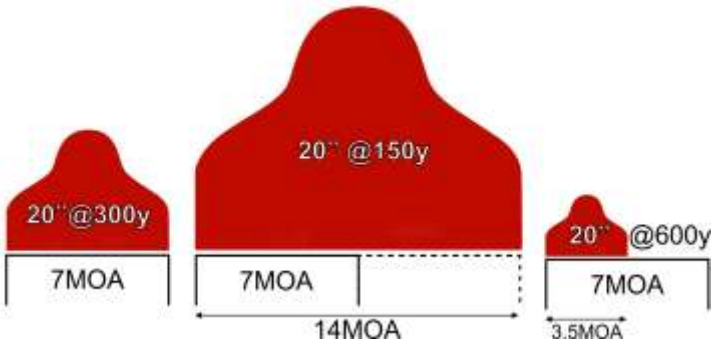
So, that's a quick overview of Target Detection. If you attend a Known Distance event, you'll get more detailed information and may have opportunity to practice this skill. It's challenging and a lot of fun.

Range Estimation

Range Estimation with Battle Sight Zero

The front sights on M14s and ARs are also designed around the 300-yard BSZ. The width of these sights is chosen to totally cover the width of a human sized object at 300 yards. A human sized object is assumed to be 20 inches wide, and since 1 MOA at 300 yards is represented by 3 inches, this object subtends approximately 7 MOA at 300 yards. Therefore, the front sight on these rifles typically subtends 7 MOA. Therefore, if 1 of these sights covers only ½ of a human sized target, the target must be 150 yards away, and if 1 of these sights appears twice as wide as a human sized target, the target must be 600 yards away.

Figure 18. Range Estimation (Simplified Diagram)



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For completeness it should be said that the actual width of the front sight, in terms of MOA, depends on the actual width of the front sight and its distance from the rifleman's eye, which means that it may depend upon the length of the barrel and the location of the shooter's cheek weld. As a result, its width may be in the range of 7.5 to 8 MOA, or even larger.

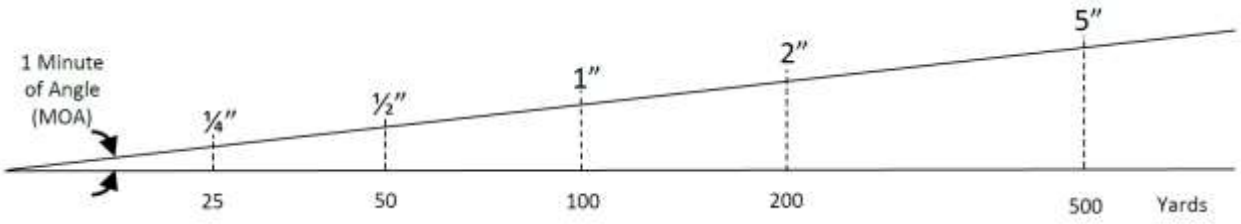
Range Estimation in General

The concept of range finding can be made clear by thinking back to an Inches – Minutes - Clicks presentation. Draw an exaggerated 1 MOA extending back to 100, 200, 300, yards, etc. (see Figure 16). Then draw the 1-inch, 2-inch, 3-inch lines, etc. between the angular lines at the successive distances. Then consider a 2 MOA diagram with the similar distances involved. We could even construct larger angle diagrams with the same purpose in mind. There are three

quantities of interest for each of the angles: (1) the angle, (2) the distance, and (3) the distance between the angular lines.

The distances between the angular lines are representative of the target, or any other object at the respective distances for that matter. What we see in the IMC discussion is that if we know the distance and the distance between the angular lines, we can determine the angle (i.e., the number of MOA involved). This means that if we know any two of the three quantities, we can determine the third. Therefore, if we know the size of the object involved and the angle which subtends this object, we can determine the distance to the object.

Figure 16. Minute of Angle at Distances



Suppose we consider the 1 MOA diagram. A moment's consideration will tell us that the object in terms of MOA (1 MOA here) is given by the following simple formula:

Object (in MOA) = Object (in inches) / Range (in hundreds of yards)

i.e., Object (in MOA) = 1 (in inches) / 1 (in hundreds of yards) = 1 MOA, or

Object (in MOA) = 2 (in inches) / 2 (in hundreds of yards) = 1 MOA

Furthermore, the formula will work for any of the MOA diagrams. For example, suppose a 4-inch object is observed at a distance of 100 yards. That object will then subtend an angle of 4 MOA.

Object (in MOA) = 4 (in inches) / 1 (in hundreds of yards) = 4 MOA

One way to determine the MOA of a front sight is to compare it to the size of the 1-inch square at 25 yards, and remember that the 1-inch square represents 4 MOA at this distance. If the sight is twice the width of this square, then the sight must subtend 8 MOA. The same thing can be done with a rifle scope. For example, the width from the center of the cross hairs to the thicker part of a duplex reticle can be compared to the 1-inch square; however, if this procedure is done, it must be kept in mind that the magnification of the scope must not be changed, at least for most scopes.

A better alternative exists for scopes. A ruler could be placed at 25 yards and observed through the scope. Then the number of inches on the ruler which is covered by the length from the

cross hairs to the thicker part of the duplex reticle can be determined, and therefore, the MOA encompassed by that length. It may even be advisable to adjust the magnification of the scope to encompass a desired MOA within that length. If the numbers on the ruler are difficult to determine, the ruler may be marked with clearly visible tape to indicate a certain number of inches.

Once the MOA subtended by an object at an unknown distance is determined by using the front sight or the scope reticle, the distance to the object may be found by simply rearranging the terms in the preceding equation to give the Range.

Range (in hundreds of yards) = Object (in inches) / Object (in MOA)

For example, suppose we observe a 21-inch object and it subtends an angle of 7 MOA. Its distance will be given by

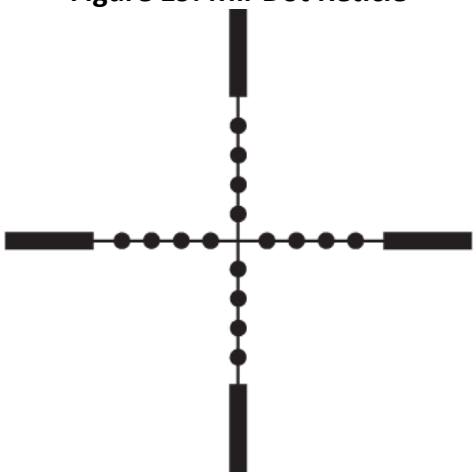
Range (in hundreds of yards) = 21 (inches) / 7 (MOA) = 3 (hundred yards) or 300 yards

This is obviously a very simple way to determine the distance, provided we have an object of known size at the distance involved.

Mil-Dots[3]

Some shooters use mil dot scopes. These scopes consist of dots placed on the vertical and horizontal cross hairs at an angular distance of 1 mil apart.

Figure 19. Mil-Dot Reticle



A mil is defined in terms of an angular measurement called a radian, which is approximately equal to 57°. A more accurate definition of a radian can be found by comparing it to the angle circumscribed by a complete circle: 360° = 2 π radians, or

$$1 \text{ radian} = 360°/2\pi$$

And 1 mil is defined as 1 milliradian, which is $^{1}/_{1,000}$ of a radian, and incidentally, 1 mil will subtend a distance of 1 yard at a distance of 1,000 yards. Therefore, 1 mil will subtend a distance of 3.6 inches at 100 yards. Thus, it would appear that 1 mil would equal 3.6 MOA; however, this would assume that 1 MOA subtends 1 inch at 100 yards, which is a good approximation, but not quite true. A

[3] Material not suited for presentation at a 25m Appleseed event, but useful to know if you have a shooter with an MRAD scope.

better approximation is that 1 MOA subtends 1.047 inches at 100 yards. This may seem like a small difference, and it is, but the result is that actually

$$1 \text{ mil} = 3.44 \text{ MOA}$$

A simple formula for determining the Range of an object using this type of scope (see Figure 19) is given below.

$$\text{Range (in yards)} = \text{Object (in yards)} \times 1{,}000 / \text{Object (in mils)}$$

where Object (in mils) is the number of mils which the object occupies in the scope. This equation could also be expressed in any other distance units such as meters. This means that the Object, and therefore, the Range, could be expressed in meters instead of yards.

If a shooter has a calculator, it is a rather simple task to make these calculations for Range in the field. As an example, consider that a 6-foot (i.e., 2 yards) object is observed to occupy 5 mils in the scope.

The range would then be given by

$$\text{Range (in yards)} = (2 \text{ yards} \times 1{,}000) / 5 \text{ mils} = 400 \text{ yards}$$

It must be pointed out that for most scopes the use of mil dots in the fashion we have used them will only work properly at only one magnification. Often, this magnification is the maximum for the scope, but this must be confirmed by the shooter.

There are other less quantitative methods of estimating distances, such as trying to envision the number of football fields between the shooter and the target. If objects of known distance are in the field of view, that also simplifies the task.

Making the Shot

Making the Shot includes, at a minimum, trajectory, come-ups, battle sight zero, and environmental effects.

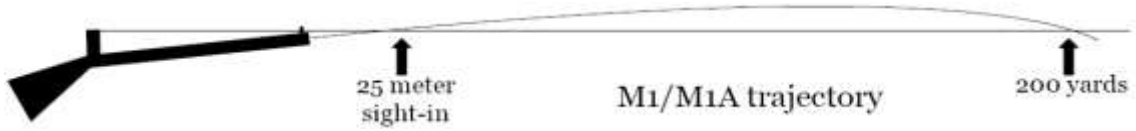
Trajectory

Consider two balls rolling along a flat table top which is located on a flat floor. One ball is rolling very slowly and falls off the table almost vertically, while the other is rolling very quickly and lands on the floor at a considerable distance from the table. Assume that they both leave the table at the same instant. As they leave the table, gravity will act on each of them in an identical manner. This means that they will both strike the floor at the same instant. A bullet fired from a perfectly horizontal rifle barrel will behave in very similar manner. A rock dropped from the same height as the barrel at exactly the same instant the bullet leaves the barrel will strike level ground at essentially the same instant that the bullet does.

Therefore, if a bullet is to strike a target at the same horizontal level as the muzzle of the barrel, the barrel must be tilted upward. Indeed, the same phenomena can be observed easily by throwing a ball to a companion at such a velocity that the ball follows a path which rises and falls in a parabolic path. Since the ball will be traveling at a slow speed, it won't be affected by air resistance; however, by virtue of its high speed, the bullet will be affected by air resistance. Therefore, it will slow down in its path and will depart somewhat from true parabolic motion. It should be emphasized that even though the bullet is traveling upwards, it is still acted upon by gravity in the same manner as everything else. Therefore, it will begin falling the moment it leaves the barrel due to this effect. This means it will be falling away from its initial straight-line path which it had in the barrel. Perhaps it should be mentioned that other forces will also be acting on the bullet. Some of these will be mentioned later, but they will, for the most part, not be pertinent for the relatively elementary discussion presented here.

You have begun the Appleseed by firing at a target which is 25 meters distant. Let's assume you are firing a .30 caliber M14. The bullet will continue on a near parabolic path and strike a target 200 yards away at the same level as the target at 25 meters. This means that the rifle barrel had to be tilted upward slightly and the bullet was rising as it struck the 25-meter target and falling as it struck the 200-yard target (see Figure 17). In other words, if the rifle is zeroed at 25 meters, it will also be zeroed at 200 yards. This is a very good approximation, but would have to be confirmed for each rifle and choice of ammunition. Similarly, if an AR .223 rifle is used, and is zeroed at 25 meters; it would also be zeroed at 300 yards, at least to a very good approximation.

Figure 17. .30 Caliber Rifle Trajectories



This means that if you zero your M14 at 25 meters, you should be able to go to a 200-yard range and hit a target there without changing your sights or your sight picture. The same would hold true for an AR .223 at a 300-yard range. At least this procedure should get you on paper, and an application of IMC can be used for more precision targeting. It should be noted that the 200-yard and 300-yard ranges cited above are not solely due to the intrinsic trajectories of the bullets involved, but are mainly due to the typical heights of the sights of these rifles above their bores.

Instructor Note: It should be noted that while the rear sights on M1 rifles are indicated in yards, M14s and ARs are indicated in meters. When sighting in an AR at 25 meters, the rear sight should be set on 300 and vertical adjustments should be made on the front sight. For sighting in M1s and M14s, the rear sight should be set from 8 to 12 clicks from the very bottom. When the sighting in process is confirmed at 200 yards or meters, the screw on the left side of the rear sight can be loosened and the drum rotated to the proper setting, which should, incidentally be 2, and then the screw may be retightened. Caution should be used in this process, and additional material consulted, before attempting it. The rear sights of AK's are indicated in meters and should be set on 200 when sighting in at 25 meters.

Come-Ups

The come-ups listed in Table 3 are approximate. They should get you on paper but may need to be fine-tuned for any particular rifle. Once determined, they should be written down and attached to the rifle being used. But for the discussions used here, these values will be assumed to be factual. Distances are in yards, and come-ups are in MOA.

Table 4. Come-Ups

Ranges	M14	AR	M1	AK-47
100 > 200	3	2	2	3
200 > 300	3	2	3	5
300 > 400	3	3	4	6
400 > 500	4	4	4	8
500 > 600	5	5	4	*
For almost any common center fire rifle cartridges, the values for the M14 won't lead you too far astray.				

If a M14 is zeroed at 25 yards, it will also be approximately zeroed at 200 yards. Therefore, assume your rifle is zeroed in this fashion. Now consider what would happen if you fired at a target 100 yards away without changing your sights. From the chart, notice that in going from 200 to 100 yards, a change of 3 MOA is required. Therefore, you would strike the 100-yard target 3 MOA high (at 100 yards, 1 MOA is represented by 1 inch). Therefore, you would strike the target 3 inches high.

Battle Sight Zero

In combat situations, the military has found it convenient to set their rifle sights at 300 yards and call this setting the BSZ. This is advantageous because it allows them to aim precisely at a target anywhere from 0 to 300 yards away and not miss their target by much more than a few inches vertically, a fact which we will demonstrate with the Come-Ups for the AR.

With our sights set at BSZ, 300 yards, assume we wish to fire at a target 200 yards away. Notice from the Come-Ups table (Table 3) that as you go from 300 to 200 yards, 2 MOA are involved.

Since 1 MOA at 200 yards is represented by 2 inches, 2 MOA is represented by 4 inches (see Chapter 16). Therefore, the target would be struck 4 inches high. Now if you wish to fire at a target 100 yards away, notice from the Come-Ups table (see Table 3) that in going from 300 to 100 yards, 4 MOA are involved, and since 1 MOA at 100 yards is represented by 1 inch, 4 MOA would be represented by 4 inches. Therefore, the target in this case would be struck 4 inches high also. Now if we proceed out to a target at 400 yards, we see that 3 MOA are involved. Since 1 MOA at 400 yards is represented by 4 inches, 3 MOA would be represented by 12 inches, and since the bullet would be falling past 300 yards, the target would be struck 12 inches low. This procedure could be carried out to greater distances.

It should be noted that the official BSZ for an M14 is 250 meters or 275 yards, however, 300 yards seems to be an excellent choice, as well as being a particularly easy BSZ to work with. If the calculations for an M14 with a BSZ of 300 yards are carried out as they were for an AR in the previous paragraph, the targets at 100 yards and 200 yards would both be struck 6 inches high and the 400-yard target would be struck 12 inches low.

Environmental Effects

The second part of Making the Shot is Environmental Effects. These effects are broken out in their own section for readability.

Wind Effects

A fairly simple estimation of the effect of wind on a bullet is given by the following statement. For every 10 miles per hour (mph) of wind, perpendicular to the bullet's path, the bullet will be deflected by 1 MOA per 100 yards in the direction of the wind. Thus at 200 yards, a 10-mph wind would cause a bullet to be deflected by 2 MOA, or 4 inches. At 400 yards, a 20-mph wind would cause a bullet to be deflected by 2 × 4 MOA, or 2 × 16 inches, or 32 inches. Again, this assumes the wind is striking the bullet path at a 90° angle.

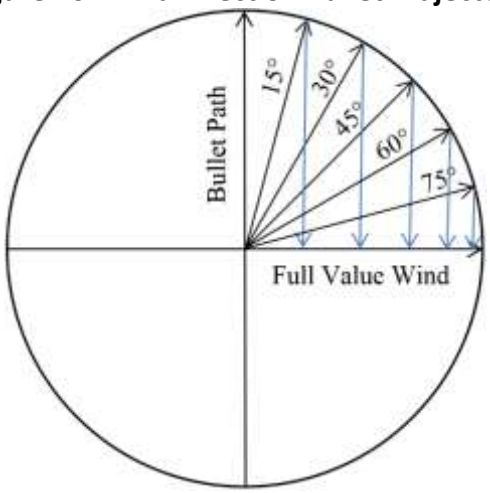
Wind Direction

A wind striking at 90° is called a "Full Value" wind. A wind striking the bullet path at an arbitrary angle will affect the bullet by a smaller amount, and this amount is usually stated in terms of the effect of a Full Value wind. Figure 19 illustrates these concepts.

The bullet path in the diagram is upward, or we can say "north" or perhaps 12 o'clock if we consider a clock face. A Full Value wind is 90° to this, toward the east in the diagram, or toward 3 o'clock on a clock face.

Now consider a wind directed 30° east of north, or toward 1 o'clock on a watch face. A perpendicular line has been dropped to the horizontal line depicting Full Value, and it is seen that it intersects this line at its half-way point. This means that a wind at 30° to the bullet path would only affect the path by ½ the amount of a Full Value wind; or we could say that a 30° wind (a 1 o'clock wind) is only a 0.5 (or Half) Value wind.

