



# 2010 Arizona Wing Civil Air Patrol Summer Encampment

## Cadet Shooting Instruction

### 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 what's down, i.e. dirt or a concrete parking lot.

"Always keep the muzzle in a safe direction", means 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 to either the sitting or the prone position.

#### 2. "Do not load until given the "LOAD" command".

Check the "Safety On" prior to "LOADING" the magazine into the rifle. Shooters must maintain "Muzzle Awareness" when loading the magazine. After the magazine is inserted into the rifle, the bolt and double check "Safety On". Do not confuse the command to "PREP a magazine of XX rounds" with the LOAD command. Pepping a magazine means to insert cartridges into the magazine. LOAD means to insert the magazine into the rifle.

#### 3. "Keep your finger off the trigger until the sights are on the target".

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. Remember to maintain muzzle awareness at all times.

#### 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.

## What Constitutes a “SAFE RIFLE”?

### **MAGAZINE OUT**

If the magazine is out, ammunition cannot continue to feed into the rifle.

### **BOLT BACK**

If the bolt is locked back, the firing pin cannot strike a chambered round.

### **SAFETY ON**

IF the safety is engaged, the trigger cannot release the firing pin.

### **CHAMBER FLAG IN**

When a chamber flag is inserted, there cannot be a round in the firearm.

### **RIFLE GROUNDED**

The rifle is on the shooting mat, chamber up so that the instructors can clearly see all the previous requirements have been met.

### **NO ONE TOUCHING THE RIFLE**

Once the rifle has been grounded shooters must step behind the yellow safety line and not return to the rifle until preparation period begins again.

## The Six Steps Of Firing The Shot

### **1. Sight Alignment**

**Aperture or “Peep” sights:** Center the top of the front sight post in the ring of the rear sight. The top of the post should be centered horizontally with an equal amount of daylight on either side. The front sight post should be centered vertically. The top of the post should be half way up the circle.

**Open Sights:** Center the front sight post in the notch of the rear sight. 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 left and right sides of the notch. The Ruger 10/22 rear sights have a plate with a notch in it, and that the front sight bead needs to drop into that notch. The “ears” of the 10/22 sights do not move when the rear sight is adjusted.

**Scopes:** Center the eye so that there are no “shadows”. You should see a full, clear picture.

### **2. Sight Picture**

While maintaining sight alignment, bring the sights onto the target. Place the top of the front sight post on the

bottom of the target. This is called the 6 o'clock hold. All 3 elements should now be aligned: The rear sight, front sight and target.

### **3. Respiratory Pause:**

You cannot 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 that 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.

How long can you hold your breath and expect good accuracy? In 5 to 8 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.

#### **4a. Focus your EYE on the FRONT SIGHT**

The eye cannot focus at more than one distance, and you are now trying to keep 3 things aligned. Hundreds of years of shooting by thousands of riflemen have proven that the best way to sight your rifle is to focus on the front sight.

The target will be fuzzy in the distance, perched on the front sight post like a pumpkin on a fencepost.

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 if you are truly focusing on the front sight.

Scopes create a single focal plane, and you should focus on the reticule, not the target.

If you experience eyestrain, simply focus at a distant object momentarily, and then back to the front sight. This relieves the eye muscles and will allow you to again clear focus on the front sight.

#### **4b. Focus your MIND on KEEPING the front sight on the TARGET**

With all that you can muster, focus your mind on keeping that 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, become automatic and leave the mind free to concentrate on the front sight and target.

### **5. Squeeze the trigger:**

Shooters have a tendency to "snatch" the trigger when the sights are momentarily on the target and before the sights can move off again. Squeeze the trigger straight to the rear using a steadily increasing pressure. The difference between a squeeze and a snatch is CONTROL.

The problem with snatching 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 target is slightly off line, don't release the existing trigger pressure. Simply continue to hold the pressure you have. When the sights come back into place, continue squeezing the trigger. Repeat until the rifle fires.

