



The Flyer

Official Newsletter of the
Airfield Shooting Club

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Airfield Shooting Club

at the Airfield 4H Center ~ Wakefield, Virginia

P.O. Box 250, Wakefield, VA 23888

Fall Shooting News



Inside this Issue:

ASC Member of the Quarter: A Moment of Reflection

This quarter, we unfortunately did not receive any nominations for the **ASC Member of the Quarter** award. However, it is important to acknowledge that there are many club members who regularly dedicate their time and effort to making our gun range the exceptional facility it is today.

From maintaining the grounds to organizing events and ensuring safety, these members volunteer behind the scenes to keep our club running smoothly. Their contributions make a significant impact, and our community wouldn't be the same without their hard work and dedication.

We encourage everyone to take a moment to reflect on how we can show appreciation for these selfless individuals. Whether it's a simple thank you, offering to lend a hand, or nominating someone in the future, recognizing their commitment is a small but meaningful way to express our gratitude.

Thank you to all who contribute to making **Airfield Shooting Club** one of the premier clubs in Southeast Virginia. Let's continue to build on this strong foundation together!

Contacting Match Directors

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Keep up to date on facebook at
<https://www.facebook.com/groups/airfieldmembers>

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Airfield Shooting Club Newsletter: We Want to Hear From You! by Tom Sanford

Dear Airfield Shooting Club Members,

As we continue to strive to make our quarterly newsletter an informative, engaging, and valuable resource for all our members, we want to make sure it reflects what matters most to **you**. Whether you're a seasoned competitive shooter, an avid hunter, or just enjoy spending time at the range, your insights and suggestions are invaluable in helping us improve the content we provide.

What Topics Would You Like to See?

We're reaching out to ask for your input on topics you would like to see covered in our future newsletters. Whether you're interested in hearing more about specific aspects of shooting sports, tips on firearm maintenance, hunting regulations, upcoming events, or legislative updates—this is your chance to shape the content we share with the club. Some potential areas we're exploring include:

- **Firearm Reviews and Gear Recommendations:** Do you want to hear more about the latest gear, firearms, or accessories? Let us know which products you're curious about, and we can provide reviews or comparisons.
- **Tips & Tricks for Marksmanship:** Are there specific shooting techniques or strategies you'd like us to cover? From rifle accuracy to improving your pistol handling, we'd love to dive into topics that can help enhance your skills.
- **Event Highlights:** Do you enjoy reading about past events, competition results, or club outings? Or perhaps you'd like more in-depth coverage on what's happening within the club.
- **Training & Education:** Would you benefit from articles on upcoming training sessions or in-depth guides on firearm safety and maintenance? We're happy to offer step-by-step tutorials or safety reminders
- **Legislative News & Advocacy:** Staying up-to-date on firearm laws is important for all of us. Would

you like more information on local or national legislative updates that impact your rights as a gun owner?

Your Voice Matters

We understand that our club is made up of members with diverse interests and expertise. That's why we want to ensure our newsletter reflects the full spectrum of topics that appeal to everyone. Your feedback will help us tailor our content to meet the needs of the entire membership.

How to Submit Your Ideas

If you have any suggestions, ideas, or specific topics you'd like to see featured in future newsletters, we encourage you to share them with us! Here are a few easy ways to submit your ideas:

Email Us: Send your suggestions to editor@airfieldshootingclub.org with the subject line "Newsletter Ideas."

Talk to Us in Person: Next time you're at the range or attending a club event, feel free to speak with any of our board members, event organizers, newsletter editor, or range safety officer. We would love to hear your ideas.

Come to the Board Meetings: Stop by and get to know the board members and listen to what is happening or what is in the planning stages. The board is constantly discussing ways to improve the club for its members.

Get Involved!

If you have a passion for writing, photography, or sharing your shooting experiences, we also welcome contributions from members. Whether you'd like to write an article, share photos from a recent event, or provide expert advice, we'd love to feature your work in our next edition.