Figure 20. Wind Effect on Bullet Trajectory



The other illustrated wind direction is directed at 45° east of north. The perpendicular line dropped to the horizontal intersects the Full Value line at 0.7 of its length. Therefore, a wind at 45° to the bullet path will affect the path by 0.7 times that of a Full Value wind. If you are of a mathematical bent, you may recognize that 0.5 is the sine of 30° and 0.7 is the sine of 45°. Therefore, if you can estimate the angle of the wind with respect to the bullet path, and have a calculator with you, you can simply find the sine of that angle to give you the wind Value.

It should be noted that winds blowing in the exact opposite directions of the those shown would have the same effects on the bullet that as shown, except that the deflection would be to the west instead of the east (i.e., opposite direction). Furthermore, winds in the same, or opposite directions to the bullet path, would not deflect the path at all.

There is a range of angles around each of these particular angles where the wind effect would be so similar to those stated, that little difference would be observed. The deflection will depend somewhat on the caliber and weight of the bullet, but not as much as might be expected. For example, a .308 would not be deflected quite as much as indicated above and a .223 would be deflected a little more. Tables exist for deflections of different calibers and different weight bullets, but they will demonstrate that there is not as much difference as might be expected.

The above material assumes that the wind is constant over the entire path of the bullet. This is rarely the case. Varying terrain features on the range may influence wind speed, and often the wind will be different at different heights above ground level. Wind at higher elevations is generally stronger than wind at ground level. The wind may even be blowing in different directions at different distances on the range. For these reasons, the effects of wind can be very challenging to determine.

Perhaps it is appropriate at this stage to mention Fred's Simplified Wind Rule: *If you think the wind will make a difference, correct into the wind 3 MOA at 300 yards and 5 MOA at 500 yards.* From the discussion above it is easily seen that the assumptions made here are that a Full Value wind of 10 mph is blowing and that the corrections for smaller distances are negligible.

Wind Speed

There are a number of ways to estimate wind speed. Perhaps the easiest way is with an electronic wind meter. While some of these are rather expensive, some may be purchased at reasonable prices. It is suggested that you use a wind meter to determine how winds of different speeds feel on your face. It shouldn't take long for you to make fairly good estimates of wind speeds simply by their feel on your face.

However, these values will only give the wind speed at the location of the shooter, and not along the entire bullet path. A knowledgeable person can judge the wind speed at different distances by observing the wind's effect on grass or trees at these distances.

> **Instructor Note:** Another, more natural method, has to do with the effect of wind on different items. If you can feel the wind slightly on your face, it is about 3-5 miles per hour (mph). If it causes leaves to agitate continuously, it is about 5-8 mph. If it blows loose paper around, it is about 8-12 mph, and if small trees are swaying, it is about 12-15 mph.

There are still other methods which may prove useful. For example, you could drop a light object, such as a handful of grass and observe the angle, in degrees, it makes with the perpendicular as it falls to the ground. Dividing this angle by 4 will give the approximate speed of the wind in mph. Similarly, flags may be located on the range at different locations. Dividing their angles with respect to perpendicular by 4 will also approximate the wind speed in mph. In such cases it is not unusual to notice that the wind may be blowing in different directions at different distances from the shooter. The best choice in these cases is to select the wind at the distance midway between the shooter and the target.

Instructor Note: Measurements associated with various game animals are summarized below. These consist of imaginary squares on the sides of the animals, measured from the top of the back-to-chest and front-chest to back-of-ribs. These are approximate field measurements since every animal is different. The point of aim should be centered in the middle of this square.

Animal	**Approximate Size**
Coues Deer, Blackbuck, Pronghorn, Javelina Boar, Coyote	12-14 inches
Axis Deer, Whitetail Deer, Wolf	14-16 inches
Mountain Lion, Dall Sheep, Mule Deer	13-17 inches
Big Horn Sheep, Stone Sheep, Mountain Goat, Caribou	18-20 inches
Rocky Mountain, Roosevelt Elk, Black Bear	20-24 inches
Brown, Grizzly and Polar Bear	30-38 inches
Moose, Eland, Cape Buffalo	30-36 inches
Bison Buffalo	36-40 inches
Tule Elk	18-22 inches

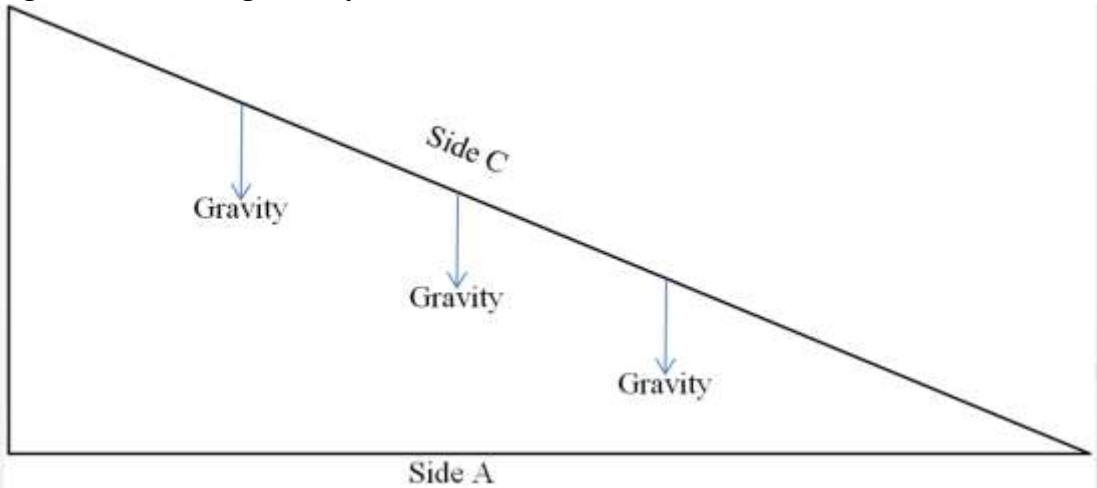
This imaginary square, however, can also serve another useful purpose. It can be used as an object to determine the distance to the animal as described in the previous section on Range Estimation.

Shooting Uphill or Downhill

This is a topic which should not really be a concern in Appleseed since it is negligible unless long distances and steep angles are involved. Nevertheless, some Appleseeders express some concern over it. The rigorous treatment of the topic is highly involved and has no place here. The explanation below is an approximation; however, it does give a fairly accurate treatment to the problem and can be used without much concern except for extremely precise shooting.

The diagram below (see Figure 21) is used to illustrate that you may be shooting at a target uphill at an angle above horizontal. The actual range to the target would be the length of uphill slope (Side “C”). Gravity would naturally be acting on the bullet, and gravity acts straight downward, perpendicular to the horizontal (Side A), not perpendicular to the slope (Side “C”). Therefore, gravity would only be acting over the horizontal portion of the trip (Side A), not the length of the slope (Side “C”). This means that your sights should be set for the shorter distance along the horizontal portion (Side A), not for the longer distance along the slope (Side “C”).

Figure 21. Shooting on Slopes



If you have measured the longer distance, (Side "C") and can estimate the angle of the slope, and have a calculator with you, you can multiply the longer distance by the cosine of the angle to obtain the horizontal distance. If this is not the case, you may have to keep your sights set for the longer distance and aim below the target by an estimated amount.

If you are shooting downhill instead of uphill, exactly the same procedure would be followed. This means that your sights should again be set for the horizontal distance, as calculated above, not the slope distance. Or that you could again aim below the target by an estimated amount, and this amount would be negligible for the relatively small angles which a rifleman would typically encounter.

Instructor Note: Spin Drift Effect
Spin Drift effect is another item which shouldn't concern Appleseeders, but it is an interesting topic which is mentioned on television shooting shows sometimes without any explanation. Rifles have rifling within the barrel which serves the purpose of gyroscopically stabilizing the bullet after it leaves the barrel. This rifling is designed such that the bullets will have a clockwise rotation, as observed by the shooter.

After leaving the barrel, a short time is required before the bullet actually achieves stability, but once stability is achieved, the bullet will be pointing slightly to the right and upward. As a result, the air will be pushing it slightly to the right. The amount will depend on characteristics of the bullet but it is generally fairly small. This phenomenon could be a concern because it has nothing to do with wind effects, as discussed above, but could be mistaken for wind effects in the field.

Temperature

There is another aspect of temperature which should be mentioned. Some gun powders are more sensitive to temperatures than others. As a result, the trajectories may be dependent on the powder selected by reloaders. Purchased ammunition should be tested at different temperatures. Generally, the higher the temperature of the powder, the higher the velocity of the bullet will be. One method to achieve this is to set the cartridges out in the sun before firing, if desired.

Instructor Note: Coriolis Force / Coriolis Effect

This is another topic which is included mostly to satisfy curiosity. Snipers on television occasionally refer to it as something that must be taken into account. It is really a fictitious force which is attributable to the rotation of the earth. The result is that any object which is projected over a large distance in the northern hemisphere will be deflected to the right, no matter what its original direction was.

In other contexts, it manifests itself in the direction of rotation of wind currents in high- and low-pressure atmospheric regions and in tornados. It must be taken into account when firing long range artillery or ballistic missiles. The calculations associated with it are complicated. Furthermore, the projectile's trajectory depends upon its point of origin and its initial direction, and the magnitude of the projectile's deflection for the relatively short range of any rifle is very small.

Therefore, serious doubts exist about the ability of any rifleman to use it effectively. Further evidence is found for this statement in the May 2012 issue of the American Rifleman in an article on some top military snipers. It essentially states that at extended ranges a sniper must not expect single round hits. A number of rounds could be required and misses aren't recorded.

Air Density

The density of air will have an influence on the range of a rifle bullet. As the density increases, it will offer more resistance to the bullet's motion, thereby causing it to lose speed more rapidly.

Two factors influence the air's density: temperature and altitude. Cold air is denser than warm air, and furthermore, as altitude increases, the air becomes less dense. It could also be stated equivalently that the air density depends upon atmospheric pressure. Thus, sight changes are required as these factors change significantly. There are some rules of thumb associated with these changes, but they are not always reliable. Nevertheless, these rules will be given.

When the temperature changes by 20°, 1 MOA is required at 300 yards and 2 MOA are required at 1000 yards. When the altitude changes by 5,000 feet, a 1 MOA change is required. But this

really depends on distance, and on the bullet. Therefore, this is highly uncertain. Perhaps it should also be mentioned that humidity has little bearing on a bullet's flight.

Shooting KD at a 25m Event

Shooting beyond 25m builds confidence. It reinforces the concepts of IMC. It allows shooters to experience the effect of trajectory in their own shooting, which helps solidify the concepts we teach during our KD block.

Some ranges at a 2-day event will have a 100-yard range, or even a 200-yard range available. The better shooters at these events, especially those who earn their Rifleman Patches, should be encouraged to take advantage of these ranges. Most likely they will have .22s which are zeroed at 25 meters.

At the 100-yard range they should be advised to add 5 MOA of elevation to their sights. This should get them on target, although they may have to use IMC to zero their rifles at this range. The instructors should encourage them to solve this problem themselves, perhaps with questions, but to aid them if necessary. At 200 yards, they should be advised to increase their sights by an additional 14 MOA, and then to use IMC. Full Instructors (Red Hats) must be present on every range being used.

Revision History

Revision #	Revision Date	Revision Description
1.0 – 090509	September 5, 2009	• Document Creation
2.0 – 090909	September 9, 2009	• Updated Table of Contents • Updated "What Constitutes a Safe Rifle?" section • Added Revision Log
2.5 – 091509	September 15, 2009	• Modified Line Duties and Procedures Section • Updated Table of Contents • Modified Revision Log
3.0 – 011910	January 19, 2010	• Modified Appleseed Instructor Guidelines Section • Updated Table of Contents • Modified Manual Cover Page • Modified Revision Log
4.0 –0311	March, 2011	• Major revisions by DonD
4.5 – 050411	May 4, 2011	• Updated error on page 68 • Modified Revision Log
5.0 – 060811	June 8, 2011	• Multiple corrections on many pages • Modified Revision Log
6.0 – 091012	September 10, 2012	• Replaced PCs with new revision of PCs • Moved Revision log to last page • Modified Table of Contents • Modified revision log
7.0 – 022813	February 28, 2013	▪ Modified Manual Cover Page ▪ Updated Table of Contents ▪ Updated Preface ▪ Added Introduction ▪ Added Acknowledgments ▪ Moved and added List of Abbreviations ▪ Major revisions by DonD and DrRichP ▪ Replaced PCs with new revision of PCs ▪ Moved and Modified Revision log ▪ Added Appendices
7.1 - 053013	May 29, 2013	▪ Statement regarding Medical Emergencies added ▪ Protected AS terms denoted
7.2 - 082913	August 29, 2013	▪ Corrected an error in the RWVA treasurer's address ▪ Updated the LEO attendance verification certificate.

Revision #	Revision Date	Revision Description
8.0 - 04192019	April 19th, 2019	▪ Major revisions by DonD and Maximum Ordinate ▪ Updated Manual Cover Page ▪ Updated Project Appleseed logo ▪ Minor Updates to Guidelines ▪ Updated RWVA Accounting Support address ▪ Updated Handgun Carry Policy for Volunteers ▪ Updated Dry Fire Line Commands and Slings ▪ Addresses Safety during Transition Stage Reloads ▪ Updated Trigger Control Exercise Instructions ▪ Updated Crossed Ankle Description ▪ Minor Updates to Strikes 2 & 3 ▪ Updated Progress Checks ▪ Updated Sample Course of Fire ▪ Deleted Appendix 1: 25m Drill Targets ▪ Deleted Appendix 4: Appleseed™ Primer ▪ Modified Revision Log
8.1 - 07042019	June 14th, 2019	▪ Corrected typos identified by IOXYE (thanks!) ▪ New Address for Accounting Support (p.41) ▪ Fixed Crossed Ankles Description (p.61) ▪ Updated Alternative Standing Position (p.63) ▪ Corrected Description of Ball & Dummy with Witness Target (p.78)
8.2 - 11162019	November 16th, 2019	▪ New Address for Accounting Support (p.41) ▪ Updated version.
9 - 01012022	January 1st, 2022	▪ Significant editing for readability ▪ Reformatting the manual into Chapters for easier reference ▪ Corrected numbering error in AS Guidelines ▪ Updated Insurance Requirements ▪ Updated the Known Distance Description ▪ Clarified wear of Red Hat Gear ▪ Update for .17HMR & M&P 15/22 policy. Included the new consolidated waiver in an appendix. ▪ Updated NPOA steps to match the Guidebook to Rifle Marksmanship ▪ Improved IMC diagrams and added pro-tips for teaching IMC ▪ Clarified Shot Group Analysis sheet vs. current Guidebook to Rifle Marksmanship ▪ Updated prone SHFs to match the Guidebook to Rifle Marksmanship ▪ Reordered Known Distance material to be presented at a 25m event and added Target Detection subject matter
9.1 – 02142022	March 1st, 2022	▪ Instructor Progress Check update ▪ Corrected small errors on P42 and P46 ▪ Errata pages prepared

Appendix 1: .17 HMR & S&W 15/22 Waiver

RWVA Waiver of Liability for Use of the
Smith & Wesson M&P 15-22 Rifle/Pistol or Semi-Automatic HMR .17 Rifle

The Revolutionary War Veterans Association™ ("RWVA") and Project Appleseed® offers this waiver for students who wish attend a Project Appleseed marksmanship clinic and use a Smith & Wesson M&P 15-22 rifle/pistol or any semi-automatic .17HMR rifle for the clinic. These two models have had a history of mechanical failures resulting in injury.

By signing this waiver, I understand that using firearms can be inherently dangerous and I assume for myself all risk associated therewith and indemnify RWVA from liability for my use of such equipment, including reasonable attorney fees and costs. I acknowledge that others also will be using firearms at this event and I will exercise all due caution in my use, and follow all of the safety rules, regarding firearms.

I further understand that RWVA/Project Appleseed does not rent loaner rifles. Any loaner rifles are the personal property of RWVA/Project Appleseed volunteers and are offered gratuitously.

I attest that I am eighteen years of age or older (or that if I am younger, my parent or legal guardian has executed this waiver below and indemnifies RWVA from liability for use of such equipment by the minor, including reasonable attorney fees and costs.)

Please initial below:

_____ If I am using a semiautomatic rifle chambered in .17 HMR, I have been advised about potential safety issues. If I am using a Smith & Wesson M&P 15-22, I have complied with the remedy/action of the S&W Consumer Safety Alert (https://www.smith-wesson.com/mp15-22-consumer-safety-alert). By electing to use either rifle at this event, I assume all responsibility and liability for that decision.

_____ If I am using the M&P 15-22 rifle or pistol and a Bolt Inspection Gauge is available, I am willing to perform the inspection on my own firearm under the observation of an Appleseed Instructor. If my firearm fails the inspection, I understand it cannot be used at a Project Appleseed marksmanship clinic.

_____ If I am using either firearm specified above, I must be positioned on the far-right side of the firing line even if that means separating me from the group with which I am attending.

_____ If I am using either firearm specified above (and loaning rifles is legal in the state and locale of the event and are available), I have been offered, and have declined, a loaner rifle for use during this event.

_____ I shall immediately cease firing if I have a malfunction including but not limited to, an out of battery discharge, double fire, run-away fire, or any other malfunction of my firearm which may create an unsafe condition. I shall report the malfunction to a Project Appleseed Instructor before resuming firing.

_____ _____
Range Name, City, State Date

_____ _____
Name of Participant (Print) Name of Legal Guardian (if participant is a minor)

_____
Signature of Participant (or Legal Guardian if participant is a minor)

_____
Signature of Event Shoot Boss

Appendix 2: Certification of Attendance

Project Appleseed™

To Whom It May Concern:

This is to certify that _____ has completed a 2-day Appleseed precision rifle marksmanship clinic, consisting of ~18 hours of instruction time. These clinics are sanctioned by the Revolutionary War Veteran's Association, an affiliated organization of the congressionally chartered Civilian Marksmanship Program. Information on Project Appleseed may be found on our website: www.appleseedinfo.org. The extraordinary qualifications of the various levels of our instructors may be found there. These clinics have been taught expressly for deploying military units on three occasions, and some our instructors are active and retired military.