The middle of the first pad of the trigger finger should contact the trigger in the as low as possible. This provides increased sensitivity, greater mechanical advantage and to prevents touching the bottom of the receiver. The finger should remain in contact with the trigger throughout the shot string.

## **6. Follow Through: (Two parts)**

Follow through has two parts when the shot goes off: 1) **Hold the trigger back** and 2) **Take a mental snapshot of where the front sight was when the shot broke**. We call this "Calling the Shot"

**Hold the trigger back:** Just as with squeezing the trigger straight to the rear, you must continue squeezing the trigger to the rear after the shot breaks and hold the trigger to the rear long enough to allow the bullet to clear the barrel. Try to hold the trigger back until the sights are realigned on the target.

When you begin to release the trigger pressure, release just enough pressure to reset the trigger. You should hear the trigger reset during dry practice and feel a click as the trigger resets. Do not remove your finger from the trigger or let the trigger go all the way forward. Finger travel should only be the distance between "hold back" and "click" you may hear but should always feel the trigger reset. The trigger will continue forward beyond the reset point if you allow it – don't!

**Take a mental snapshot:** The instant the shot goes off you must make a mental snapshot of where the front sight was. That mental snapshot is where the bullet went. Initially it will seem impossible to do, but with practice you will see exactly where the sights were when the shot broke.

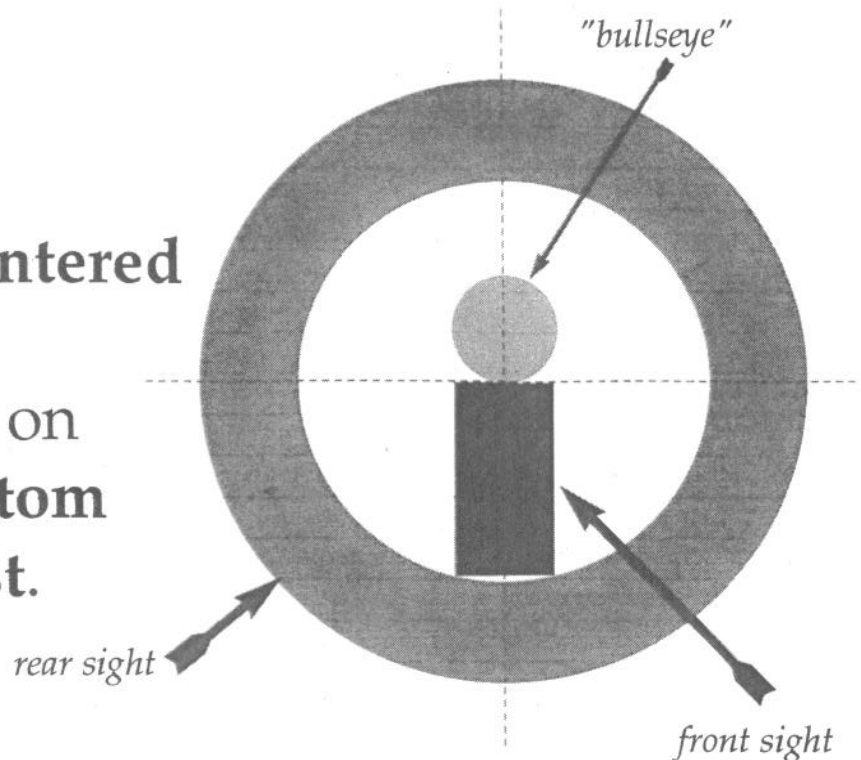
The ability to call your shot is important. As an example, if you called the shot at 5 o'clock and just out of the black. Then when you check the target and that is where the bullet hit, the shot wasn't a bad. The shot actually went where it was told to go. You just need to focus better on sight alignment and do the 6 steps required to put the shot in the center.

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 can even "call the shot" when you dry fire. Even when 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.