We look forward to hearing from you and continuing to create a newsletter that keeps us all connected and informed. Thank you for being a part of the Airfield Shooting Club, and for helping us make our newsletter



In Southeast Virginia, the terrain, weather, and deer habits offer a unique set of challenges and opportunities. Here's how to adapt your preparation and gear for this region: by Tom Sanford

1. Understanding the Terrain and Habitat

- **Wooded Areas:** Southeast Virginia has thick forests, with a mix of hardwoods and pine. Deer often bed down in dense cover, so focus on areas with thick brush or young growth.
- **Farmland and Clearings:** Many deer feed on agricultural crops, so targeting areas near cornfields, soybeans, and food plots can be productive.
- **Swamps and Wetlands:** Deer are known to seek refuge in swampy areas, which can make them difficult to approach but less pressured by hunters.
- **Transition Areas:** Focus on the transition zones between these habitats, such as the edge of a forest near a field or swamp. These are prime areas for spotting deer moving between feeding and bedding sites.

2. Weather Considerations

- **Warm Early Season:** Early in the season (October), it can still be quite warm in Virginia. Lightweight, moisture-wicking clothing is essential for staying cool, along with scent-control measures since you're likely to sweat more.
- **Colder Late Season:** By November and December, it gets colder, so dress in layers to stay warm without overheating. Insulated boots and gloves will help during these colder months.
- **Rain and Humidity:** Be prepared for wet conditions with waterproof gear, especially since rain is common in the fall. A tree stand umbrella or a waterproof ground blind can keep you comfortable during long sits in the rain.

3. Deer Behavior in Southeast Virginia

- **Pre-Rut and Rut Timing:** In Southeast Virginia, the rut typically peaks in mid-November. Bucks will

become more active and visible, chasing does and responding to calls and scents. This is the best time to rattle antlers, use grunt calls, and apply doe-in-heat attractants.

- **Hunting Pressure:** Public lands and popular hunting areas can get crowded, so hunting during weekdays or accessing more remote areas will give you an edge. Bucks in these areas tend to become more nocturnal or take refuge in dense cover due to hunting pressure.

4. Adapting Gear for Southeast Virginia

- **Mosquito and Insect Protection:** In the warmer, early season, mosquitos and other insects can be problematic. Use insect repellent or wear lightweight clothing with built-in bug protection.
- **Tree Stand or Ground Blind:** Since there's a mix of thick woods and open fields, using a tree stand near a transition area or a portable ground blind in field edges can offer excellent opportunities. Ensure your tree stand setup allows good visibility but keeps you concealed in the thick Virginia woods.
- **Clothing:** Use scent-control clothing with moisture-wicking properties for the warm days, and bring layers for cold mornings and evenings. Camo patterns should match the dense woodland or farm fields typical of Southeast Virginia.
- **Waterproof Boots:** Southeast Virginia can be swampy, especially in low-lying areas, so waterproof boots are essential for keeping your feet dry when navigating through marshy terrain.
- **Trail Cameras:** Set up trail cameras near feeding areas or game trails leading from dense cover to open fields. This will help you pattern deer movement before the rut kicks in.
- **Navigation Tools:** GPS or mobile hunting apps with detailed maps of the area are helpful to mark locations, trails, and stands, especially if you're hunting on public land or in unfamiliar swamps and forests.



5. Additional Tips for Southeast Virginia

- **Focus on Food Sources:** Early in the season, bucks will still be heavily focused on feeding. Target areas near acorns, soybeans, or cornfields, where bucks will be feeding as they bulk up for the rut.
- **Hunt the Edges of Thick Cover:** Big bucks often bed in dense, swampy cover during daylight hours and only emerge into open fields or clearings in the evening. Set up on the edges of these thick areas where they are likely to travel.
- **Use Wind to Your Advantage:** Since Virginia bucks are pressured and have excellent noses, always pay attention to the wind direction. Hunting with the wind in your favor is critical for staying undetected.