These clinics may be described as intensive, concentrated, and rigorous. Achievement is measured by performance on the Appleseed Qualification Test. Usually only a few shooters manage to achieve our coveted Rifleman's Badge by scoring Expert on this test at their first event. Typically, at least three events are required to attain this prestigious award.

In addition to our rifle instruction, we also present the history of the first day of the Revolutionary War, April 19, 1775. Our aim in this is to show the sacrifices made by ordinary citizens on this day in order to bequeath a legacy of liberty to us. We are attempting to make Americans better citizens by trying to persuade them to emulate those patriots' character and marksmanship.

The Revolutionary War Veterans Association is committed to renewing civic virtue - prioritizing civic responsibility over personal interests and indulgence. We are wholly comprised of volunteers who commit time, resources and passion toward achieving the RWVA mission. As a 501(c)3 organization, we promote civic responsibility through the teaching of colonial history and the American tradition of rifle marksmanship in a safe, non-partisan environment

_____ is to be commended for taking the initiative to attend this event in order to further enhance his professional skills.

Enclosed are additional materials which further describe our organization and activities.

I was the "Shoot Boss" for this event.

Sincerely,

_____

Project Appleseed Instructor & Range Safety Officer

Appendix 3: Shot Group Analysis

The most common errors in rifle shooting are caused by the shooter's failure to fire each shot "by the numbers". The aiming point on each target is the 'centers of mass. Shooter error is the focus, so weather effects are not considered. Likewise, rifle and ammo are assumed to be accurate, and the rifle zeroed. Where a right-handed shooter is assumed, a left-handed shooter will experience the reverse effect.

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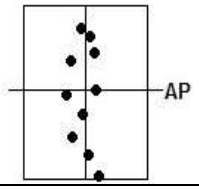
<td> 
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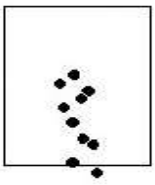
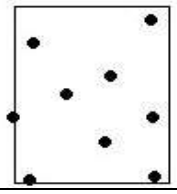
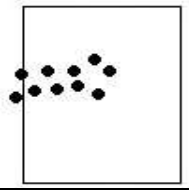
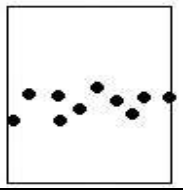
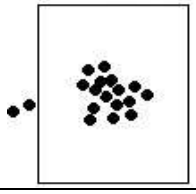
<td>  </td>
<td>  </td>
<td>  </td>
<td>  </td>
<td>  </td>
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<td>Probable Causes:
1. Failure to hold breath or erratic breathing while squeezing the trigger (i.e., filling the lungs to capacity for 1 shot, but breathing out or exhaling for the next shot).
2. Eye relief (spot weld) not held constant
3. Improper vertical alignment of sights
Solution: Place cheek on the same on the stock for each shot, be consistent in holding breath, and keep your sights aligned.</td>
<td rowspan="2">Probable Causes:
1. Sling becoming looser with each shot. The sling keeper is slipping, or the arm loop is otherwise loose allowing the sling to slip down the arm.
2. Loose rear sight
3. Too low a position
4. Change of position in rifle after reload
Solution: Make sure the keeper and loop are tight, the sling is the same place on the arm, and sling tension is uniform from shot to shot. Check the rear sight tension and retighten. Check fundamental of the position. Do "2 round" drill – load mag with one round, get in position, fire one round, change mags, and fire one round. Both rounds should be in one group.</td>
<td>Probable Causes:
1. No definite group: focusing aiming eye on target
2. Loose position.
3. Flinching, bucking, and jerking (improper trigger control) every shot.
4. Failure to keep eyes open when rifle fires.
5. Sight alignment/cheek weld not consistent.
Solution: Focus "Front Sight" not target. Review/practice position fundamentals; fire each shot by the numbers. Ball and Dummy Drill is essential for detecting and correcting #3 and #4</td>
<td>Probable Causes:
1. Finger passed too far into the trigger guard. When the rifle fires, the trigger moves back rapidly against the right side of the stock, causing the rifle and front sight to move left.
2. Squeezing the trigger on an angle, not straight back.
Solution: Place finger on the trigger so that daylight shows between finger and stock – usually, the first pad of the trigger finger will do it.</td>
<td>Probable Causes:
1. Canting the rifle
2. Front sight not in correct alignment with rear, but is displaced horizontally from shot to shot.
3. Loose front sights.
4. Muscling the rifle [incorrect NPOA]; loose position.
Solution: Keep sights and rifle vertical always align sights correctly. Check/tighten front sight. Check NPOA.</td>
<td>Probable Causes:
1. The two shots out of the group are caused by firing the first shot out of each rapid-fire mag at a slow fire cadence.
Solution: Fire ALL shots, including the first shot from each magazine, at the same cadence.</td>
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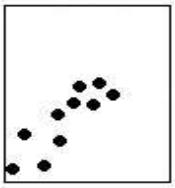
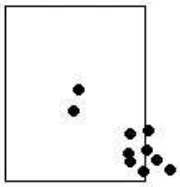
<td>  </td>
<td>  </td>
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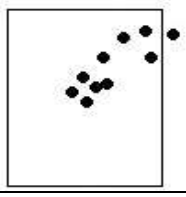
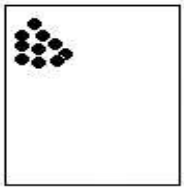
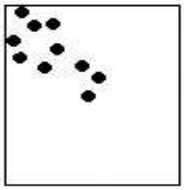
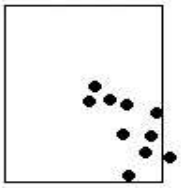
<td>Probable Causes:
1. "Bucking" – A slight push with the right shoulder on the butt in anticipation of the recoil will move the sights and the shot, in the 7:00-8:30 area. Effect is opposite for left-handed shooters,
Solution: Ball and Dummy drill to detect and correct. Feed the shooter dummy rounds or empty rifle until they quit flinching, bucking, or jerking the trigger –all revealed by muzzle motion when the hammer falls on a dummy or empty chamber. Once they settle down, feed them a couple of live rounds and then some more empties as a double check.</td>
<td rowspan="2"> 
Probable Causes:
1. "Heeling or "helping" the rifle in anticipation of the discharge. As the sear releases at the end of the squeeze, the palm or the heel of the hand is pushed forward slightly, causing the sights to go up and to the right. Effect is opposite for left-handed shooters (especially with M16/ M14E2 pistol grip stocks).
Solution: Ball & Dummy until problem corrected.</td>
<td> 
Probable Causes:
Compact group out of AP.
1. Same error each time, a left-handed shooter "heeling" each shot.
2. NPOA is not obtained, forcing the shooter to "muscle" the sights onto the target.
Solution: Check NPOA: Line the sights up on the target, close eyes, relax the body, deep breathe in, let it out, and open eyes. If the sights are now off the target, shift your weight slightly around the elbow under the forearm (prone) to bring the sights back on the target. Repeat the processes until you open your eyes and the sights are on target. Then anchor the elbow.</td>
<td> 
Probable Causes:
1. Failure to Follow Through; the shooter failed to hold the trigger back an instant after the shot and started to relax too soon. Releasing the trigger too soon allows the hand to move, which moves the sights.
Solution: Think the words Follow Through as you hold the trigger back an instant after the rifle discharges and you will solve the problem.</td>
<td> 
Probable Causes:
1. Jerking the trigger, not squeezing it, causing the front sight to dip to the right
2. "Flinching", shooter pulls right shoulder to rear in anticipation of the shot.
3. Left elbow not being under the rifle, right elbow slipping, loose sling (prone), or the left elbow is slipping (sitting).
4. Binding of the forearm with left hand.
Solution: On 1) and 2) above. Ball and Dummy training.</td>
<td>Probable Causes:
1. During the rapid-fire stages of the AQT; losing NPOA during mag changes. The shots from the second mag may be in any direction off the center.
2. Firing the first shot of each mag (assuming a mag change) at slow fire cadence, and balance at rapid clearance –
8 rounds will be at your rapid fire zero, and two rounds at your slow fire zero.
Solution: Never move the elbow under the rifle while changing mags. Once you get the NPOA, KEEP it! Fire each shot at your rapid-fire cadence.</td>
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Appendix 4: Sample Course of Fire

Course of Fire: Day 1

1. Administrative work. Chamber flags. T-shirts may be given to 2-day shooters.
   Welcome --- Introductions --- Explain IITs, Orange Hats, etc. Explain IITs are in training. They are all qualified Riflemen and are learning to become expert instructors. They may make mistakes, but if so, they will be corrected, and we hope you will understand.

2. No pistols are to be on the firing line (shooters) – instructors may carry if club approves.
   - Ask for any medically trained personnel.
   - Don't do anything that you think might endanger your health or well-being.
   - If you need to take a break before I call one, feel free to do so. I would not mind if you request that I take a break. Sometimes I forget to do so.
   - Be sure to take your appropriate medications.
   - Take any appropriate measures to deal with hot or cold weather.

3. Preamble and First Strike
   - The Second Strike will be given at noon and the Third Strike will be given in Mid-afternoon, followed by the Benediction.
   - **Description of Activities** _____
   - Most, perhaps all, of our shooting this weekend will be done at 25 meters. I do hope we can go to longer range. But, one thing that I want to impress upon you is that what works at 25 meters will also work at longer ranges. All that is necessary is to change your sights to account for the longer range. Instruction for this will be covered Sunday.
   - One of my main goals today is to get to our qualification test. It is the Appleseed Qualification Test, or AQT which is based on one the United States Army used previously. It is more challenging than the one the Army uses today.
   - We will begin by firing 13 rounds on a series of targets to determine your initial ability. After that it will be quite a while before we shoot again.
   - **I must assume that you came here to learn how to shoot, not to just shoot.**
   - You can shoot almost anytime you want. Instruction will be given, followed by practice using the instructions without the distraction of live fire. During live fire it is impossible to see some mistakes which need to be corrected. However, they will become very obvious during our instruction, and dry fire to practice that instruction. In addition, this will help break old habits and instill new, proper habits. That always takes time.
   - You will be taught the **three** ABSOLUTELY ESSENTIAL **ingredients of precision shooting**: Proper positions, the 6 Steps to Firing a Shot, and natural point of aim, or NPOA. Inaccuracies which occur when live firing begins will be the result of not employing these three ingredients. Therefore, the two days of this clinic will be concentrated on trying to perfect their use.
   - Some of you will experience challenges in assuming the positions properly. They will be uncomfortable at first. In fact, to properly achieve them with comfort will probably require some practice using them at home after the clinic. And partially because of this,

many of you will not achieve your expectations in shooting today. On the average, only about 10 per cent of shooters at an Appleseed are able to shoot what we call a Rifleman's score. It usually requires at least two or three Appleseeds for most people to accomplish this. So please don't get discouraged. You should learn a lot today. You should learn enough to know what it takes, and with further practice it will become easier. Much can be accomplished at home by dry firing. And that doesn't cost anything.

- Let me caution you about a couple of rules we will follow. We do not permit bipods, and you may not use your magazines as a monopod. The only monopod you may use is your elbow.
- **Tell shooters that RWVA memberships may be purchased on-line and discuss CMP slips.**
- **But please don't wait until the end of the second day to take care of these.**
- **Instructions for Guidebook to Rifle Marksmanship**
- **TUBE-FED RIFLES: Ask who has tube-fed rifles. Offer them loaner semi-automatic mag fed 22s. If they insist on using their rifles, we will give them instructions separately.**
- **Smith & Wesson M&P 15/22 and 17 CALIBER RIFLES: Ask if anyone has either of these rifles. If so, address the safety issues concerning these rifles separately with those shooters. Please see the waiver in Appendix A for procedures, including offering loaner rifles and what to do if the shooter insists on using their own rifle.**

4. **Safety Rules** _____
   - Additional emphasis on MUZZLE CONTROL! It is not too unusual for someone to have hot brass land on them. In some cases, it may be very hot and surprise you so much that you automatically try to find relief, but in the process your muzzle may stray and point directly at someone while the rifle is loaded and your finger on the trigger. Your FIRST reaction should be to ground the rifle so that the muzzle is in a SAFE direction! Then attend to the burn. Shooting someone will be several magnitudes worse than your burn could ever be!!! The same dangerous reaction could be caused by any number of things, such as a bee sting or an asteroid striking you from the sky. The FIRST thing you MUST do is think about your muzzle!!!
   - A continual violation of the safety rules cannot be tolerated. You may be asked to leave the line.
   - Specifically, talk to the children and their parents about how serious this is.

5. **Safe Rifles** (Clearing Rifles) _____
   - You have been given chamber flags. Look into the chamber and be absolutely certain that it is empty, then place the flag completely into the chamber.

6. P**arking lot observers**: _____
   And **line observers:** LB/RSOs/LSOs
   - We are preparing to go to the Firing Line in a moment. Please follow these instructions:
   - Bring rifles to the line after your mats are in place. The cased rifles should be brought and placed on the mat, keeping the muzzle in a safe direction. Then move the empty

case behind the equipment line. If the rifle is uncased, bring it to the line with muzzle up, mag out, bolt back, safety on and flag in the chamber.
- Place everything else, including ALL AMMUNITION and MAGAZINES, behind the equipment line. After you have cleared your rifle after shooting, take your used magazines, unused ammunition, and yourselves, behind the equipment line **quickly** while the instructors confirm that the rifles are in a safe condition. No ammunition should be on the firing line at any time, except what you will be using at the moment.
- No one should proceed downrange past the firing line until the rifles have been cleared and you are told to go downrange.
- Bring a pencil or pen to the firing line, and a staple gun, if you have one.
- Proceed to the Firing Line.

7. At the firing line: (Some of the following may be done before proceeding to the firing line.)
   - In order to address some possible safety concerns, it is important that all shooters on the firing line maintain a straight line, not a wavy one. In order to affect this, we will insist that all muzzles be extended PAST THE MARKED FIRING LINE at all times. However, no body parts, such as hands, should extend beyond this line. This procedure will be in effect during all preparations for shooting, and shooting, including transitions from standing to sitting or prone positions.
   - The reason for maintaining a straight line can be demonstrated imagining you are on a firing line and moving a faux rifle in arcs. Then take a step backward, and move it in arcs again.

   Line Commands (non-transitions) _____
   - THESE COMMANDS WILL BE ALTERED SLIGHTLY DURING THE TRANSITION STAGES. YOU WILL BE INFORMED OF THIS AT THE APPROPRIATE TIME.

8. Special instructions _____
   - Please do not talk to or seek help from the Line Boss until after he informs you that you may go down range. He has much on his mind concerning line safety and does not need distractions.
   - Also, please do not talk to or seek help from the **other instructors while they are clearing rifles after the Unload and Clear command**. It is their job to help you at any other time, and they will be glad to do so.
   - NOTE --- **FOR TUBE-FED RIFLES ONLY**: This will be explained to these shooters as a group, if necessary.
     - When the command, "SHOOTERS, YOUR PREPARATION PERIOD HAS ENDED", is given, you will, while sitting in the cross-legged position:
       - Place your safeties on
       - Insert your chamber flags
       - Prep your tubes with the appropriate number of rounds.
       - Lock the tube plunger.

- At the "LOAD" command remove the flag, insert a round in the chamber and take the safety off.

Ammunition Difficulties _____

- **NOTE:** There are some possible **AMMUNITION DIFFICULTIES** which are rare but could be dangerous, even deadly. Discuss actions required.
  - Misfires.
  - Hang fires.
  - Squibs.
- If a shot does not sound right or feel right, STOP IMMEDIATELY! Keep your muzzle downrange. Call an instructor and wait at least 30 seconds before doing anything else.
- Ask them to repeat the **Safety Rules** once more --- or continue until they get it right.
- On the firing line we will have much to learn and little time to do it. Please do what you have to do, but do not dally around targets or get involved in lengthy discussions. **Do things QUICKLY**.
- **Line up shooters (behind their shooting mats) with backers/numbers in front of them. Walk down to target line and post number on backers if needed.**
- **Post Hits Count Target (a.k.a. Redcoat)**. Tip: Place them low on the cardboard.

NOTICE: STAPLE YOUR TARGETS, NOT YOUR FINGERS!!!

9. **Explain Hits Count Targets**; Engage them with 13 rounds. Start with Morgan's Shingle and then work from largest to smallest silhouettes. Mark hits and put your name and date on the target (pull Hits Count Targets, post Squares Targets).

10. Check for **EYE DOMINANCE**
    - Form a small circle with your index finger and thumb and hold it at arm's length. Focus on a distant object through this circle. Close your left eye, then open it again and close your right eye. In one case, the object remained in the circle. In the other case, the object left the circle. Your dominant eye is the one in which the object remained in the circle. If this dominant eye is not on the side with which you shoot, you are cross-eye dominant and you will have trouble shooting if you use this eye for your shooting. If this is the case, we recommend that you put tape on your dominant eyeglass lens and use your non-dominant for shooting.
    - Shooters wearing progressive or no line bifocal lenses may have challenges with their scopes or sights. Just be advised that you may not shoot as well as you might expect because of this. The only remedy for this would be a consultation with your optometrist and a new set of eyeglasses.

11. **Sling use**: Hasty Hasty, Hasty, and Loop. _____
    - While a G. I. sling is preferable, since a loop sling can be made from it easily, all three of these slings can be used effectively. But if you are serious about rifles, you should definitely get a G. I. sling!

- Insist they get into the loop sling while SITTING, and explain how to do it safely. Sit cross-legged, facing 90 degrees to the target line with the butt under your trigger thigh, the rifle across your support thigh, the trigger facing you, with the muzzle continuously held down range.
- Once in the loop sling in the cross-legged positions, it is a simple matter to lie down on your support side and roll over into the prone position, using your trigger hand for support while doing so.
- It is almost useless to try to get into the Hasty Sling while in the prone position because a good triangle cannot be formed with the sling. If the Hasty Sling is to be used in the prone position, it is advisable to get into it from the standing position, or possibly the sitting positions, and then get into the prone positions while retaining a good triangle with the sling.