# CORRECT SIGHT PICTURES

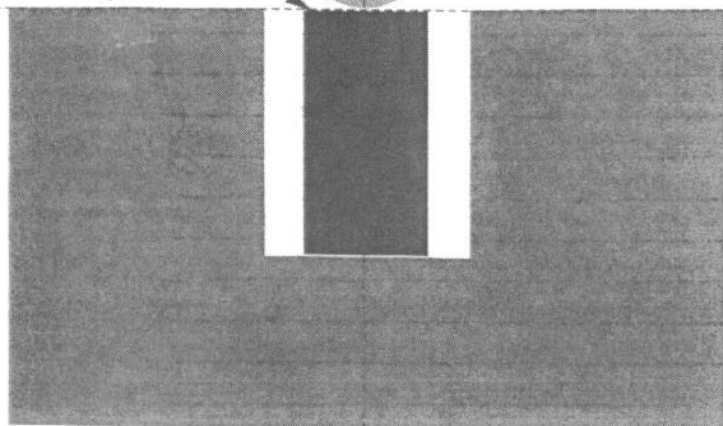
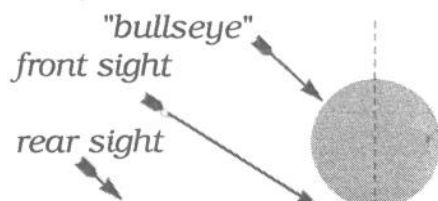
## "PEEP"

1. Front sight **centered** in rear aperture.
2. Bull **centered** on front sight **with bottom edge tangent to post.**



## "OPEN"

1. Front post **centered** in opening of rear sight.
2. Bull **centered** on front post **with bottom edge tangent to post.**



## Sight Alignment

Critical to accurate placing of the bullet is that the front and rear sights be *aligned precisely*.

To aid in this, focus on the **front sight** to keep it sharp and clear. Let the bull go 'hazy' while you **keep the sights aligned - and vertical**.



## An RWVA Applesseed Primer

This primer is designed to facilitate learning while attending an RWVA Applesseed Shoot.

Each participant should know these Rifleman basics.

As a Rifleman, you are presumed to **be a safe and conscientious shooter**, familiar with all safety rules. You don't do anyone any good if you shoot yourself or an unintended target. Here are the Safety rules:

1. The prime rule: **Always keep the muzzle in a safe direction!** Follow it without fail.
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. You, along with everyone else are range safety officers.

## The Six Steps to Firing a Shot

1. **SIGHT ALIGNMENT** -- Line up the front and rear sights: Simply center the front sight in the rear sight.
2. **SIGHT PICTURE** -- Keeping the sights lined up correctly, bring them onto the target
3. **RESPIRATORY PAUSE** -- As you breath the front sight will pass vertically through the target. Use the natural act of breathing to adjust your vertical alignment. Breath deep, slowly exhale, and pause.
4. **FOCUS YOUR EYE ON THE FRONT SIGHT**: It may be a little hard to do at first, as you naturally want to look at the target. But keep your eyes focused on the front sight, even if it means that the target gets blurry.
- 4B. **FOCUS YOUR MIND** -- Keep front sight on target: Your concentration should be on "keeping that front sight on the target". It may help for you to consciously repeat, "front sight on target, front sight on target." This is the big one!
5. **TRIGGER SQUEEZE** -- Squeeze straight back while front sight stays on target: While you are doing both parts of step 4, you'll take up the slack and squeeze the trigger straight back. At the same time, you **MUST** keep your concentration on the front sight! Don't let the front sight off the target; if it does move off target, gently bring it back on target, while continuing to squeeze the trigger. The discharge should *surprise* you.
6. **FOLLOW THROUGH** -- Call the shot and feel the trigger sear: With your sighting eye open, take mental picture of *where* the sights were when rifle discharged. If you can't "call the shot", you won't ever be able to tell whether the shot was bad because you did something wrong. Next, feel the trigger sear reset and/or hear the trigger sear reset. Now you're ready for the next shot. Back to step one.

## NPOA (Natural Point of Aim)

A Rifleman takes his shooting position so that his rifle, with his body relaxed, is pointing at the target. He doesn't have to fight muscle strain and he makes his job of firing the shot a lot easier. Best of all, his shots will be on target, accurately and consistently, because he's not fighting his body's natural position.