By understanding the specific challenges of Southeast Virginia’s habitat and conditions, you can fine-tune your hunting strategy and gear to put yourself in the best position to harvest a large 8-point buck. Good luck!



Photo from <https://dwr.virginia.gov/wildlife/information/white-tailed-deer/>

As we continue to enjoy our time at the range, we are reminded that it thrives because of the dedication and hard work of our volunteers. We encourage all members to take part in our various range activities and contribute to our community.

Volunteering as a Match Director or a Range Safety Officer (RSO). These positions are critical role that everyone ensures the safety and smooth operation of our facilities. Your presence and vigilance help maintain a secure environment for all shooters.

We also have opportunities to assist with shotgun or range events. Whether it's helping to set up, managing the event, or providing support during the activities, your involvement is invaluable.

Occasionally, we participate in gun shows, and we need volunteers to represent our range, share information, and engage with potential new members. It's

a great way to meet people who share our passion and help grow our community.

Specific range maintenance activities are another area where your help is crucial. From general upkeep to special projects, maintaining our range in top condition requires all hands on deck.

Remember, every member is required to serve a minimum of six hours per year. Not only does volunteering fulfill this requirement, but it also fosters a sense of camaraderie and pride in our range.

Let's work together to keep our range safe, welcoming, and well-maintained. Your time and effort make all the difference!

Volunteer Your Time and Make a Difference!

Dear Members,

Thank you for your commitment and support.



The Importance of Maintaining a Log Book by Tom Sanford

Maintaining a detailed logbook for training and competitions is essential for tracking progress, identifying trends, and making necessary adjustments to improve performance. Here are some key things to record:

1. General Information

Date and Time: Note the date and time of each training session or competition for reference.

Location: Record the shooting range or location. Environmental conditions can vary by range, so tracking this can be useful over time.

Event or Practice: Indicate whether the log pertains to a training session or a specific competition.

2. Rifle and Ammunition Details

Rifle Model and Setup: Document the make and model of your rifle, as well as any modifications (e.g., scope, trigger weight, stock, barrel).

Ammunition Brand and Type: Note the brand, bullet type, and grain weight of the ammunition. Ammunition performance can vary, especially in rimfire shooting.

Lot Number: For competitions, recording the lot number of the ammunition is crucial since even small variations between lots can affect accuracy.

Round Count: Track how many rounds you've fired during the session or event. This can be useful for understanding wear on your rifle and for performance review.

3. Weather and Environmental Conditions

Temperature: Record the temperature, as it can affect the performance of rimfire ammunition.

Wind Conditions: Write down wind speed and direction, as this will heavily influence bullet trajectory in .22LR shooting.

Humidity: Humidity can affect the air density and, subsequently, bullet flight.

Light Conditions: Note the lighting conditions (sunny, overcast, cloudy, etc.), as shadows or bright sun can impact target visibility and sight picture.

Barometric Pressure: For longer-distance rimfire

shooting, barometric pressure may also be relevant, as it can influence bullet drop.

Mirage: If mirage is present, describe its intensity and direction.

4. Target Information

Distance to Target: Record the distance to the target (e.g., 50 yards, 100 yards, etc.).

Target Type: Specify the target type (e.g., paper bullseye, steel plates, NRL22-style targets) and its size.

Sighting In: Log any adjustments made to your scope or sights during zeroing or throughout the session.

Group Size: Measure and record the size of your shot groups in inches or millimeters. This helps track consistency and accuracy over time.

Point of Aim/Point of Impact: Document the difference between where you aimed and where your shots hit, noting any adjustments you made.

5. Wind and Weather Reading

Wind Flags/Indicators: Record your observations from wind flags or mirage, noting how these influenced your shots. This helps build your wind-reading skills over time.

Windage Adjustments: Write down any windage corrections made during shooting and how effective they were.

6. Shooting Position

Position Used: Document whether you were shooting from a prone position, benchrest, standing, or using some other form of support.