12. Give the first 3 of the 6 steps to firing every shot. Don't forget scopes.
    - Suggestion: For **iron sights** you may use either <u>center of target</u> or <u>6 O'clock hold</u>.
    - Demonstrate the *advantages* and *disadvantages* of both on an AQT using a prop for a front sight. For example, if you are shooting the same size targets consistently, the 6 O'clock hold is more accurate. On the other hand, if you are shooting different size targets quickly, sight adjustments for each target size will be required. This will probably be inconvenient. Therefore, the Center of Target hold is preferable for that case. Therefore, I suggest the COT hold for the AQTs. For **scopes**, use <u>center of target</u>. Furthermore, since a decent scope places the target and the reticle in the same plane, it is NOT necessary to focus only on the reticle.
    - After giving these steps, with the use of visual aids, you can say… I know what you're thinking. Why not just skip step one and go directly to Step two? Well, you could. But to do so, you would have to use muscles to hold the sights on target. And muscles are the enemy of precision marksmanship. Therefore, you would have to relax. And when you relax, your sights will leave the target. NOW you will have to proceed to step two, and you do that by moving your BODY in order to move your sights onto the target. And you must do this in a manner such that at its conclusion, your body will be totally relaxed. You will be taught how to do this shortly. After accomplishing this you may proceed to step three.
    - Emphasize that in Step 1 the body must be in a relaxed state. Then to achieve Step 2, you must move your body, not simply muscle your rifle onto the target! In Step 2, your body must also be in a relaxed state.

13. NPOA. _____
    - **<u>This is the single most important thing for you to learn</u>!!!** It is the place where your body, in its RELAXED state, would place the shot. It demands BONE SUPPORT, not muscle support. Muscles are the enemy of precision shooting. In particular, your support arm MUST be TOTALLY relaxed, with the sling being snug enough to support the rifle by itself. If you cannot totally relax your arm, your sling is probably not tight enough. Try to achieve this relaxed state in Step 2, Sight Picture. Then in an attempt to

confirm your NPOA is on target, close your eyes, RELAX, take a deep breath, then let it out with a NORMAL full exhale. Then open your eyes. Your sights are now on your NPOA, which most likely will not be on your target. To move your NPOA onto the target, adjust your BODY, as described below, to bring the NPOA onto the target. Then go through the process again to confirm it. This may require SEVERAL attempts. The more you do this the quicker it is to achieve.

14. Prone Position --- steady hold factors. _____ and _____

- Your support arm should not be too flat. It should make a sharp V so that the sling makes a good supporting triangle with your upper arm and forearm. This will allow your sling to support the rifle while your support arm is TOTALLY RELAXED. It will also help prevent the loop from slipping down your arm toward the elbow. If your support arm is not totally relaxed, your support hand will be wobbling slightly back and forth sideways. As a result, what kind of shot pattern would you expect to see on your target? (Horizontal stringing.) This constitutes the beginning of teaching TARGET ANALYSIS, or how to listen to your target as it talks to you. Your friends may lie to you but your targets never will. You must learn to listen to them.
- One of the most important things to keep in mind throughout this clinic is **stability**. And one of the best ways to achieve stability is through the use of triangles.
- **Many of the items which follow can be enhanced by using a laser on the faux rifle which is aimed at a 25m Drill Target or an AQT. These targets should be located at a suitable, fairly large distance in order to illustrate how steady the dot is when NPOA is achieved, and how it wiggles otherwise. This should be pointed out to the shooters.**
- Show how to move your sights onto your target by moving your body sideways, or forward or backward. Your support elbow will be a fixed pivot point while making these adjustments. Rest your support elbow on the flat behind the ball of the elbow. Shift your body around your fixed elbow until your sights are on the target. Then confirm your NPOA using the method given earlier.
- Now have the demonstrator exaggerate his breathing process and have the shooters notice that the muzzle, and sights, move vertically. Now ask the shooters what their targets are telling them if they see vertical stringing on their targets. (Breathing Problem.)
- Now have the demonstrator stick his elbow out too far and exaggerate his breathing while the shooters observe his muzzle. Then ask the shooters what they would expect their targets to look like if they made this mistake. (Diagonal Stringing – which would indicate the elbow is out to far AND a breathing problem.)
- Discuss the trigger hand with the shooters. Dragging Wood! Avoid this by moving thumb to the trigger side of the stock instead of laying it over the stock. Move this thumb up about even with the back of the receiver. Curl the trigger finger into a C shape. The trigger finger should ONLY touch the trigger, not the stock. Ask the shooters what would happen if they failed to follow these instructions. How would it show up on their targets?

- What would happen if their trigger hand was too far back on the stock? Many shooters do this. Consider how their finger would contact the trigger and how this would affect their shooting and their target as they squeezed the trigger. (The finger would contact only one edge of the trigger and would, therefore, push the rifle toward the support side.) The trigger MUST be squeezed straight back. If it is pulled to one side or the other, this will be reflected in a corresponding horizontal displacement of the bullet on the target.
- What part of the finger should be touching the trigger? Depending on how difficult the trigger is to pull, the finger should contact the trigger on the farthest pad of the finger, or the farthest joint of the finger, or near the tip of the finger. And again, the trigger MUST be squeezed straight back. And it should be emphasized that the trigger should be SQUEEEZED, not jerked. Furthermore, the trigger should be held back and not released quickly.
- The two hardest bad habits to break are DRAGGING WOOD and NOT HOLDING THE TRIGGER BACK – Dancing Fingers.
- If you have a good NPOA, your sights should remain steady on the target. If not, they will be moving across the target and your tendency will be to jerk the trigger when the sights cross the target. This is NOT a satisfactory situation. A most likely cause is that your support arm will not be relaxed. Other muscles could be in tension too.

15. **NPOA EXERCISE**
    - No ammunition should be on the line during this exercise!!! The idea is to practice the first three steps which have been presented above.
    - **First: Caution the shooters that scopes are frequently mounted too far back, causing the shooters to hold their heads too far to the rear, which will cause neck strain. AND the scopes may be too high, causing the shooters to hold their heads too high to get a good cheek weld. The former can be corrected by moving the scope forward, or buying an extended scope mount to mount it even further forward. The latter may be corrected by taping pipe insulation to the stock comb. Either of these issues will prevent you from attaining a good NPOA. Therefore, it is of utmost importance that these be attended to as quickly as possible. Please let us know if we can help you make these adjustments during this exercise.**
    - Assume the prone position. Adjust your NPOA until it coincides with the lower left target. Confirm it by closing your eyes and breathing, as described above. Continue breathing normally. And at the end of each normal exhale (this is the respiratory pause), concentrate on <u>focusing your eye on the front sight, not the target</u>, and SQUEEZE the trigger slowly. While doing so, notice whether that sight moves off target. If it does, this problem will be addressed shortly. To avoid losing your NPOA in this exercise, do not actuate your bolt; simply squeeze the trigger, and do it several times. When you feel satisfied with this, shift your NPOA to the lower right target and repeat the process. When satisfied with this make your rifle safe and proceed behind the equipment line.

16. Review the **first three steps** to firing each shot and give the **last three steps**

- Suppose that you focus your eye on the target and not on the front sight. Then your *front sight would wander* and you wouldn't be able to detect it clearly. The result would be that your *bullets scatter* all over the paper.
- Use a ball point pen to demonstrate the **trigger reset.** Once a shooting string has begun, DO NOT remove the finger from the trigger until the string is complete.
- Explain exactly what it means to call your shot: Particularly for those with scopes. You will be able to see the holes in your target. Do not call these holes. Instead, call the position of the crosshairs on the target at the instant the rifle fired. This position and the bullet hole will, most probably, not be the same.
- Furthermore, if you see the holes are not landing where you want them to, DO NOT change your sight picture. Continue to aim at the same point. We are trying to shoot **good groups** and we can't do that if we keep changing our aiming point. *Once we get good groups, we will then worry about how to place those groups on the target center.*
- As an explanation for some of the previous instructions as well as some which follow, we need to consider the time lag between the trigger break and the exit of the bullet from the muzzle. This lag is the sum of **three individual lags:** lock time, ignition time, and barrel time. The total can amount to 1/10 of a second or more, depending on the rifle and ammunition. Any SLIGHT movement of the rifle during this time will affect the bullet placement on the target. And a movement which will enter, of necessity, is RECOIL. The amount of rifle movement due to recoil will be affected by anything which touches the rifle, such as your hands, shoulder, cheek position, and sling. These all have the effect of damping the amount of recoil. The amount of cant of the rifle will also affect bullet placement due to recoil. Therefore, cant should be minimized. All of this means that the rifle should be held exactly the same each time it is fired. **Consistency is the key to precision rifle marksmanship**.
- **Because of Recoil and its damping, you will get different zeroes for sling, bipod and bench shooting.**
- If the sights move off target, maintain trigger pressure until they are on target again, then continue the squeeze. Do not remove your finger from the trigger and do not release the pressure.
- Remind shooters again which portion of the finger needs to be in contact with the trigger.
- **NOTICE: Dragging wood** and **not holding the trigger back** (dancing fingers)**, are the hardest habits to break**. Past experience tells me that many of you will still be doing this at the conclusion of the Appleseed. Please concentrate on these items.
- Demonstrate the effect of these two items by holding your faux rifle vertically with your trigger hand and "pulling" the trigger while dragging wood, and while letting your finger "dance" off the trigger.

17. **Exercise of the 6 Steps while prone:**
    - You may bring **one magazine prepped with five rounds** to the firing line and place it at the back of your mat. We will practice two exercises before we begin live fire. When live fire is to begin, an instructor will bring your magazines to you.

Trigger Control Exercise:

- First, have shooters SIT cross-legged on the shooting mat, oriented 90 degrees to the target line.
- Next, have shooters place the rifle across their lap with the muzzle pointed at their target downrange.
- The shooter will grab the rifle with the trigger hand and place the finger on the trigger.
- **A coach will help the shooter practice resetting the trigger** by cocking the bolt.
- The student will squeeze the trigger and holding it back while the coach cocks the bolt.
- The student then SLOWLY releases the trigger until he hears and feels the click, but no further.
- Then, the student will squeeze the trigger again.
- The coach will **repeat this several times** until the students learns the feel of it and it becomes a habit. Then, the student can use his support hand to perform the exercise on his own.
- When satisfied with this procedure, proceed to the following exercise.

TRY: Breath in – Breath out – Squeeze trigger. Repeat again and again. You will find later that this is an extremely important exercise to be learned. We will monitor the line during this exercise.

Dry Fire Exercise:

- Now, in the **PRONE position, while concentrating on the center target**: ---
- Practice each of the six steps, concentrating on each of them while dry firing.
- Actuate your bolts during this exercise.
- Do the sights move vertically as you breathe?
- Remember again that if you have a good NPOA, the sights should remain steady on the target. Otherwise, you may try to jerk the trigger.
- DO THE SIGHTS MOVE OFF TARGET WHEN THE TRIGGER IS SQUEEZED?
- If so, how do they move? What error could you be making to cause this movement?
- THIS IS ONE OF THE MOST IMPORTANT OBSERVATIONS YOU CAN MAKE.

18. **Live Fire:** We are preparing to engage the center target with five rounds. Remember to CALL YOUR SHOT, HOLD THE TRIGGER BACK! Then RESET the TRIGGER.

- We are looking for **GROUPS**, not hits on the target. Do NOT change your point of aim. However, if you are drastically off target, we will work with you individually at first. Instructors will bring your magazines to you. The line commands will be called and live fire will begin accordingly.
- Engage the center target with five rounds.

- If you finish before Cease Fire is called, clear your rifle and move behind the Equipment Line with your magazines. Then begin preparing additional mags with five rounds each in preparation for future targets. Follow this procedure throughout the day.

19. Proceed downrange to check targets.
    - Before proceeding down range to examine their targets, tell them that most of their poor groups will be the result of not following the six steps, poor position, or failing to achieve a good NPOA. Ask them what specific errors would likely produce vertical stringing; horizontal stringing; diagonal stringing; shots scattered all over the paper; fairly well-defined groups, but ones which are too large. (NPOA). Explain flinching and bucking using your faux rifle. What kind of groups would these two errors be likely to cause?
    - Proceed downrange and examine targets. Ask the shooters to analyze their targets for you.

20. Engage top left target with five rounds. (60 seconds) Continue to ask shooters to analyze their targets.

21. Engage the top right target with five rounds. (60 seconds)

22. **Continue these targets as necessary for target analysis and attaining groups**. Use less time if appropriate, probably working down to 30 seconds eventually.

23. IMC when appropriate.
    - Tell the shooters that as they become better at following all the instructions that their zeroes may change. So be aware of this and make whatever changes are necessary as they improve throughout the two days.
    - Also, quiz the shooters throughout the event about how many MOA their groups are off target, and what they should do about it.

24. **Continue these targets, as appropriate**, for sighting in.

25. **Card sights**: _____
    - Incorporate **Rifleman's Cadence** into this exercise. Explain that they should fire at the end of EVERY normal exhale once they have achieved their NPOA on the target. This means that they should confirm their NPOA and then TRUST IT. Therefore, instructors will watch the shooter's backs as they rise and fall to observe their breathing cycle in order to time their shots in the exercise discussed below. DO NOT time their shots by using three second intervals. If some shooters have excessively long breathing cycles, they may be encouraged to breathe a little faster.
    - An instructor will work with individual shooters. Inactive shooters will wait until their turn. An active shooter will load **six cartridges** when instructed to do so by the instructor. The shooter will obtain his NPOA and announce READY. The instructor will

place a card between the sights. He will wait until the shooter takes one or two breaths, then remove the card as the shooter begins an inhale. If the shooter has lost his NPOA at the end of his following normal exhale, he will say NO and he will be permitted to regain his NPOA. On the other hand, if he still has his NPOA at the end of his following normal exhale, he will fire his first shot and then continue firing at the end of each normal exhale until all six rounds are fired.

- If an instructor notices that the shooter is not following directions, and is firing at random points in his breathing cycle, or that he takes more than one breath between shots, he will stop the shooter and inform him of his error and begin the process again. THIS IS THE ONLY TIME THAT AN INSTRUCTOR IS TO REPLACE THE CARD!
- Note: It is advisable for the instructors to lift the card as the shooter begins an inhale. And inactive shooters should be advised that they should be practicing the procedure until it is their turn to begin shooting.
- Normally, instructors will do the carding, but for a very long line, the shooters can pair up and do it themselves. However, this is not a satisfactory situation.
- The **Line Boss will simply call the line HOT**, at which time the exercise will begin.

26. As preparation for Stage 3 of the AQT, we will shoot the two top 1-inch squares. Prep **two mags, 2 and 4** and **shoot 3 and 3** on the squares in 40 seconds. Simulate this in its entirety first, including dry firing all shots, simulating mag changes, and NPOA shift while using Rifleman's Cadence. During live fire, emphasize that during the mag change that they should not move their support elbow or remove the rifle from their shoulder. They should drop the used mag without trying to catch it in their hand. While inserting the fresh mag they can lift their trigger elbow while tilting their bodies toward their support side if necessary. Repeat this on the bottom two squares.
    - During the simulation exercise place your magazines at the back of your mats. When it is time for life fire, the instructors will bring the magazines to you.

27. POST AQT TARGET - STAGE 3

- **Transition Stage:** Standing to prone. Explain the number of shots on the 300-yard targets.
- Give the transition line commands.
- Explain the following procedure and the associated commands as you go along.
- During the following procedure, KEEP YOUR MUZZLE PAST THE MARKED FIRING LINE AT ALL TIMES! INITIALLY THIS WILL BE A **DRY FIRE, or SIMULATED EXERCISE**, BUT THE FOLLOWING WILL BE THE PROCEDURE FOR LIVE FIRE.
- Procedure: Initially you will be in the prone position, having attained your NPOA during the preparation period. Those with mag-fed rifles should have already prepped one mag with two rounds and another with 8 rounds. Both mags should be on the mat, positioned where they can be quickly reached for loading. They will remain in that position until they are loaded.
- There will be **NO LOAD command**! On the command, "SHOOTERS! YOUR PREPARATION PERIOD HAS ENDED!" those with **tube-fed rifles** will insert their flags and begin

prepping their tubes as usual, while **SITTING**. (demonstrate) On the command, STAND, everyone EXCEPT those with tube-fed rifles, will rise, watching their muzzles. Those with tube-fed rifles, continue prepping your tube with **11 rounds**, and lock the tube plunger. When this process has been completed, STAND.

- On the command FIRE, assume the prone position, THEN load the rifle, adjust and confirm your NPOA, and commence firing, using these instructions: Those with mag-fed rifles will load with 2 rounds, fire those, then insert the mag with 8 rounds, and continue firing.
- Those with tube-fed rifles, will remove their chamber flag, place a round in the chamber and begin firing. After two rounds have been fired, eject the next round and continue firing until 10 rounds have been fired on the targets. If 11 holes are found on the targets, the best one will be omitted.
- **BUT REMEMBER**: During all of this, KEEP YOUR MUZZLE PAST THE MARKED FIRING LINE!
- **Demonstrate** the above process, including a mag change while keeping the pivot elbow in place, dropping the empty magazine and simply leaning over to your support side to insert the fresh magazine, if necessary. This demonstration will be SIMULATED only, with no mags, and will include dry firing all ten rounds on the targets, with a simulated mag change, while shifting NPOA. This should be done with an instructor calling out the line commands.
- IT IS OF THE UTMOST IMPORTANCE TO TRANSITION TO THE PRONE POSITION WITH THE RIFLE IN THE SUPPORT HAND ONLY!!! USE YOUR TRIGGER HAND FOR SUPPORT IN GOING TO THE PRONE POSITION. KEEP THE MUZZLE DOWNRANGE AND PAST THE FIRING LINE!!!
- AND DO NOT LOAD UNTIL YOU ARE COMPLETELY IN THE PRONE POSITION!!!
- The shooters will perform this operation in a TOTALLY SIMULATED EXERCISE FIRST! The mags will be placed at the back of your mats. When it is time for Live Fire, instructors will bring the mags to you.
- This Simulation will include dry firing all ten rounds on the targets, performing a simulated mag change, and NPOA shifts, until it is deemed safe. Announce Cease Fire at the end of **65 seconds**. During Simulation, **instead of the FIRE** command, use the command, **DROP QUICKLY.**
- DO NOT BE INTIMIDATED BY THE 65 SECONDS!!! SIMPLY USE RIFLEMAN'S CADENCE.
- Some shooters may have larger than normal breathing cycles. If so, they should be encouraged to breathe faster.
- **DO NOT** actuate the bolt during this dry fire to avoid losing your NPOA.
- *If someone continually demonstrates unsafe procedures, or is incapable of making the transition, have him remain in the prone position and not make the transition.* But he must not fire until someone else has fired first.
- Instructors should now bring the mags to the shooters for **Live Fire.**
- Execute the **3rd stage** of the AQT in **65 seconds**, using the procedure above, and the Rifleman's Cadence.