Here's how to obtain your NPOA:

1. Close your eyes, relax your body, take a deep breath in and out.
2. Open your eyes and check your sight picture. 9 times out of 10, your sight picture will have changed, because your body is now relaxed.
3. You'll now reestablish your sight picture by making slight adjustments in your position. If you are in the prone position, you'll shift position pivoting around your forward elbow to bring the sights back on the target. In other positions, you will make whatever small adjustments in your position so that the rifle points naturally at the target.
4. Repeat until you've obtained your NPOA

## MOA (Minute of Angle)

Degrees and *Minutes* are measurements of angle. There are 60 minutes in one degree. While 1 degree is a very tiny angle, one minute is only  $1/60^{\text{th}}$  of that. And by coincidence, one Minute of Angle (MOA) is 1 inch **per** 100 yards. Hence, one MOA at 200 yards is 2 inches, one MOA at 300 yards is 3 inches, and so on and so on. Think of a very long ice cream cone, one designed for a 1 inch scoop of ice cream. Imagine it stretching out of the muzzle all the way down to your target, one hundred yards away. The imprint of the cone on the target would be a one *Minute of Angle* circle. If you could fire all rounds within that circle, you would have shot a *one MOA group* at 100 yards.



## Inches, Minutes, and Clicks (IMC)

Understanding the relationships of inches, minutes, and clicks is paramount when attempting random range shots. If one learns the concepts of IMC, one can easily determine the proper sight setting, or hold over, for any known distance.

As a bullet leaves the barrel it immediately begins to drop. The further it goes, the more it drops. The path of a bullet makes a low angled arc. This arc crosses the shooters line of sight twice. Once close up, and again much further out.



**Sighting in at 25 meters:** If you are sighting in your rifle at 25 meters and you missed the bull by  $1\frac{1}{2}"$  to the right and  $3/4"$  high, You would move windage 6 clicks left and elevation 3 clicks down. Using an M1/M1A, **One click is one MOA and 1 MOA equals  $1/4"$  at 25meters/yards.** And when sighted in at 25meters, you are also sighted in at 200 yards.

**Come ups:** Most military .30 caliber rounds are pretty much the same out to 500 yards. Learn the trajectory for one, and you can do pretty well with any military .30 caliber. For those of you using either a Garand or M1A, your trajectory studies are pretty simple. Just memorize the following *Come-ups*: 3, 3, 4, 5 (100-600yds). These numbers represent how many clicks up you have to make with an M1/M1A to compensate for trajectory. Example: If you are sighted in at 200 yards and your target is at 400 yards, you would raise your sight 7 clicks (add 3 clicks to go from 200-300, plus 4 more clicks to go from 300-400). Example 2: If you are sighted in at 200 yards and your target is at 600 yards, you would raise your sight 16 clicks (3+4+4+4+5).

**Battle Sight Zero** is sighted in at 275 yards or 250 meters (25 meter sight in plus 2 clicks). Its function is to give you a simple sight setting for most battle situations. If your target is at 400 yards and you aim center of mass you'll hit 5 MOA (5 clicks) low; 5MOA x  $4" = 20"$ . At 400 yards that's just below the belt on a human target. So aim a little higher and you'll be right on. If your target is at 200 yards, you'll hit 2 MOA (2 clicks) high; 2 MOA x  $2" = 4$  inches @200 yards.

# COMMON FIRING LINE ERRORS

It's a lot of trouble to buy a rifle, ammo, maybe travel a long distance, and lay out in hot and cold weather - so you should *want* to have that shot impact COT [Center of Target]. Therefore, watch out for these common errors, and you'll be ahead of the game:

**#1: Failure to keep eyes open when the rifle fires to 'call' your shot.** To know where the shot just went, you need to take an instant mental photo of where the front sight was when your rifle went off. If you don't, you lose the informational value of feedback from that shot - and you're almost certainly flinching and/or jerking the trigger. So, keep that eye open - call the shot based on the position of the front sight on the target when the rifle fired, and watch for bullet splash downrange for confirmation of your call.