Rest/Support Details: If using a bipod, sandbags, or other supports, describe the setup and how it may have affected stability and accuracy.

7. Personal Performance

Mental Notes: Include any thoughts on your mental focus during the session. Were you calm, rushed, or distracted? How did that impact your performance?

Trigger Control: Reflect on how well you executed trigger control, follow-through, and any issues you encountered with pulling the trigger.

Breathing Technique: Record whether your breathing technique was consistent, and note any times you felt



Maintaining a detailed logbook for training and competitions— Continued

8. Adjustments Made

Scope Adjustments: Record any changes made to windage or elevation, including the number of clicks or MOA adjustments.

Trigger Adjustments: If you adjusted the trigger pull weight, document it.

Rifle Adjustments: Note any changes to rifle fit, cheek weld, or other modifications that affected your shooting comfort or consistency.

9. Results and Analysis

Score/Ranking: If in competition, record your score and placement.

Group Placement: Analyze where your shot groups landed on the target, especially in relation to the center or bullseye.

Lessons Learned: Reflect on what worked well and what didn't. Note key takeaways, such as how well you handled wind or whether certain ammunition performed better.

Improvements for Next Time: Record any specific areas where you want to focus on improvement during your next session (e.g., better wind reading, smoother trigger control).

10. Equipment Performance and Maintenance

Rifle Condition: Record any issues with the rifle's performance, such as malfunctioning parts, fouling in the barrel, or wear on specific components.

Cleaning and Maintenance: Log when you last cleaned the rifle and any maintenance tasks performed, as this can impact accuracy.

Keeping detailed records in these areas will help you track your shooting progress, identify trends, and make more informed decisions about adjustments in future training sessions or competitions.

How to Read the Wind by Tom Sanford

Using wind flags provides several subtle but important advantages beyond simply showing the wind direction. Here are some key benefits and methods shooters can use to read the wind:

Advantages of Using Wind Flags:

Assessing Wind Speed: Wind flags not only indicate direction but can also help shooters estimate wind speed. For example, the angle and flutter of the flag can give clues about the wind's strength—barely moving for light winds, fully extended for stronger winds.

Identifying Wind Changes: Wind flags allow shooters to detect sudden or gradual shifts in wind direction, especially critical during long-distance shooting. Tracking flags in different parts of the range can show crosswinds or wind eddies.

Recognizing Wind Zones: Often, wind behaves differently at various distances between the shooter and the target. Multiple wind flags at different points can highlight these variations, allowing better prediction of how the bullet will travel.

Spotting Wind Mirages: Wind flags, in combination with scope observation, help shooters notice mirages (heat waves), which can give valuable clues about wind at ground level.

Avoiding Guesswork: Using wind flags gives a clearer, consistent visual cue of real-time wind data, reducing guesswork and helping shooters apply more precise hold-offs or windage adjustments.

Learning to Read the Wind:

Practice with Wind Flags: Start with simple wind flag setups at different distances, paying attention to how the flag's behavior correlates with bullet impact. Over time, you'll gain an intuitive sense of how much correction is needed for different wind conditions.



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Use Scopes and Binoculars: Watching for mirages through optics can complement wind flags. A boiling mirage means there's minimal crosswind, while a mirage slanted in one direction shows wind moving in that direction. Combine these cues with wind flags for better accuracy.

Learn Wind Estimation: Train by practicing wind calls without instruments. Estimate the wind speed by feel (5-10 mph is a gentle breeze, 10-15 mph starts moving small branches, etc.), then check against your wind flags and bullet impacts.



tion to the angles at which wind flags flutter under various wind speeds and how the wind behaves near physical obstacles, such as hills or trees.



Picture of wind flags used at 100 yards at a NBRSA registered tournament

Use Ballistic Apps: Many modern ballistic calculators allow you to input wind data. Combine readings from wind flags with these calculators to learn how different wind speeds and directions affect bullet trajectory.