28. AQT -- STAGE TWO

- **Sitting Positions** --- steady hold factors ---
- Notes: Open leg; the legs should be perpendicular to the ground and as observed from above, they should appear straight. The knees should not be splayed outward. It is not necessary that the feet be flat on the ground.
- Kneeling; the trigger thigh should be at 90 degrees to the support thigh.
- NPOA:
  - Cross-legged:
    - Horizontally; Shift your derriere slightly.
    - Vertically; Slide the support hand along the forestock, or position your feet closer to or farther away from your body.
  - Open Leg:
    - Horizontally; Shift your derriere slightly.
    - Vertically; Move your feet closer to or farther away from your body.
  - Kneeling:
    - Horizontally; Shift your body. Minor adjustments can be made by rotating your support foot.
    - There is a tendency to **cant** the rifle while in this position. To correct this tendency, instead of letting the rifle lie along the diagonal of your support hand palm, move it totally onto your relaxed fingers.

29. Transition: Standing to sitting. Explain the number of shots on the 200-yard targets.

- This transition will be treated exactly the same as the standing to prone position above, except you will be transitioning to the sitting positions.
- During the following procedure, KEEP YOUR MUZZLE PAST THE MARKED FIRING LINE AT ALL TIMES! INITIALLY THIS WILL BE A **DRY FIRE, or SIMULATED EXERCISE**, BUT THE FOLLOWING WILL BE THE PROCEDURE FOR LIVE FIRE.
- Procedure: Initially you will be in the sitting positions, having attained your NPOA during the preparation period. Your magazines will remain on the mat in a position where you can easily reach them, as before.
- Those with **mag-fed** and **tube-fed** rifles will follow the loading and firing process outlined in the standing to prone transition above.
- BUT REMEMBER: During all of this, KEEP YOUR MUZZLE PAST THE MARKED FIRING LINE!
- **Demonstrate** the above totally simulated process, including a simulated mag change, dry firing all ten rounds on the targets and shifting NPOA. This should be done with an instructor calling out the line commands.
- IT IS OF THE UTMOST IMPORTANCE TO TRANSITION TO THE SITTING POSITIONS WITH THE RIFLE IN THE SUPPORT HAND ONLY!!! USE YOUR TRIGGER HAND FOR SUPPORT IN GOING TO THIS POSITION. KEEP THE MUZZLE DOWNRANGE AND PAST THE FIRING LINE!!!
- AND DO NOT LOAD UNTIL YOU ARE <u>COMPLETELY</u> IN THE SITTING POSITIONS!!!

- The shooters will perform this operation in a TOTALLY SIMULATED EXERCISE FIRST! The mags will be placed at the back of your mats. When it is time for Live Fire, instructors will bring the mags to you.
- This Simulation will include dry firing all ten rounds on the targets, performing a simulated mag change, and NPOA shifts, until it is deemed safe. Announce Cease Fire at the end of **55 seconds**. During Simulation, **instead of the FIRE** command, use the command, **DROP QUICKLY.**
- Do not actuate the bolt during this exercise to avoid losing your NPOA. If someone continually demonstrates unsafe procedures, or is incapable of making this transition, have him remain in the sitting positions and not make the transition. But he must not fire until someone else has fired first.
- Instructors should now bring the mags to the shooters for **Live Fire.**
- Execute the **2nd stage** of the AQT in **55 seconds**.

30. Standing Position --- steady hold factors --- NPOA.

- Notice rifle RISES when inhaling and falls when exhaling. It is just the opposite of what occurs in the other positions. Incorporate this into your Rifleman's Cadence. Rest after every two or three shots.
- The Hasty Sling is recommended for this position. Demonstrate it for the shooters again.
- You may find it easier to not even use the sling. Instead of standing upright and erect, let your upper body slump into a relaxed position. Let your support upper arm rest on your rib cage and place your support hand under the trigger guard or the magazine. Use care to avoid having the bolt handle strike your support hand or fingers as it recoils. This is a more relaxed position which should enhance accuracy. You may even find that it negates the necessity to rest as frequently after a few shots. Demonstrate this. However, this position can be made even more stable by using the Hasty Sling, but it must be loosened considerably from the regular length.
- To find NPOA: Close your eyes. Move the rifle side to side in fairly large arcs by rotating your torso. Decrease these arcs until you find the most comfortable position. Open your eyes. This is your NPOA. Move your rear foot to bring your NPOA onto the target. This may require several attempts, but you can achieve it almost as well as you can in the other positions. Confirm it, as usual, by closing your eyes and breathing, then opening your eyes. DO NOT simply stand there and aim your rifle at the target and start firing. Find your NPOA!!!
- Explain the number of shots on the 100-yard target.
- Prep **one mag** with **10 rounds**. **Live Fire**
- Execute the **1st stage** of the AQT in **2 minutes**.

31. AQT – STAGE 4

- Explain the 4th stage. Live Fire.
- Execute Stage 4 in five minutes.

32. Post a **Hits Count target** and engage it again. Shoot in reverse order, as if the Regulars are advancing on you. This is an optional string of fire.

33. Rifleman's patches when appropriate.

34. Take rifles to parking lot first. But first, remind them of the **Safety Rules.**

35. Take other equipment to parking lot.

Course of Fire: Day 2

1. Administrative work. T-shirts, flags, etc.
   - **Assign Line Bosses** for the morning and afternoon.
   - Remind shooters about RWVA memberships and CMP attendance forms.

2. Some Dangerous Old Men stories can be given now while others will most likely be given at mid-afternoon when most shooters will be getting tired. This will be followed by the Benediction, before shooters begin leaving for the day.

3. Review as appropriate:
   - Safety Rules _____
   - Safe Rifles _____
   - 6 Steps _____
   - IMC review _____
   - Slings (hasty) _____
   - Positions _____
     - (Review loop sling)
     - *Quick* NPOA review
   - Line Commands _____
   - And remind the shooters that they can only touch their rifles during the Preparation Period, or when actually shooting.

4. **Rifleman's Bubble**.

5. **Rifleman's Dance**.

6. With **parking lot observers**: _____
   And **line observers:** LB/RSOs/LSOs
   - We are preparing to go to the Firing Line in a moment. Please follow these instructions:
     - Bring rifles to the line after your mats are in place. The cased rifles should be brought and placed on the mat, keeping the muzzle in a safe direction. Then move the empty case behind the equipment line. If the rifle is uncased, bring it to the line with muzzle up, mag out, bolt back, safety on and flag in the chamber.
     - Place everything else, including ALL AMMUNITION and MAGAZINES, behind the equipment line. After you have cleared your rifle after shooting, take your used magazines, unused ammunition, and yourselves, behind the equipment line quickly while the instructors confirm that the rifles are in a safe condition. No ammunition should be on the firing line at any time, except what you will be using at the moment.
     - No one should proceed downrange past the firing line until the rifles have been cleared and you are told to go downrange.
     - Bring a pencil or pen to the firing line, and a staple gun, if you have one.
     - Proceed to the Firing Line.

7. Hits Count Target. Shoot in reverse order, as if the Regulars are advancing on you. Now that the shooters have learned about NPOA shifts, that concept should be applied to these Redcoats. Furthermore, you can use this exercise to check for any sight adjustment which needs to be made. This is an optional string of fire.

8. Ball and Dummy. _____

- Each shooter will take **two** 25m Drill Targets.
- Shooters should bring five loose rounds to the line, two empty magazines, a 25m Drill Target, and a pencil or pen to the firing line. The **coach** will prep one magazine with one round only and leave one magazine empty, and load one of the magazines into the rifle and prepare the rifle for firing. The goal is for the shooter to not know whether he has a live round in the chamber or not. The first "shot" should probably be a blank. The coach is to carefully observe the shooter and tell him about any errors he detects. When one is detected, he should tell the shooter and probably "shoot blanks" until it is corrected. The shooter will shoot one live round on each of the five 1-inch squares. As this is done, the coach should ask the shooter to call that shot and then mark it on the corresponding square on the shooter's second 25m Drill Target. The coach should be instructed to hold his hand over the ejection port in order to protect his face from the ejected casing. And he should do this whether or not a live round is to be shot.
- *At the conclusion, the shooter can compare each round he has fired with the coach's marked 25m Drill Target.* He can also use this target to make possible zero corrections.
- To begin this exercise, the Line Boss **will simply call the line HOT**.
- Use **30 minutes**. When the shooter has fired his five live rounds, the coach and shooter will exchange positions with no break in the action.
- At the end of 15 minutes those shooters who have not yet switched positions with their coaches should do so now.

9. **Continue the AQT grind**. Try to fire at Rifleman's cadence, at the end of every normal exhale, as you've been taught. But if something shifts during the string of fire, do your respiratory pause whenever the sights are on the target, even if it's not at the end of your breathing cycle.

10. At lunch: If convenient, pass out the Appleseed playing cards and have shooters read their characters.

- **Do the following KD presentation, through item number 18.**

11. **Rifleman's Quarter Mile:** Discuss shooting 4 MOA from the one square inch at 25 yards through 20 square inches at 500 yards and compare the latter with a man-sized object. Use TPI throughout the presentation, asking what 1 MOA is at each distance, then 4 MOA at each distance. At 500 yards, compare with a man size target.

12. Do **trajectories** on the white board. Begin with two balls rolling off a table. Illustrate that if a target level with the muzzle is to be hit, the rifle must be tilted upward at some angle which is measurable in MOA. Emphasize that if zeroed at 25 yards, M1As will also be close to zero at 200 yards and ARs will be close to zero at 300 yards. Point out that this is mostly due to the difference in sight height of the two rifles. And that if a scope is added to an M1A, its far zero would be extended beyond 200 yards also.

13. **Come-Ups (in MOA)**: Approximate, and must be checked for each rifle.

M14: **3, 3, 3, 4** - From 100 to 500 yards
AR 15: **2, 2, 3, 4** - From 100 to 500 yards
M1: **2, 3, 4, 4** - From 100 to 500 yards

- For **most centerfire rifles**, you won't go too far wrong by using **3, 3, 3, 4**, especially since they must be checked for each rifle anyway. Your results, once confirmed at actual distance, should be written on paper and taped to your stock.

14. **BSZ:** 300 yards. Can aim directly at any target from zero to 300 yards and not miss by more than about a few inches maximum, vertically. Explain this using TPI with the trajectory and come-ups for an AR on a white board, first at 200 yards, then at 100 yards. The target will be missed by only 4 inches in both of these cases. Carry this out to 400 yards where it will be missed by 12 inches.

15. **Range finding**: For the BSZ, 300 yards, the front sight on an M1A or AR will cover the width of a man size target (20 inches). How many MOA does this represent at BSZ, 300 yards? (7). If the sight covers only half this target, how far away is it? (150 yards) If the sight covers twice the width of this target, how far away is it? (600 yards)

16. **Range finding in general**: To find the MOA represented by your front sight, compare its width to that of the 1-inch square at 25 meters. The same can be done with scopes by comparing gradations on the scope reticle to the 1-inch square. However, if your scope has variable magnification, the magnification must not be changed, for most scopes. An alternative method for those with scopes would be to place a ruler at 25 meters and compare the gradations on the scope with a length in inches on the ruler to determine the MOA subtended by the scope reticle gradations. In fact, you could even adjust the magnification on the scope to obtain a preferred number of MOA on the reticle.

- And remember from IMC: On the white board, draw an exaggerated angle of 1 MOA at various distances again. And also discuss 2 MOA, etc. Notice that there are three quantities of interest involved: the angle, the distance to the target, and the amount by which you missed the target. If you know any two of these quantities, you can find the third. In IMC, the third quantity to be found was the angle. An equation which describes this concisely follows.
- Object (in MOA) = Object (in inches) / Range (in hundreds of yards)

- **CONVERSELY:** Notice now that if you know the actual size of an object at some unknown distance, and you know how many MOA it subtends, as determined by your scope or front sight, you can now ascertain how far away the object is!!!
- Range (in hundreds of yards) = Object (in inches) / Object (in MOA)
- However, because 1.047 actually represents 1 MOA at 100 yards, rather than 1 inch, this equation will give a 5% error.

17. **Wind:** For every 10 miles/hour wind, perpendicular to the bullet path, the correction is 1 MOA per 100 yards. If 30 degrees to the bullet path, the correction is half that value. If 45 degrees to the bullet path, the correction is 0.7 times that value. Therefore, it is easy to see that for reasonably short distances and wind speeds that these corrections can be ignored.

- Demonstrate this using a circle with the direction of fire directed toward 12 o'clock, and with the wind at 30, 45, and 90 degrees with respect to the bullet path. To aid this explanation, also draw the projections of the 30- and 45-degree lines onto the 90-degree line. A wind at 90 degrees with respect to the bullet path is called a Full Value wind. 30 degrees corresponds to 1:00 on a clock face; 45 degrees to 1:30.
- It should be noted that for longer distances this topic can be complicated by varying wind conditions on different portions of the range. Therefore, in practice, obtaining accurate wind corrections may be very challenging.

18. The three challenges facing a rifleman: Target Detection, Range Estimation, and Making the Shot. The first of these is the most challenging. Appleseed teaches that the last one, which we have been working on all weekend, is the easiest. However, if you understand the last equation above, and know the object size in inches, determining the Range seems to be easy also.

19. **After lunch:** Continue the AQT grind.

20. **When appropriate: Known distance shooting,** if possible, with those who have shot the Rifleman Score.

- (A Red Hat must be on every range used.)
- Those with .22s can be taken to a 100-yard range, if available. Suggest that they come up 5 MOA from the 25 meter zero. If a 200-yard range is also available, suggest an additional 14 MOA come-up.
- If the facilities are available, both M14s and ARs can shoot from 300 yards. The ARs would NOT change either their sight settings or their sight pictures. The M14s would use the appropriate come-ups for that distance. Then they can both shoot from 200 yards and follow a similar procedure, with the ARs using the appropriate come-ups. If more time is available, additional procedures may be used.

21. Take equipment to parking lot, rifles first if uncased, according to previous instructions. But first, remind the shooters of the **Safety Rules**. END DAY 2

Appendix 5: Sample History Presentation

HISTORY PREAMBLE

I would like for you to do some thinking today. First, I want you to think about how fortunate you are to be doing what you are doing today. How many other places in the world could you be doing this? In America we have more liberty than any other country in the world. Where did this liberty originate? It began with the patriots who answered the call to duty on the 1st day of the Revolutionary War; April 19th, 1775.

This is the most important date in American history. Without it there wouldn't be an America. The men who fought this day should be remembered. They didn't know if their cause would survive or not. They didn't know if they would survive or not, and if they didn't survive, they didn't know if their families would survive or not. It required a tremendous amount of grueling work to run a farm in those days, and to store enough food and firewood for the Northern winters, and they didn't have life insurance and social security. It would be interesting to learn how the families of those who did not survive, fared.

But these men formed a nation; a nation which has sadly forgotten them. This is a national tragedy because they were better men than most of us today.

At Appleseed we are striving to correct this. We are trying to make their deeds known to the nation and to make Americans better citizens by trying to persuade them to appreciate and emulate these patriots' character and marksmanship.

As their history is presented, please try to place yourselves in their positions. Each of them was forced to make heart wrenching decisions concerning their families, their country, and their posterity. For many, these decisions cost them their lives, but these decisions gave us our liberty and our country. I would like for you to think very carefully about the choices these men faced and the decisions they made, and the questions I want you to consider are: If you had been in their place, what would you have done? Would we have our liberty today if it had been left up to you?

THE FIRST STRIKE - APRIL 19th, 1775[4]

The actions of this day did not occur in a vacuum. For several years the British government had arrogantly impressed many irritating impositions on the American colonies, including taxes, and ultimately a prohibition of local governance. These were met with defiance that angered the British and led to conflict. In the few months preceding April 19th British Regular soldiers had made several intimidating forays into the countryside. In addition, General Thomas Gage, the Commander-in-Chief of the British forces, had tried to confiscate stores of arms and ammunition from three villages. The first of these was carried out successfully in secrecy. This prompted the Colonists to organize a network of spies and riders-messengers to detect any similar attempts. Paul Revere was one of the most prominent of these, and the Colonists managed to foil the remaining two incursions. Tension was at a fever pitch. Local militias had been in existence for many years, but had degenerated into social clubs. Realizing the seriousness of the present situation, they reorganized and underwent regular training to perfect their marksmanship and improve their rate of fire. Many were convinced that war was inevitable.

The British government grew even more impatient. They stopped shipping munitions to the colonies and ordered General Gage to disarm the populace and seize the ringleaders of the *Sons of Liberty*, or the "*Seditious Rebels*" as they were called in England. His first step was to confiscate a large store of munitions at Concord, Massachusetts, taking a route which led through Lexington; however, the Colonists learned of these plans almost immediately, almost certainly through General Gage's wife. She was an American who sympathized with the Colonists. Therefore, plans were made to counter Gage's actions.