**#2: Failure to pull rifle back into shoulder.** One of the leading causes of trigger jerk, bucking, and flinching is fear of recoil, and the impact of the rifle on the shoulder. If you come away from the firing line complaining about recoil, or a 'sore' shoulder, if you're shopping for a rubber buttpad, this one is what you are doing wrong - and it WILL lead to flinching. So grab the pistol grip firmly and pull the rifle back into your shoulder while you fire the shot, with your cheek firmly pressed down on the stock - so you 'roll' with the recoil. A side benefit: extra pressure of the trigger hand on the stock will give the perceived impression of a 'lighter' trigger, a definite 'plus'.

**#3: Failure to get NPOA.** "Natural Point of Aim" has been said to be the one factor which separates the riflemen from the 'wannabees'. If you don't get your natural point of aim, your shots will be to one side or the other of the target, *even if fired perfectly*, because your body is out of position, and you have to muscle the rifle onto the target. A rifleman takes position so that his rifle, with his body relaxed, is pointing at the target. He doesn't have to fight muscle strain and he makes his job of firing the shot a lot easier - and his shots will be on target.

**Get your NPOA** by lining up on the target with your sights, closing your eyes, relaxing your body, taking a deep breath in and letting it out. Open your eyes and shift position *using your forward elbow as a pivot* to bring the sights back on the target. Repeat until when you open your eyes, your sights are on the target. Once you establish your NPOA, *keep it* by not moving that forward elbow supporting the rifle [prone] or keeping your feet in the same spot [all other positions].

**#4: Failure to pull 'trigger' leg up tight behind trigger arm to absorb recoil and generally tighten position** [prone position]. Try it and you'll see your front sight settle down like it should. Grasping the forearm with the non-trigger hand and pulling slightly back

into the shoulder may also help. (First learn with your hand as a relaxed platform before you try the slight pressure option.)

**#5: Failure to maximize your feedback.** Shooting is *always* learning, and *every shot* you fire should be a learning experience. If you screw a string of fire up so badly you are ashamed of yourself, you keep shooting with those educational purposes in mind. It's not those *last* shots that count; it's the *current* shot that counts. Make *each* shot a 'sighter', and *apply* the 'numbers' to firing that shot.

**#6: Failure to 'follow-through'.** By the time you think "Follow-through" as you hold the trigger back after the shot, this step in 'Firing the Shot' is done. But don't overlook it, because you need to do it, so you don't inadvertently relax and move before the bullet clears the barrel.

**#7: Failure to keep the front sight on the target.** The most important step in "Firing the Shot". Ignore this, and you might as well be shooting blanks. This is a 2-part step: physically focusing your eye on the front sight, and firmly focusing your mind - your concentration - on 'keeping that front sight on the target'. Whatever else you do, you *must* do this for the shot to hit COT. Talk to yourself. Keep up a mantra: "Keep that front sight on the target. Keep that front sight on the target. Keep..."

**#8: 'Flinching', 'bucking' or 'jerking the trigger':** *Flinching* is anticipating recoil by an abrupt backward motion of your shoulder to get 'away' from it. *Bucking* is anticipating recoil by shoving your shoulder forward to 'make up' for or 'resist' the impact. *Jerking* is snapping the trigger quickly to get the disagreeable experience over with as soon as possible.

All three'll throw your shot off target - in fact, ANY ONE of them is GUARANTEED to throw your shot off the target. All three (usually lumped under the generic *flinching*) are natural responses to your body's dislike of sudden impacts.

You have to work to control your body so the rifle is not disturbed by any movement at the time the hammer falls.

You do this in several ways. One is to eliminate the recoil impact by pulling the rifle snugly back into your shoulder, so that there is no impact, and you simply ride the 'push' of the recoil. If you don't pull it back tightly into your shoulder, the rifle has time to pick up speed and slam your shoulder, and you start to flinch, buck or jerk the trigger in response. So pull it back into your shoulder, keep your cheek firmly pressed into the stock, and you'll do OK.

Second, keep your eyes open so you can take that instant mental photo of where the front sight was on the target at the instant of firing. If you can't do this, you know you are guilty of flinching, bucking, or jerking.

Third, concentrate on keeping the front sight on the target. Pulling the trigger is not the main task - No! Keeping the front sight on the target is the main task. So practice until that trigger finger is 'educated' to take the slack up and steadily increase the pressure when the front sight is on the target, 'freeze' when the front sight drifts off the target, and continue the squeeze when the sight is back on the target. You'll have to do this in the 6-10 seconds you're holding your breath. If you don't fire the shot in that time, simply relax, take a deep breath and start over. [Trigger finger tips: middle of the pad of the first joint, or the first joint itself, should be where the trigger touches the finger. Keep the finger clear of the stock ('dragging wood') as it will throw your shot off. Visualize a straight pull back, not to the side.]

You can avoid dragging out the shot by starting early getting used to firing each shot in 'rapid' cadence - about a shot every 3 seconds.

Even the best riflemen can develop a flinch, so periodically do 'ball and dummy' drill to test for one. Then use 'ball and dummy' until you are 'cured' (but remember the cure will rarely be permanent, so you periodically recheck). Twenty rounds should suffice for both the detection and the cure. Have a friend 'load' and hand the rifle to you [make sure all safety precautions are observed] either with or without a round in the chamber.

Usually, he will start off with a live round to 'juice up' any tendency to flinch, and then give you an empty one to see if there is movement in the muzzle when the hammer falls. He continues with 'empties' until your muzzle doesn't move. Then he feeds a live one followed by more 'empties' - actually, he is trying to 'smoke out' your flinch and get it to show itself. He continues until he is convinced that your flinch is gone. Along the way he will watch your aiming eye to make sure it stays open when the rifle goes off.

**#9: Failure to use your sling** - For over 100 years, the sling has been in military use as an aid to marksmanship. Because of the tendency of the M16 barrel to flex under sling pressure, the sling has been slighted in the last few decades. But make no mistake: *the sling is one of the biggest aids to accurate shooting* that you have, and you always have it with you, to carry the rifle. So, never fire a shot without the sling. Use the hasty sling for standing and anytime you're in a rush, or may need to move fast after firing a shot; and use the loop sling for prone and sitting when you have the time, but try to make sure your upper arm is padded to block muscle tremor and heartbeat, either with a shooting jacket or heavy clothing. It's hard to put a number on how big a

factor in accuracy the sling is: a MINIMUM of 20%, going up to 80% or more. It will help in rapid fire, keeping your position tight, speeding your recovery for the next shot. The bottom line is, ALWAYS USE YOUR SLING - IN EVERY POSITION, FOR EVERY SHOT. Either *loop* or *hasty*.

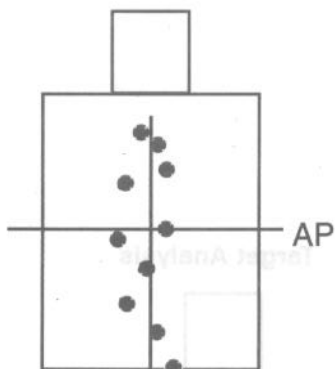
**#10: Failure [sitting position] to put both elbows in front of both knees** - If you've been to the range much, you've seen a new shooter trying to shoot sitting - with that trigger elbow up high in the air, almost like he's shooting standing, totally ignoring that nice big fat knee, as steady as a bench and less than a foot away. The shot will be much better, with that trigger elbow down on the front of the knee, where it belongs (NOT on top, where recoil will knock it off, slowing recovery time). And that other elbow, the one under the rifle? Hunker forward and drop that sucker on the target side of its knee - again to resist recoil. A good sitting position will initially break your back until you get stretched, but once everything falls into place, you can shoot nearly as good as you do off the bench! Don't sell the position short, especially if you are on a downward slope and need to shoot over grass.