Noting Gage's early preparations for the affair, Paul Revere rode to Lexington and Concord on April 8th and April 16th to refine an early warning system. At about 10:00 p.m. on April 18th Paul Revere was informed by a spy, Dr. Joseph Warren, that the march was imminent, and Revere, William Dawes, and an unknown rider began their journeys, taking different routes to alert the countryside, and warn Lexington and Concord. They didn't just ride along a road shouting "*The British are coming.*" After all, they were all British. Their warning was "*The Regulars are coming out!*" They followed a well thought out plan by warning groups such as churches and meeting houses, from which additional riders would be sent out. Thus, a sort of chain reaction occurred which spread the news quickly in all directions to the neighboring communities. As a result, thousands were alerted overnight and into the next day; some say as many as 14, 000; however, "only" about 4, 000 actually took part in the battles this day. As a comparison, we

[4] The information above was obtained from

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- Fleming, Thomas J. Liberty! : The American Revolution. New York: Viking, 1997
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- Bradford, Charles H. The Battle Road: Expedition to Lexington and Concord. Boston: Rotary Club of Boston, 1975

might ask how many each of us might gather overnight to face an army which might be threatening our community, and further, how many of these would have the appropriate arms with which to meet the threat? Moreover, how many of these would know how to use those arms effectively? That, by the way, is the first thing we are going to learn today about your shooting ability. Are you able to hit targets 100 yards away; 400 yards away? Don't worry if you can't. Most Americans can't do that anymore. We will teach you how it is done, but to actually accomplish it may take some additional practice.

General Gage was obsessed with secrecy. Only Colonel Frances Smith, the commander of the expedition, was to know the mission and destination of his Regulars. The soldiers were awakened from their beds and directed through the streets of Boston in silence to avoid suspicion, even bayoneting a dog which began barking. But their journey was almost a Keystone Kops folly. They were to be rowed across the bay in boats. But there were an insufficient number of these boats, necessitating several trips with the soldiers standing in overloaded boats which were in danger of sinking. They landed in a swamp and then had to wade up to their middles through an icy stream. They were forced to go through a time-consuming reformation because they had boarded the boats in a random fashion, with no regard for retaining the cohesion of the various units. As a result, they were delayed for hours, and they only carried one day's provisions and the customary 36 rounds for their muskets. When they were finally marching along a good road, they began hearing church bells ringing, signal guns firing, and noticed beacon fires burning. They weren't going to be surprising anyone.

Anticipating a possible need for reinforcements, General Gage planned for another force to leave at 4:00 a.m., but his penchant for secrecy resulted in his orders not reaching the intended commanders. Therefore, this column did not get underway until five hours later. All these delays are very important. The colonists just barely managed to rally in time to counter the Regulars as it was. If the British movements had gone according to schedule, we might still be a British appendage, such as Canada and Australia, where many guns have already been outlawed and confiscated. Could divine providence have played a role in this action?

The reinforcement column was led by General Hugh Percy, one of the most able men in the British army, and even he had to ask a citizen for directions to the road to Lexington. The citizen, an absent-minded Harvard professor, was dumb enough to tell him. He was ostracized afterward. General Percy considered the Colonists to be cowards, incapable of action, and utterly contemptible as a military force. He was about to receive a costly and rapid education.

Paul Revere and William Dawes arrived in Lexington at midnight with the news that the British soldiers, the Regulars, were out, and to specifically warn John Hancock and Samuel Adams that they were being targeted. In 1775 Hancock and Adams were the only ones left off the list of Massachusetts rebels offered amnesty. As Revere and William Dawes were leaving to warn Concord, the town bell was ringing to signal the countryside.

Captain John Parker, a farmer and old soldier, had been selected by his neighbors to lead the Lexington militia. He was 46 years old, the father of seven young children, and in the advanced

stages of tuberculosis. In fact, he was to die from it six months later while in the service of George Washington's Continental Army. The militia, aged 16 to 66, and numbering only about 70, began to muster on the Lexington Green between 1:00 and 2:00 o'clock. The serious implications of this should be understood. Armed opposition to the King's troops could be proof of rebellion, which was punishable by death. In spite of this, Jonathon Harrington, a 16-year-old fifer in the militia, was awakened by his mother telling him: "*Jonathon, get up! The Regulars are coming and something must be done.*" Now think about that. She loved him just as much as today's mothers love their precious children. Yet she woke him to possibly face his death. How many mothers would do that today? Why did they do it then? It was because they loved liberty and were determined to have it. They knew how to answer Patrick Henry's question: "*Is life so dear or peace so sweet as to be purchased at the price of chains and slavery?*" As Mrs. Harrington said, "*something must be done*".

To confirm Revere's warning, Captain Parker sent scouts out to gain intelligence as there had been false alarms in the past. One scout returned between 3:00 and 4:00 o'clock to report that Revere was mistaken. Parker dismissed his men but ordered them to remain nearby. Most of them decided to wait at Buckman's Tavern. Following the tradition of not carrying loaded firearms into a tavern, they fired their muskets into the air before entering.

In the meantime, Revere had been captured by a British patrol which had been charged with keeping everyone off the roads that night to prevent anyone from spreading the news that the soldiers were out. The patrol was led by the excitable hothead, Major Mitchell. He had already slashed the head of a farmer with his saber earlier that morning. Major Mitchell asked about Revere's business that night, and Revere told them exactly what he was doing. He even informed them of their army's mission and destination, which was news to them. Upon hearing the firearms discharge at Buckman's Tavern, they asked Revere what was going on. He replied that Lexington knew about the threat, that they had assembled 500 men, and that if the patrol lingered in that position, they were dead men. Major Mitchell released Revere on foot and proceeded back to warn the approaching army with an exaggerated version of the exaggerated story of Paul Revere. Revere arrived back in Lexington about 4:30, at about the same time, another scout returned with news that the main body of Regulars was only 15 minutes from town. He had discovered them much earlier but had become trapped on the road behind them.

The drummer, another 16-year-old by the name of William Diamond, summoned the militia back into formation with his drum. Captain Parker's instructions to his men, many of whom were his kinsmen, were "*The first man who offers to run will be shot down! Stand your ground! Don't fire unless fired upon! But if they want to have a war, let it begin here!*"

The lead unit of about 250 men, out of the total of about 800, was led by the brave but brainless, Lieutenant Jesse Adair. Seeing the militia gathered on the Green, he led this unit off the main road to Concord, taking a fork to the right, to confront the militia before the commanding officers in the rear could stop him. Parker, upon observing this, began moving his men back, but the British unit aligned itself in battle formation in front of them and shouted their battle cry. The commanding officer, Major John Pitcairn, shouted to the militia, "*Throw*

down your arms ye villains and disperse damn you." Captain Parker then immediately ordered the militia to disperse and not to fire. As they began to slowly disperse, a shot rang out. Many thought it sounded like a pistol and that it came from the British side. Some of the Regulars' officers had pistols, and it would not have been out of character for the excitable Major Mitchell to have been the culprit. At any rate the Regulars opened fire without orders and their officers could not control them. Major Pitcairn, the superior officer on site, must take the brunt of responsibility since he issued conflicting orders during their deployment, and did not maintain close contact with the soldiers.

The younger men ran away but several of the older ones were determined to fight back. Jonas Parker declared he would never run, and was shot down. While struggling on the ground to reload his musket, he was run through with a bayonet. Ebenezer Munroe thought there was no chance for escape so he might as well fire back. Only two militiamen fell dead on the line where they mustered, Jonas Parker and Robert Munroe. The rest were killed while following the order to disperse. Jonathan Harrington, the uncle of the fifer, fell with a gaping chest wound only a few yards from his home. His wife and 8-year-old son watched in horror as he struggled to get up, and then crawled to his doorstep where he died in his wife's arms. Isaac Muzzy, 17 years old, died at his father's feet. Seven militiamen were killed and nine wounded. A prisoner, whom the British had captured earlier, was also killed. Reportedly he was told he could leave, and was shot in the back as he ran away. Only one British Regular received a slight leg wound. The excellent marksmanship of the various militias would be confirmed later in the day. Therefore, this casualty ratio speaks very convincingly about who fired the first shot!

Some militiamen had been in the town meetinghouse where munitions were stored and came out as the shooting began. One was killed and another wounded. Joshua Simonds ran back up to the loft and placed the barrel of his musket into a keg of gunpowder, prepared to blow up the entire magazine rather than have it captured. Several soldiers did indeed enter the building and started up the stairs. Just then, Lieutenant Colonel Francis Smith, who had finally arrived on the scene, had a drummer recall the men. Lieutenant Colonel Smith finally informed them of their mission and destination. They were appalled, thinking it sheer folly to march further into this hostile countryside. But Lieutenant Colonel Smith had his orders and was determined to follow them. He allowed the men to fire a victory salute and give three cheers. Then they marched on to Concord.

The people of Lexington were now consumed with bitter anger. Other militiamen were arriving and they prepared to give battle again, but on different terms.

John Hancock and Samuel Adams had taken refuge in a nearby town. Upon hearing the muskets firing, Adams said to Hancock, "*It is a glorious day for America*."

THE SECOND STRIKE[5]

Just after Paul Revere and William Dawes warned Lexington of the approaching Regulars, they set out to warn Concord. They encountered Dr. Samuel Prescott, who had been visiting his fiancée, and the three rode together. Many young men were out that night courting their sweethearts. The riders encountered a British patrol that captured Revere, but the other two escaped, going in different directions. Prescott proceeded on to Concord to spread the word that the Regulars were out. While en route, he also recruited many other couriers to spread the alarm to other areas. Dr. Prescott lived in Concord with his father and brother, Abel. All three were physicians. Abel mounted his horse and hurried to alert others. Samuel Prescott then proceeded to warn Isaac Davis, who was the captain of the town of Acton's minute men. It was the best equipped and best trained of all the militias because of the efforts of Captain Davis, a gunsmith and farmer.

Isaac Davis was about 30 years old. Davis knew that this day was coming. He had had a premonition about it and was convinced that he would not survive; however, he did not hesitate. His children were all ill with the dreaded symptoms of canker rash, a mortal disease that many had contracted in New England. His wife, Hannah, recalled years later that as he was preparing to leave, he was serious and thoughtful, but said little. As he left, he suddenly turned and faced her, as if wanting to tell her something important – then said simply, "*Take good care of the children*" and disappeared into the darkness. She knew she would never see him again. That afternoon he was brought home, a corpse, and placed in her bedroom until the funeral. How many men today, under the same circumstances, would answer the call to duty in order to preserve liberty? How many even understand, or appreciate liberty today? Our liberty was won by the sacrifices of these patriots, and it cost them dearly. Too many people today hold it too cheaply because it did not cost them anything. As a result, they are begging the government to take away more and more of the precious liberty these patriots bequeathed to us with their blood.

After Concord had been alerted by Dr. Prescott, the town sent Reuben Brown to Lexington. He arrived just before the Regulars did. As the shooting began, he immediately returned to Concord to report the news, not knowing how it ended.
In Concord he was asked if the Regulars were firing blanks or ball. He replied that he didn't know, but he thought it was ball.

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- Armed America, by Clayton Cramer;
- Lanning, Michael Lee. Inside the Crosshairs: Snipers in Vietnam. 1st ed. New York: Ivy Books, 1998.;
- Fleming, Thomas J. Liberty! : The American Revolution. New York: Viking, 1997;
- Langguth, A. J. Patriots : The Men Who Started the American Revolution. New York: Simon and Schuster, 1988;
- Bradford, Charles H. The Battle Road : Expedition to Lexington and Concord. Boston: Rotary Club of Boston, 1975

The Colonials began mustering with great haste from numerous towns all over the countryside. Abel Parker received the word while plowing his fields. He left the plow in the field with the oxen still hitched to it, ran to his house, grabbed his coat in one hand and gun in the other, and ran until he overtook his comrades, a distance of about 6 miles.

Concord's men gathered at Wright's Tavern to decide their course of action. The young minutemen wanted to confront the Regulars outside of town. Chief among them was the town's preacher, William Emerson. He lost his life later in the war. His grandson, Ralph Waldo Emerson, would later write of the "shot heard round the world", and of the battle at the "rude bridge". The middle-aged men preferred to stand and fight in town, while the elders wanted to wait until their numbers grew.

The young minutemen, spoiling for a fight, rushed out to meet the Regulars, until they saw a ¼ mile long line of sparkling bayonets fixed to meet them. They retreated back to town and followed the elder's advice of proceeding out past the town beyond the North Bridge, and gathered on Punkatasset Hill, about a mile from the town center, until their numbers were equal to that of the enemy. They were led by the 64-year-old Colonel James Barrett.

The Regulars entered an undefended town, leaving a force there under the command of Major Pitcairn, the second in command. Another force positioned itself between the North Bridge and Colonel Barrett's men, while a third force marched unmolested past the militia, who were reluctant to initiate a fight. These Regulars were on their way to Colonel Barrett's farm where they had been informed that a large amount of munitions was stored. This was indeed true. In fact, weapons (including cannons which had been stolen from the British in Boston) had been placed in furrows and plowed over to conceal them. Thus, they found nothing, but demanded breakfast from Mrs. Barrett. She accommodated them, but refused to take payment which they offered. When they tossed her a few shillings anyway, she replied, "*This is the price of blood?*" Meanwhile, back in town, the Regulars searched the village systematically for hidden material. Indeed, an enormous quantity of military equipment, such as 10 tons of musket balls, hundreds of barrels of food, and extensive quantities of other munitions were stored in houses. In fact, the townsmen were exhausted from spending the previous day trying to hide it all. The Regulars declined to search homes, however, because the owners denied having any supplies. The only resistance they encountered was at Ephraim Jones' Inn. Jones refused to open the door, so Major Pitcairn had it broken down. He rushed inside and demanded that Jones tell him where any weapons were hidden. Jones replied that he didn't know of any, whereupon Pitcairn knocked him to the ground, clapped a pistol to his head and asked again where the weapons were. This persuaded Mr. Jones to show the Major where they were buried in his yard. After digging up three cannons, Pitcairn offered to buy breakfast for his men and insisted on paying Mr. Jones for it. They also found a store of lead bullets which they threw in a pond. The townspeople recovered them the next day.
The Regulars did find a supply of munitions in the Concord Townhouse, including three cannon carriages. They then took them outside and set them afire. Resulting sparks ignited the Townhouse. The soldiers joined the townspeople in trying to extinguish it with a bucket

brigade. Colonel Barrett's men saw the smoke rising and one of them asked, "*Will you let them burn the town?*" Another announced that he was ready to drive the Regulars from the bridge. Captain Isaac Davis, who had left his wife and sick children, drew his sword and said, "*I haven't a man who is afraid to go.*" Colonel Barrett ordered his men to load their weapons but not to fire unless the Regulars fired first. This was the same order that Captain Parker had issued at Lexington. It was part of a uniform Colonists response that had been orchestrated by Paul Revere earlier. Colonel Barrett placed Isaac Davis' men in the lead since they were the best prepared and equipped unit there, then ordered the column forward, telling them that if the British did fire first that they should return the fire as fast as they could. This column was led by Isaac Davis and the Acton fifer, young Luther Blanchard.

At this point, we should pause for a moment and discuss the Regular's lack of marksmanship. Their musket, the Brown Bess, was a .75 caliber bore, but used a .71 caliber ball. This made reloading faster, but since the ball bounced around in the bore, the accuracy was not good. They had difficulty hitting a man at a distance of 50 yards. To fire at a target at 200 yards, "one might as well be firing at the moon." The typical Regular was not taught marksmanship. The word "Aim" was not even in their list of commands. After the command, "Present", they were commanded to "Fire". The only ones who practiced marksmanship were their flankers, pickets, and rangers. Indeed, the militia ridiculed the Regulars' marksmanship, saying they "*fired by guess*".

The Colonists heavily stressed marksmanship. Indeed, they made a significant innovation when they replaced the command "Present" with the command, "Take Sight".
Later in the war, Major Patrick Ferguson, of the British army, developed an accurate breech loading rifle that could fire 6 rounds per minute, and commanded a company of sharpshooters that opposed the Colonial Army. These sharpshooters, however, were not from Britain. They were Colonists who were loyal to the king. The loyalties of the colonists were fairly evenly divided between Britain and the revolutionaries. Strangely enough, Americans are still fairly evenly divided, as you well know. At Germantown, Major Ferguson had General George Washington in his sights, but refused to fire, thinking it ungentlemanly to do so. Ferguson met his end at King's Mountain, SC, when about 50 revolutionaries had him in their sights and shot him to pieces.

Now we return to the story. As the militia, 400 strong, advanced toward the bridge and the 100 Regulars, the British commander, Captain Walter Laurie, proved to be extremely incompetent. Instead of employing a well-known maneuver, which could have stopped the militia, he and his men became chaotic and confused. They retreated over the bridge and began firing without orders. Most of their balls went over the heads of the militia, as might be expected; however, Isaac Davis was killed instantly by a bullet through his heart. Those near him said the blood gushed from his chest and splattered all over them. Abner Hosmer was killed by a shot to the head. The young fifer, Luther Blanchard, received two wounds. He died a few months later, most probably from these wounds. Timothy Brown exclaimed, "*God damn it, they're firing ball*." Major Buttrick gave the order to "*Fire fellow soldiers, for God's sake, fire. Fire as fast as you can.*" The militia concentrated their fire on the British officers, hitting half of

them with the first volley. After losing much of their command structure, the Regulars then turned and ran for their lives, back to town. This particularly surprised Major Pitcairn who had said earlier that he could simply draw his sword and the entire militia would turn and run. The militia did not continue the chase, but split into two groups, one on one side of the river, the other on the other side, behind a stone wall, expecting a counterattack which never came.

When the Regulars who had been to Barrett's farm returned, they were terrified by what they saw and began running across the bridge. They observed with horror that one of their men who had been wounded in the battle had been struck in the head with a hatchet, but not killed. He appeared to have been scalped. Reports are conflicting as to the reasons behind this brutal act. The news of this act spread throughout the army and was partially the reason the British committed so many atrocities later in the day. The militia, however, let this unit pass unharmed because they were still reluctant to initiate a fight with the King's troops.