**#11: Rushing the shot when you 'run out of breath'** - Once you're in your respiratory pause, you need to fire the shot before you start needing to take a breath. The problem when breath starts running short is, do you fire the shot or not? Most times - if you have the time - the answer is 'don't force the shot'. Relax, take a *deep* breath, and start the shot over. In the early stages of firing the shot by the numbers, where you are really trying to concentrate on the front sight, your trigger finger will seem recalcitrant, and you will have to recycle, maybe several times, before you get the shot off. But don't get frustrated. You are learning the basics, and learning to do them right. As you get better, you'll find less and less problem with this aspect of firing the shot. If you start early getting into the 'rapid' cadence, this one won't be a problem.

**#12: A big failure is to go to the range without a goal.** Your goal should always be to improve your shooting, and come away from each session on the range a better shot. And you do that by firing the Army Precision Combat Rifle Qualification Course - the AQT - which Fred's has reduced to 25m for speed and convenience. Those in the know at RWVA who've fired the full course at 100, 200, 300 and 400 yards will tell you - "*the course at 25m is harder!*" And it is. If you can conquer it, *you'll have no problem at the full distances*, once you get zeroes, and can *estimate range*.

## Shot Group Analysis

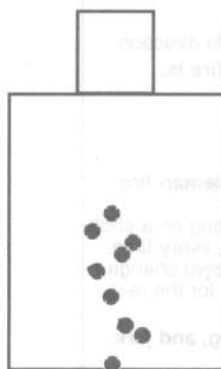
The most common errors in rifle shooting are caused by shooter failure to fire each shot 'by the numbers'. The aiming point on each target is the 'center of mass'. 'Shooter error' is the focus, so weather effects are not considered. Likewise, rifle and ammo are assumed to be accurate, and rifle zeroed. Where a 'right-handed' shooter is assumed, a left-handed shooter will experience the reverse effect.



### Probable Causes:

1. Failure to hold breath or erratic breathing while squeezing the trigger - ie, filling lungs to capacity for one shot but breathing out or exhaling for next shot
2. Eye relief (spot weld) not held constant.
3. Improper vertical alignment of sights.

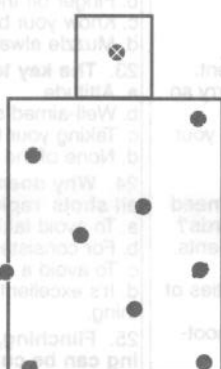
**Solution:** Place cheek on same spot on stock for each shot, be consistent in holding breath, and keep your sights aligned.



### Probable Cause:

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 on the arm.
2. Loose rear sight.
3. Too low a position.
4. Change in position of rifle in shoulder after reload.

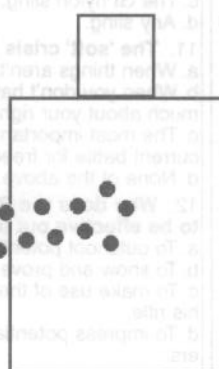
**Solution:** Make sure keeper and loop is tight, sling is same place on arm, and sling tension is uniform from shot to shot. Check rear sight elevation tension and retighten. Check fundamentals of position. Do "2-round" drill - load mag with one round, get in position, fire, change mags, and fire one round. Both rounds should be in same group.



### Probable Causes:

1. No definite group: focusing aiming eye on target, instead of front sight.
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/spot weld not consistent.

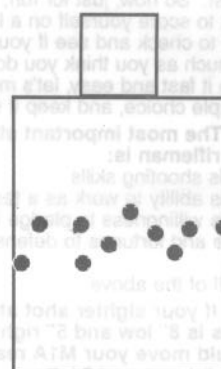
**Cure:** Focus "front sight", not target. Review/practice position fundamentals; fire each shot by the numbers. "Ball & dummy" drill is essential for detecting & curing causes #3 and #4.



### Probable Causes:

1. Finger placed too far into trigger guard. When rifle fires, the finger moves back rapidly and drags against the right side of the stock, causing the rifle, and front sight, to move to the left.
2. Squeezing trigger on an angle, not straight back.