Medical science at this time was essentially in a state of infancy. A wound, which would be of no consequence today, could result in a lengthy, lingering, painful death. Dr. Abel Prescott, Dr. Samuel Prescott's brother, was wounded at Concord and died the following August. One poor patriot was wounded in the foot, had it amputated, and gangrene set in. He went through several more amputations on his leg with the same result, eventually dying. Can you imagine having to suffer through all these amputations at this time in the history of medicine? These patriots knew of this danger, and this knowledge amplifies their bravery and heroism. Furthermore, if the wounds didn't kill you, the doctors were likely to. The accepted treatment for many sicknesses and wounds was bleeding. One Regular was wounded and refused to be bled, while his wounded comrades conceded to the process. He recovered much more quickly than his comrades. This didn't seem to impress the doctors. In fact, George Washington died because he contracted a cold and the doctors bled him excessively, which resulted in his death. The situation during roughly the same time period was characterized accurately by Voltaire. Describing a sick friend, he stated that - In spite of the very best medical technology and research, applied by the best and most accomplished practitioners of the time, he survived.

Colonel Smith and Major Pitcairn climbed the steep hill where the local cemetery was located and observed that fresh militiamen were approaching from all directions. At noon they began their deadly trek back to Boston.

THE THIRD STRIKE[6]

Lieutenant Colonel Francis Smith vacated Concord at noon, beginning the retreat along Battle Road to Boston. By this time the militia outnumbered him and had surrounded Concord. The running battle began about a mile away at a junction of country lanes called Meriam's Corner. Militiamen had been pouring in through these lanes for some time. No one knows exactly what happened there, although there is much speculation. However, this is where the Colonists first took aggressive action and continued it all the way back toward Boston. Therefore, Meriam's Corner was the 3rd Strike which ignited the war. Recall that the actions at Lexington and Concord were defensive in nature and, therefore, would have been insufficient to begin a war. However, repercussions and executions would surely have occurred.

The resulting running battle was not the simple-minded battle plan where individuals just fired from behind trees and stone walls, as we have been led to believe. It was much more sophisticated than that. After all, these men were well trained veterans of earlier wars. They were led by able and experienced officers who had a good eye for the ground, and their training taught them to work in teams, an essential military requirement. This enabled them to set up and execute several well thought out ambushes, and they knew to concentrate their fire on British officers.

Another, stronger ambush awaited them only one mile away at Hardy's Hill, and another occurred a short distance further, at the Bloody Angle. The column of Regulars was about a ½ mile long, and they would barely clear one ambush when another would occur. New and fresh militia would appear in front of them, and the militia from a previous ambush would run ahead of the Regulars to hit them again.

Next, they encountered an ambush by the Lexington militia led by Captain Parker. Many of these men wore bloody bandages from the morning's battle. That rocky hillside is still remembered as Parker's Revenge. Here Colonel Smith was shot from his horse with a thigh wound and Major Pitcairn assumed command.

Their collapse came a short distance away at Fiske Hill, just outside of Lexington. There Major Pitcairn was thrown from his horse. Though not wounded, he was apparently shaken so badly that he became useless for a time, and the British column began to come apart. Most of the British had been wounded and the rest were utterly exhausted. The entire force was nearly out of ammunition and both sides were consumed with thirst. Deadly fights broke out at wells along the road. Joshua Simonds, who had thrust his musket into the powder keg at Lexington

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- Bradford, Charles H. The Battle Road : Expedition to Lexington and Concord. Boston: Rotary Club of Boston, 1975.

that morning, threatening to blow up the magazine rather than have it captured, captured two soldiers and a young fifer, only a child, who had been shot. He begged Joshua not to kill him, and of course he didn't; however, the poor child did die a few days later. Some Regulars simply sat down in the road and waited for the end. Eventually the Regulars refused to even fire back, and began running in fear. The junior officers got in front of them, threatening them with bayonets. The soldiers then began laughing and cheering. They had seen the relief column of General Percy, which had just arrived in Lexington.

Percy observed the pitiful condition of Colonel Smith's men with dismay and realized that he had 15 miles to retire back to Boston, and his men had only their 36 rounds of ammunition, and just a few rounds for his cannon. He did have a larger force at his disposal now, between 1800 and 1900 men, and he arranged them in a better formation for the remaining portion of the retreat. Yet, the militia had rapidly increased in numbers also, and this would continue throughout the day and into the night. Of utmost importance, the militia also gained a new commander at Lexington: Brigadier General William Heath, who was perfect for the fighting this day. He was assisted by Dr. Joseph Warren. Heath devised a new engagement plan for the militia. They surrounded Percy's force with a moving circle of skirmishers which operated at long range. This tactic was difficult to maintain, but it was very effective. General Percy himself referred to it later as a moving circle of fire.

The heaviest casualties occurred at the village of Menotomy. At Cooper's Tavern, the British found two aged gentlemen (Jabez Wyman and his brother-in-law Jason Winship) both of whom were unarmed, enjoying a drink. Retreating British soldiers attacked and stabbed them several times, and bashed their heads in, leaving their brains on the floor. They set fire to buildings, killed livestock and plundered houses and churches. Some even stole a church's communion silver and sold it in Boston.

General Percy was almost killed, having a button shot off his coat without leaving a scratch. He later told of some of the inhabitants who would conceal themselves in houses, then jump out only 10 yards from the soldiers to shoot at them, knowing full well that they would be killed. Percy suffered half of his casualties this day at Menotomy.

General Percy considered returning by the same route he had come, through Cambridge; however, that route had more opportunities for ambushes, and he correctly surmised that the bridge over the Charles River had been sabotaged again. Besides, the route was longer and he couldn't have completed it before nightfall. Therefore, he chose a shorter route, through Charleston.

Years later, General Clinton told him that if he had not made that choice, the British government in America would have ended that day. Some resistance was encountered on this route but it was overcome with relative ease. This route enabled him to reach a safe place for his exhausted troops to spend the night; Bunker Hill. He could protect this location easily and proceed to Boston the next day. Major Pitcairn and Dr. Joseph Warren, and the lone soldier who had been wounded at Lexington, would be killed there a few weeks later.

One Colonial unit could still have prevented Percy's column from reaching safety, but its commander, Colonel Timothy Pickering, had been dragging his feet all day and arrived too late to enter the fray. Pickering was acknowledged as a good tactician, and performed well later during the Revolutionary War. Eventually he even became the Secretary of War of the new nation, but at this time he did not want to rebel against the government. Even the day after Lexington and Concord he was anxious to negotiate a compromise and reconcile with the British. This attitude undoubtedly contributed to his lackluster performance on this important day.

General Percy, who had previously considered the militia to be utterly contemptible as a military force, changed his mind that afternoon. He later wrote, "*Whoever dares to look at them as an irregular mob will find himself much mistaken. They have men amongst them who know very well what they are about.*" He later returned to England, disgusted with the way the British were conducting the war.

When George Washington received the first report from this day, he left his fields and gathered his weapons with sadness. He wrote to a friend, "*Unhappy it is to reflect that a brother's sword has been sheathed in a brother's breast and that the once happy and peaceful plains of America are either to be drenched with blood or inhabited by a race of slaves. Sad alternative! But can a virtuous man hesitate in his choice?*"

The day after the battle John Adams rode along Battle Road, picking his way through the carnage and burial parties, and smelling the stench from burned buildings. He later wrote, "*Posterity, you will never know how much it cost the present generation to preserve your freedom. I hope you will make good use of it. If you do not, I shall repent in heaven that I ever took half the pains to preserve it.*" He also said something which is particularly appropriate to today's Americans, his posterity. "*Lethargy is the forerunner of death to the public liberty*." This concept has its roots in antiquity.

Over 2,000 years ago Plato said, "*The price good men pay for indifference to public affairs is to be ruled by evil men.*" These statements are at the heart of Appleseed's purpose, and modern Americans are ignoring it at their peril.

John Adams' cousin, Samuel Adams, who was a real firebrand before and during the war, also spoke eloquently about the love of freedom and his disdain for those who were more tepid about it, and the revolution:

"If ye love wealth better than liberty, the tranquility of servitude better than the animated contest of freedom, go home from us. We ask not your council of arms. Crouch down and lick the hands which feed you. May your chains set lightly upon you and may posterity forget that you were our countrymen."

Unfortunately, in America today people seem to be becoming more and more tepid about their freedom, and more intent upon replacing it with whatever they consider to be better for the good of society.

Therefore, when I look at America today, I have to wonder what John and Samuel Adams are thinking now.

DANGEROUS OLD MEN[7]

We have already seen that older men proved to be some of the most formidable adversaries the British army faced this day. After the first shot was fired at Lexington, it was the older men who had the courage to stand and fight back, while the younger ones ran. It was the older men who had the wisdom to employ the best strategy at Concord, and the Concord militia was commanded by the 64-year-old Colonel James Barrett. Prepare to meet some additional "Dangerous Old Men" now.

Against the advice of his Master of Ordnance, General Percy left Boston without spare ammunition for his men or for the two artillery pieces they brought with them, thinking the extra wagons would slow him down.

After Percy had left the city, General Gage directed two ammunition wagons guarded by an officer and 13 grenadiers (the largest, toughest men in the army) to follow. They were left behind to complete repairs on a bridge across the Charles River, which had been sabotaged. Earlier in the day, Colonial General Heath had ordered the Great Bridge to be dismantled. When they resumed their journey, this convoy was intercepted by a small party of 11 older, former militiamen (known as the Old Men of Menotomy), still on the "alarm list" that could not join their militia companies because they were well over 60 led by David Lamson.

In spite of their age and appearance, these men were hardened veterans with much experience. These old men had prepared a cunning ambush and demanded the surrender of the troops. The soldiers were not impressed with this silly looking collection of aged warriors and urged their teams forward. The old men opened fire, shooting the lead horses in their traces, killed two sergeants and wounded the officer in command. The surviving soldiers ran for their lives, hesitating only long enough to throw their muskets into a pond before they surrendered.

They finally encountered an old gray headed woman, the impoverished Mother Ruth Batherick, who was gathering dandelions to eat, and surrendered to her, begging for protection. Thus, the Old Men of Menotomy seized "the first prisoners and stores to be taken as a result of forcible attack in the Revolution." When this news reached England, newspapers which were opposed to England's policies wrote, "*If one old Yankee woman can take six grenadiers, how many soldiers will be required to conquer America?*"

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[7] The information above was obtained from:

- Fischer, David Hackett. Paul Revere's Ride. New York: Oxford University Press, 1994;
- Galvin, John R. The Minute Men : The First Fight : Myths & Realities of the American Revolution. An AUSA Book. 2nd ed. Washington: Pergamon-Brassey's International Defense Publisher, 1989;
- Fleming, Thomas J. Liberty! : The American Revolution. New York: Viking, 1997; and
- Bradford, Charles H. The Battle Road : Expedition to Lexington and Concord. Boston: Rotary Club of Boston, 1975.

The British were beginning to discover that old men would be among their most formidable adversaries this day.

_____

The action this day was also aided by individual militiamen, including old men who were experienced hunters and veterans of earlier wars. Among these was 55-year-old Hezekiah Wyman. The vital records of Woburn, MA published in 1890, say that Hezekiah Wyman was born on August 5th, 1720. He was fifty-four years old during the Battle of Lexington and Concord. His wife told him he was too old to fight, and, of course, he ignored her. He became highly visible and highly feared. A tall man, riding his white horse with his long gray hair flowing behind him in the wind, he delivered death to the King's army. In fact, writing letters home, the Regulars called him DEATH. They knew that whenever he appeared, someone would die. He would ride within range of his accurate long musket, but out of range of the Regulars' muskets, lay it across his saddle, squeeze off a shot, and a Regular would fall. He would then ride off to repeat the process again and again and again. Can you imagine being one of the Regulars? Every time you saw him you would wonder if you were his target this time?

Remember that the heaviest casualties occurred at the village of Menotomy. The British cleared every house on the road in the village. One of these houses belonged to Jason Russell, 58 years old and lame. He fortified his house and gathered neighbors for an attack on the Regulars. He was shot dead and bayoneted 11 times.

Eleven Colonists were found dead in his house afterward. The blood was so deep in one of the rooms that it ran over the tops of the shoes of his wife who entered later. Eleven men were also found dead in his orchard. Some of these had surrendered. After robbing them, the Regulars executed them. Jason had been warned that this was not a smart move by his neighbor from across the street, one of the old men who had ambushed the supply convoy with David Lamson. Jason replied that "*An Englishman's home is his castle.*"

Eighty years old, and crippled, Samuel Whittemore, from Menotomy, was an old soldier who earlier had been a commander of dragoons for the Crown. He grabbed a musket, two pistols and his old cavalry saber and told his wife he was going uptown to meet the Regulars. He took a position behind a stone wall 150 yards from the road. He got off five shots with such speed and accuracy that a detachment was sent after him.

Whittemore killed three British Regulars before he was attacked by a British contingent (1 of the soldiers with his rifle, two with his pistols) and was reaching for his saber when he was shot in the face and then bayoneted 13 times. The Regulars left him for dead. He recovered from his wounds and later died in 1793 at age 98.

Samuel Whittemore became the oldest known colonial combatant in the American Revolutionary War (1775-83). A monument in Arlington, Massachusetts reads: "Near this spot,

Samuel Whittemore, then 80 years old, killed three British soldiers, April 19, 1775. He was shot, bayoneted, beaten and left for dead, but recovered and lived to be 98 years of age."

Deacon Josiah Haynes, from Sudbury, was 79 years old, but still turned out with the militia. He set such a rapid pace on the road that it left the young minutemen panting behind him. He didn't have to go, but he made the decision to help preserve liberty, and it cost him his life. He was shot down at Concord while reloading his musket. His gravestone in the Old Cemetery in Sudbury Center bears this epitaph: "In memory of Deacon Josiah Haynes who died in Freedom's cause ye 19th day of April 1775; in the 79th year of his Age."

Appendix 6: IIT0 Progress Check

Project Appleseed
IIT0 Progress Check (PC0, Orange Hat)

Message from Fred:

Welcome to what is a new part of the program for you. As an Appleseeder, you've mastered marksmanship, heard the Story, and responded to the sound of the trumpet. You've decided that your country needs help, and you have responded to that need. Thank you.

Because you want every ounce of the energy you put into this program to have maximum impact, it's important that you understand what this program is about - the structure of Appleseed, how each piece relates to the whole, and why each piece is important. It's outlined at http://appleseedinfo.org/smf/index.php?board=413.0. Every instructor should be familiar with the Appleseed Guidelines in the Instructor Manual. Future PCs will require that you list a few of them.

It's important for you to understand where Appleseed is heading, and for your local Shoot Boss to understand what motivates you. The following questions will furnish some insight into your personal vision of the role you are about to undertake.

What is your understanding of the Appleseed mission and message?

What is your understanding of the urgency about this mission?

Appendix 7: IIT1 Progress Check

Project Appleseed
IIT1 Progress Check (PC1)

Message from Fred:

Now that you're on the journey to becoming an Instructor, and you're ready to prove it by taking the Progress Check for IIT1, here are some thoughts and suggestions:
First of all, you'll find the harder task is not learning how to teach marksmanship. It's not even learning to "tell the Story".

The hardest task is understanding what Appleseed is, and answering the call which you hear from it. It's figuring out things, like "what is commitment?" and "how can my commitment help this program to help America?"

To aid you in this process I'll remind you of something mentioned on your PC0. A good introduction to Appleseed is contained on the Forum at: Instructor Info > Special Message to New Instructors from Fred, or http://appleseedinfo.org/smf/index.php?board=413.0
If you haven't yet read this material, I ask again that you do so and list a few of the Appleseed Guidelines in the Instructor Manual, in response to one of the questions below.

You're about to learn that Appleseed is about much more than marksmanship and heritage. It's about being a better American, an American not only "off the couch" for the duration, but awake, alert, and committed to making this country what it once was - a land alive with alert, educated Americans willing to ensure liberty shines bright in this land once again, and this means that you, as one of those Americans, will be working with other like-minded Americans, as a team, to awaken all the others.

Your road to Instructor may not always be easy. The Appleseed trail is not always easy for our instructors, either, but they've learned to persist, because that's what Riflemen do, and if you ask any Instructor, they'll still tell you, "Yes, it's definitely worth it!"

What aspect of Project Appleseed drew you to become a Project Appleseed Instructor?

How do you define commitment?

With the understanding that, as a professional Project Appleseed Instructor, you are a role model, both in person and on the forum; are you willing to work as part of a team, in order to help accomplish the Appleseed Mission?

Briefly list any two of the Appleseed Guidelines.

When you see ANY instructor, regardless of the hat color, doing something they should not be doing during an event, how should you handle it, and does the color of your hat matter?

Project Appleseed
IIT1 Progress Check (PC1)

Date: _____ **Location:** _____

IIT Forum Name: _____
IIT Name: _____

SB Forum Name: _____
SB Signature: _____

Technical Portion:

The following IIT PC is to be administered by a **Shoot Boss** when determining the abilities of an IIT for possible upgrade in status. Passing score is 90% (10 of 11)

IIT1 Capabilities: Executes the duties of RSO and LSO to standards

Does Line Boss duties well?
☐ Pass ☐ Fail

Answers may be done by demonstration or written/oral. Answers don't need to be verbatim, unless specified.

1. What are the 4 Safety Rules? (Verbatim answer required)

_____
_____
_____
_____

2. What constitutes a safe rifle?

_____
_____
_____
_____

3. You encounter a rifle that you are unfamiliar with on your section of the line. What do you do?

4. Describe the duties of the RSO / LSO:

5. Describe the procedures for the RSO / LSO:

6. The last command was “Is the line ready on the right”. You are working the right side of the line and hear a shooter shout “No!” and raises his hand. You engage and find he is having trouble loading his rifle. What do you do?

7. The last command given was “Is the line ready”. A shooter near you raises his hand and indicates he is having problems. You note an unsafe condition that you think needs to be corrected. What do you do?

8. When acting as Line Boss what two items should you have with you?

9. Who designates which rifle is an “overlap rifle”?

10. Who designates which instructors will also serve as RSOs?

11. When asking “Is the line clear on the right?” who and what are you looking for?

Appendix 8: IIT2 Progress Check

Project Appleseed

IIT2 Progress Check (PC2)

Message from Fred:

It's great that you've made it this far! It shows admirable steadiness, commitment, even backbone and persistence.

But though you're making great progress, you're not to the end of the road yet.

I'm going to suggest there is a "Step 4B" in Appleseed, comparable to Step 4B in the "Six Steps to Firing a Shot". Step 4B in Appleseed is to stay focused on what's important. **While keeping the front sight on the target is crucial, it is equally important in Appleseed to keep your mental focus on the Mission. Everything else is secondary. It's all small stuff, compared to saving the country, right?**

Keeping your mental focus where it belongs is not all that easy. After all, there are always a lot of distractions, irritations, and other things to distract you from staying focused where you need to stay focused. There may be times that you'll have to work hard to keep that loss of focus from happening.

That focus is the springboard for everything else in the program. **The feeling that we may not have enough time left to save the nation should inspire you with a sense of urgency about our Mission. That sense of urgency should inspire you not only to continue your own participation, but to recruit others to join us in our efforts.** Many things flow from maintaining your focus on the Mission.

Be awake, be aware! And good luck on your PC!

Once you become an IIT2, be sure to check out the special posts at http://appleseedinfo.org/smf/index.php?board=412.0 which will go a long way toward educating you in what this program is all about. The more you know about Appleseed, the more effective you'll be as a volunteer in this program.

What are three characteristics of an effective Project Appleseed Instructor, and why are these characteristics important?

What is professionalism, and why is it important in an Appleseed volunteer?

Why is persistence important? Why is persistence important for a professional Project Appleseed Instructor?

List three Appleseed Guidelines which you have not previously listed.

In the context of Project Appleseed, what is ego? Give an example how *ego* can be detrimental to our mission

Project Appleseed
IIT2 Progress Check (PC2)

Date: _____ Location: _____

IIT Forum Name: _____
IIT Name: _____

SB Forum Name: _____
SB Signature: _____

Technical Portion:
The following IIT PC is to be administered by a **Shoot Boss** when determining the abilities of an IIT for possible upgrade in status. Passing score is 90% (13 of 14)

This PC requires a demonstration of ability for items 1 and 2.

IIT2 Capabilities: (In addition to the IIT1 duties and procedures):

Executes the duties of Line Boss to standards
☐ Pass ☐ Fail

Instructs the line well in basics
☐ Pass ☐ Fail

Answers may be done by demonstration or written/oral. Answers don't need to be verbatim, unless specified.

1. What are the line commands, (verbatim), and what are you looking for during them? (Have the IIT perform Line Boss duties and evaluate)
☐ Pass ☐ Fail

2. Correctly demonstrate (model) the prone position, sitting/kneeing positions, and standing position for an instructor teaching the steady hold factors.
☐ Pass ☐ Fail

3. When would you use the command “Stand easy!”?

4. After giving the above command, how would you “re-activate” the line?

5. Describe the duties of the line boss:

6. As an Instructor, you engage a prone shooter. What specifically are you looking for?

7. You are working as an Instructor on a very long line and are asked to “echo” the commands. Which commands would you echo and how?

8. What would you advise for a shooter who has vertical stringing?

9. What would you advise for a shooter who has horizontal stringing?

10. What would you advise for a shooter who had diagonal stringing?

11. What would you tell a shooter who has a nice tight group, centered on the first target of stage 2, but his group is off center of target on the second one?

12. On stage 2 a shooter has 2 rounds in the 5-ring with 2 rounds in the 3-ring at 3 o'clock and one round out at 4 o'clock on the 1st target. What likely happened?

13. After shooters bring rifles to the line, your Shoot Boss notes a tube-fed rifle. He asks you to brief the shooter on the loading procedure for tube-fed rifles. What do you tell the shooter?

14. Appleseed Guideline #10 states "No Current Politics." How would you handle a situation where you see a fellow volunteer drift into politics outside of the Colonial & Revolutionary War eras? What if the volunteer happened to be the Shoot Boss?

Appendix 9: IIT3 Progress Check

Project Appleseed
IIT3 Progress Check (PC3)

Message from Fred:

With this PC, you're moving rapidly toward being a full Instructor in the Appleseed program. Congratulations for reaching this point!

As an IIT3, you're capable of teaching basic marksmanship. Another Appleseed or two to get you comfortable and experienced, and it'll be time to move up to what many people think is the tough part of the program - being able to tell the Story. (But you'll find it's not so hard, if you follow our directions.)

Now, some concrete suggestions which involve using the Appleseed Guidelines:

1. As an IIT3, you have confidence in your marksmanship skills, and you may have a tendency to want to directly answer a student's plaintive question, "What am I doing wrong?" Appleseed guidelines ("teach 'em to fish" and "mentor") suggest you don't give them an answer, but give them a question: "What do you think you're doing wrong?" If they don't know, ask them if they called each shot, which will give you the opportunity, when they answer, to say "if you want your group to hit that magic '1 inch or under', you need to fire all your shots by all the numbers, not just some of them - and 'calling the shot' is one of the numbers".
2. Understand that what you're doing is teaching the student to become more *aware* - aware of what he *is* doing, and what he is *not* doing. You're not going be at the range the next time he's there, so he'll have to learn to think for himself, and right now is a good time for him to start. You also want him to start thinking and acting in precise ways - adjust the sling, not at random, but one at a time - and to increase his awareness of what he is doing. (The chapter on the Ball & Dummy drill will help with that.)
3. One way you do this is another Appleseed guideline: Framing. The student likely does not have the experience to understand a lot of what is happening during the Appleseed, and it will be your job to put it into perspective for him. For example, he will likely not know that the excruciatingly uncomfortable prone position will, if he persists, soon become comfortable. That is, he won't know, until you tell him - until you "frame" it for him. Framing can be informative, and it can be motivational. An example of the latter is to, when it comes to explaining the G.I. web sling, make sure he hears you say, "this is the best sling on the planet, and you need to know how to make it work because it will help you shoot well beyond your expectations, and because of that, you'll want to own one soon".

Project Appleseed
IIT3 Progress Check (PC3)

Date: _____ Location: _____

IIT Forum Name: _____
IIT Name: _____

SB Forum Name: _____
SB Signature: _____

So, welcome to the IIT3 PC, an important milepost in your progress to earning your Red Hat.

In Project Appleseed, there are many opportunities for leadership. What are characteristics of a good leader?

Project Appleseed places great value on teamwork. What does "being on a team" require of you?

Who do you think Appleseed is for?

Why do you think Appleseed is necessary?

What is the key word of Appleseed, and why?

What do you think is the role of marksmanship in Project Appleseed?

List three additional Appleseed Guidelines besides the ones discussed above and those you have given previously.

Project Appleseed
IIT3 Progress Check (PC3)

Date: _____ **Location:** _____

IIT Forum Name: _____
IIT Name: _____

SB Forum Name: _____
SB Signature: _____

Technical Portion:
The following IIT PC is to be administered by a **Shoot Boss** when determining the abilities of an IIT for possible upgrade in status. Passing score is 90% (12 of 13)

IIT3 Capabilities: (In addition to the IIT1 and IIT2 duties and procedures)

- Engages the shooters constantly and instructs to standards.
- Able to teach the 4 Safety Rules, 6 Steps of Firing the Shot, Positions, Marksmanship Instruction Drill, Sling Use, NPOA, Inches-Minutes-Clicks, Talking Targets, Rifleman's Bubble & Cadence, and the various Drills.

Items to be taught must be presented in front of shooters. Answers don't need to be verbatim, unless specified.

1. Teach the 4 Safety Rules (verbatim) and explain them in your own words with simplicity and precision

☐ Pass ☐ Fail

2. Teach the 6 Steps to Firing the Shot (verbatim) and explain them in your own words with simplicity and precision

☐ Pass ☐ Fail

3. Teach the prone position with a loop sling

☐ Pass ☐ Fail

4. Teach how to find/confirm NPOA in standing position and how to shift it onto target

☐ Pass ☐ Fail

5. Teach how to find/confirm NPOA in standing position and how to shift it onto target
☐ Pass ☐ Fail

6. Teach how to Card the Sights
☐ Pass ☐ Fail

7. Teach Inches-Minutes-Clicks
☐ Pass ☐ Fail

8. Teach "basic" Talking Targets
☐ Pass ☐ Fail

9. Teach Rifleman's Cadence
☐ Pass ☐ Fail

10. Teach the sitting positions with a loop sling
☐ Pass ☐ Fail

11. Teach the standing position with a hasty sling
☐ Pass ☐ Fail

12. Explain the Hits Count (a.k.a. Redcoat) target and how to shoot it:
☐ Pass ☐ Fail

13. Explain each stage of the AQT and how to Shoot it.
☐ Pass ☐ Fail

14. The Line Boss just called cease fire. You observe a tube-fed shooter who has not fired all of his rounds and needs to make his rifle safe. How do you advise him to empty his rifle?

Appendix 10: IIT4 Progress Check

Project Appleseed
IIT4 Progress Check (PC4)

Message from Fred:

Wow! You're here, at the PC4 level, ready to take that last step before becoming a full Red Hat Project Appleseed rifle marksmanship Instructor. Your progress is demonstrating that you have what it takes to be one. The Founders would be glad to know there are still Americans like you. By now, you're familiar with the Appleseed Guidelines, and are aware of the many things which can get in your way, making you less effective than you could be.

Hopefully, you've managed to understand what those things are (the first step in fixing any problem) and understand the way to fix them is to never let them come between you and the Appleseed Mission. You do this by staying focused on that Mission, and not sweating "the small stuff" - which is everything else. Besides, under the Appleseed Guideline that "in this program, we don't have to live with problems - we fix 'em" - along with the Appleseed Guideline "step up, or evil will triumph" - you will fix any problems as you come across them - or make sure they get referred, not to someone at random, but to someone who can get them fixed.

With this PC, you've reached the core of what Appleseed is all about: History and Heritage - specifically, the Heritage of April 19th, 1775. We tell the Story like it was, historically accurate and correct - the Story your listeners never heard in school (in fact, you likely never heard it, either).

Telling this Story is key to the success of Appleseed. We will not save the country solely by teaching marksmanship. We'll save the country by sending the harpoon of Heritage into every heart we can get to an Appleseed.

It means you want to tell the Story like you feel it. You don't have to be overemotional. You don't have to be loud or pushy in telling it. Simply tell it, like any good storyteller would tell it. You can start off with short stories - like Dangerous Old Men - to break that "public speaking" ice.

Try to tell it without using notes, or with just minimal notes as reminders. Don't sweat trying to remember everything - the key points are summarized for you at TIPs. The Story really tells itself. Tell it from the heart. You know it, so tell it. You don't have to embellish the facts; they speak for themselves.

There are a few times when you stop and put things in perspective - like in the First Strike, when you ask them, "if the colonists, with no cell phones, no Internet, can get 14,000 marching on six hours' notice - how many could *you* get, today, on six hours' notice?" This particular topic is discussed in TIPS on the forum under the title, "Guideposts for Telling the 1st Strike. In fact, it is Guidepost # 3 and is referred to as "Performance". Guidepost #7 is referred to as "Choice".

In conjunction with telling the Story, there are four Questions – and the Big Question – to be woven in when and where appropriate. These items are to be found near the end of the post: http://appleseedinfo.org/smf/index.php?topic=24600

"Telling the Story" is the final skill to master as you approach the test to achieve the coveted title of Project Appleseed Instructor. That will be a test as to how well you understand this thing we call "Appleseed". The more you understand it - the mechanism, the underlying guidelines - the more effective you will be as a volunteer - and you sure didn't volunteer to be ineffective, right?

Good luck in going forward. You're now at the core of the Appleseed program!

Date: _____ Location: _____

IIT Forum Name: _____
IIT Name: _____

SB Forum Name: _____
SB Signature: _____

You are calling the line and a more senior Project Appleseed Instructor crosses the firing line during 'prep'; what do you do? How should it be reported?

Isaac Davis had a wife, four sick children at home, a business to attend to, and fields that needed tending, yet he felt compelled to give his all for Liberty. He faced a difficult choice on April 19th, 1775. If you commit your time and energy to Project Appleseed, what difficult choices might you have to make in your own life?

What is the perfect student-to-Instructor ratio at an Appleseed marksmanship event?

Are you willing to work events outside your state?

Do you view Project Appleseed as a hobby or a mission? Why?

What role does integrity have in Project Appleseed?

Project Appleseed
IIT4 Progress Check (PC4)

Date: _____ **Location:** _____

IIT Forum Name: _____
IIT Name: _____

SB Forum Name: _____
SB Signature: _____

Technical Portion:
The following IIT PC is to be administered by a Shoot Boss when determining the abilities of an IIT for possible upgrade in status. Passing score is 100%

IIT4 Capabilities: (In addition to IIT1, 2, and 3 duties and procedures): Presents the history to standards

This PC is demonstration driven. To pass, all Demonstrations must be passed.

Demonstrations are to be done in front of shooters at an actual Appleseed or Libertyseed.

This PC may be worked on at any level from IIT0 on up. It is suggested to get an early start on it, as full successful completion will take some time. Each SB that gives a passing score will print his forum name, date, location and sign (real name) the appropriate block.

It may be taken in any order the IIT feels comfortable with. Emphasis is more on telling a good story than getting every detail perfect. See the Appleseed Academy videos for successful methods for telling history.

To pass, the presentation needs to be "good enough", not perfect.

First Strike

Date: _____ **Location:** _____

SB Forum Name: _____

SB Signature: _____

☐ Pass ☐ Fail

Second Strike

Date: _____ Location: _____

SB Forum Name: _____

SB Signature: _____

☐ Pass ☐ Fail

Third Strike

Date: _____ Location: _____

SB Forum Name: _____

SB Signature: _____

☐ Pass ☐ Fail

Dangerous Old Men

Date: _____ Location: _____

SB Forum Name: _____

SB Signature: _____

☐ Pass ☐ Fail

Appendix 11: Full Instructor Progress Check

Project Appleseed
Full Instructor Progress Check (IPC, Red Hat)

Date: _____ Location: _____

IIT Forum Name: _____
IIT Name: _____

This IIT has earned a passing score and is qualified for promotion to Red Hat Instructor.
☐ Yes ☐ Not at this time

SB Forum Name: _____
SB Signature: _____

This progress check is used to determine the qualifications of an IIT for advancement to Instructor. The entire progress check will be administered by a Shoot Boss during one 25m event.

Items to be taught must be presented in front of shooters.

A minimum score of 90% (27 of 30) is considered passing. However, even a perfect score does not guarantee promotion if the candidate lacks skills or displays carelessness, a disregard for safety, or a negative attitude.

1. Teach verbatim and explain the 4 Safety Rules.
   ☐ Pass ☐ Fail

2. Teach verbatim and explain what constitutes a “Safe” rifle.
   ☐ Pass ☐ Fail

3. Teach verbatim the standard line commands, and explain them to shooters.
   ☐ Pass ☐ Fail

4. Teach verbatim and explain the 6 Steps to Firing the Shot.
   ☐ Pass ☐ Fail

5. Teach the steady hold factors in order for the prone position.
   ☐ Pass ☐ Fail

6. Teach what NPOA is, how to find/confirm NPOA in prone position, and shift it on target.
   ☐ Pass ☐ Fail

7. Teach the steady hold factors in order for sitting positions.
   ☐ Pass ☐ Fail

8. Teach how to find NPOA in the sitting positions and how to place it on target.
   ☐ Pass ☐ Fail

9. Teach the steady hold factors in order for standing position.
   ☐ Pass ☐ Fail

10. Teach how to find NPOA in the standing position and place it on target?
    ☐ Pass ☐ Fail

11. Teach how to Card the Sights.
    ☐ Pass ☐ Fail

12. Teach the Rifleman's Bubble.
    ☐ Pass ☐ Fail

13. Teach the Rifleman's Dance, using the illustration on page 104-105.
    ☐ Pass ☐ Fail

14. Teach "Inches-Minutes-Clicks".
    ☐ Pass ☐ Fail

15. Brief the Hits Count (a.k.a. Redcoat) target and how to shoot it:
    ☐ Pass ☐ Fail

16. Brief each stage of the AQT and how to shoot it:
    ☐ Pass ☐ Fail

17. Teach the Ball & Dummy Drill:
    ☐ Pass ☐ Fail

18. If a shooter has an SKS, AK, or another open sighted rifle? How would you do clicks?

19. 1 minute of angle represents how many inches at 375 yards?

20. How many minutes are represented by 6 inches at 200 yards?

21. A shooter groups one foot left at 300 yards. What should he do?

22. A shooter's scope says "1/4 inch at 100 yards". His group is 1½ inches low and ¾ inch right at 25 yards. What should he do?

23. What two things should an Instructor do when assigned "Parking Lot Patrol"?

24. What are an Instructor's duties when assigned "Firing Line Patrol"?

25. What four things should an Instructor tell shooters when assigned "Meet and Greet"?

26. Who were:
    - Isaac Davis?
    - Hugh Percy?
    - William Heath?
    - Thomas Gage?
    - John Parker?
    - Major Pitcairn?
    - William Dawes?

27. Why were the Regulars out on the morning of 19th April, 1775?

---

28. Why were two lanterns displayed in the steeple of the North Church?

---

29. What happened at the:
    - North Bridge?
    - Meriam's Corner?
    - Lexington Green?
    - The place called "Parker's Revenge"?
    - Menotomy?

30. Who were:
    - Hezekiah Wyman?
    - Samuel Whittemore?
    - David Lamson?

BONUS QUESTION! What were the casualty counts on 19th April 1775?

British: **Americans:**