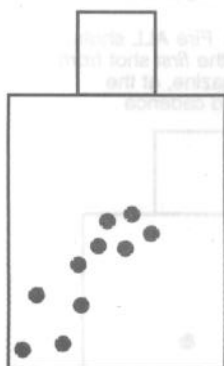
**Solution:** Place finger on trigger so that daylight shows between finger and stock - usually, the first pad of the trigger finger will do it.



### 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 sight
4. Muscling rifle [incorrect NPOA]; loose position.

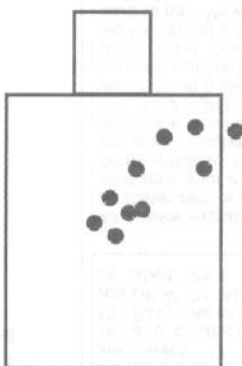
**Solution:** Keep sights and rifle vertical for each shot; always align sights correctly. Check/tighten front sight. Check NPOA.



### Probable Causes:

1. "Bucking" - a slight push with the right shoulder on the butt in anticipation of recoil will move the sights, and the shot, in the 7-8:30 area. Effect is opposite for left-handed shooter.

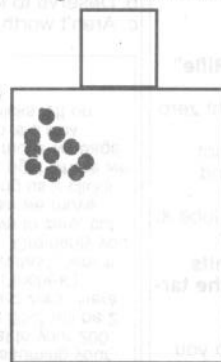
**Solution:** "Ball and Dummy" drill to detect and correct. Feed the shooter dummy rounds or empty rifle until he quits flinching, bucking, and jerking the trigger - all revealed by muzzle motion when the hammer falls on a dummy or empty chamber. Once he settles down, feed him a couple live rounds and then some more empties as a double-check.



### 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 heel of the right hand is pushed forward slightly, causing the sights to go up and right. Effect is opposite for left-handed shooter. [especially M16/M14E2 pistol-grip stocks]

**Solution:** "Ball & Dummy" until shooter is cured.

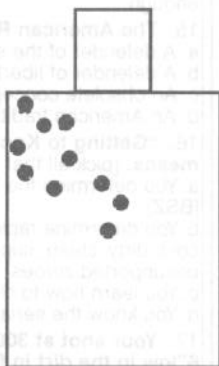


### Probable Causes:

Compact group, out of AP.

1. Same error each time, in this case a left-handed shooter 'heeling' each shot.
2. Natural Point of Aim [NPOA] not obtained, forcing the shooter to 'muscle' the sights onto the target.

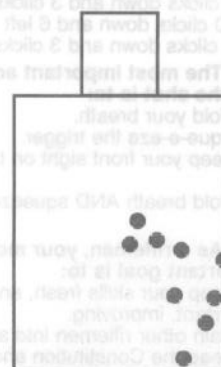
**Solution:** Check NPOA: line sights up on the target, close your eyes, relax your body, deep breathe in, let it out, and open your eyes. If the sights are now off the target, shift your weight slightly around the elbow under the forearm [prone] to bring the sights back on the target. Repeat the process until you open your eyes and the sights are on the target. Then anchor elbow.



### Probable Causes:

1. Failure to 'followthrough'; shooter failed to hold 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 word "followthrough" as you hold the trigger back an instant after the rifle discharges, and you will solve the problem.



### 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 shot.
3. Left elbow not being under the rifle, right elbow slipping, loose sling [prone], or the left elbow slipping down the leg, right elbow slipping [sitting].
4. Binding of forearm with left hand.

**Solution:** On 1) and 2) above, "ball and dummy" training.

Seldom does a shot group show only one error. Remember to eliminate from consideration any 'called' shots - you already know about them! Never forget: 'bucking' shots are usually 7 to 10 o'clock, 'flinching' and 'jerking' shots tend to 1 to 5 o'clock, but may be anywhere on the target. Remember you have a zero for each position, and a zero for varying cadences, which you establish via actual practice.