By practicing with these tools and paying close attention to wind behavior, you'll improve your wind-reading skills and shooting accuracy over time.

Engage in Various Wind Conditions: Practice in different wind conditions to develop the ability to gauge both wind speed and direction instinctively. Pay atten-



"The Reliability and Practicality of Revolvers for Everyday Carry" by Tom Sanford

I was in a deep discussion with a fellow co-worker about the practicality of revolvers for everyday carry. So I thought it would be a good topic of discussion to consider my next everyday carry selection. In the world of concealed carry, the debate between revolvers and semi-automatic pistols has been ongoing for decades. While both have their merits, there are several compelling reasons why choosing a revolver for everyday carry (EDC) might be the right decision for many gun owners.

Reliability: One of the primary advantages of revolvers is their inherent reliability. Unlike semi-automatic pistols, which can be prone to jamming or malfunctioning due to factors such as improper ammunition, dirt, or debris, revolvers are simpler in design and less likely to experience mechanical failures. This makes them an excellent choice for individuals who prioritize consistency and peace of mind in self-defense situations.

Ease of Use: Revolvers are renowned for their simplicity and ease of use. With fewer moving parts and a straightforward operating mechanism, they are easier to learn and master, especially for beginners or those with limited firearms experience. This makes revolvers an ideal option for individuals who prioritize simplicity and ease of operation in their EDC firearm.

Versatility: Revolvers are incredibly versatile firearms that can chamber a wide range of ammunition types, including various calibers and bullet configurations. This versatility allows users to choose ammunition that best suits their needs, whether for self-defense, target shooting, or hunting. Additionally, revolvers are not as sensitive to ammunition variations as semi-automatic pistols, further enhancing their reliability and performance in diverse scenarios.

Durability: Revolvers are renowned for their robust construction and durability. Built to withstand years of regular use and minimal maintenance, they are often

considered more rugged and dependable than their semi-automatic counterparts. This durability ensures that revolvers remain functional and reliable even under adverse conditions, making them an excellent choice for individuals who prioritize long-term reliability and durability in their EDC firearm.

Concealability: While revolvers may not be as compact or lightweight as some semi-automatic pistols, they still offer excellent concealability for everyday carry. With compact models available in various calibers and configurations, revolvers can easily be concealed on the body or in a holster without sacrificing comfort or accessibility. This makes them a practical and discreet option for individuals who prioritize concealment and discretion in their EDC setup.

In conclusion, while the choice between revolvers and semi-automatic pistols ultimately depends on individual preferences and requirements, there are several compelling reasons why revolvers remain a popular choice for everyday carry. From their unparalleled reliability and ease of use to their versatility, durability, and concealability, revolvers offer numerous advantages that make them a practical and dependable option for anyone seeking a reliable and effective EDC firearm.



Photo from <https://gunmagwarehouse.com/blog>



The Most Effective Bench Rest Shooting Position: Tips, Tricks, and Common Pitfalls by Tom Sanford

I seem to be getting worse as the year progresses in my shooting accuracy. Not long ago a fellow shooter 'zeroed' in a couple of my bad habits that I thought I had mastered. So I took a deep dive in trying to understand my pitfalls and rediscover the best practices to help find the solutions in my poor bench rest performance.

Achieving the most effective bench rest shooting position is key to improving accuracy and consistency. While bench rest shooting minimizes many variables through the use of a solid platform and rifle supports, there are still crucial aspects of body position, equipment setup, and technique that can make a significant difference in performance. Here, we'll explore how to position yourself for optimal results and discuss common pitfalls, along with tips to help you avoid them.

The Ideal Bench Rest Shooting Position

The primary goal of a bench rest shooting position is to eliminate as much human error as possible, allowing the rifle to perform to its full accuracy potential. To achieve this, both the shooter and rifle must be properly positioned.

1. Body Position

Alignment: Ensure that your body is aligned directly behind the rifle. This means your shoulders, head, and spine should form a straight line with the rifle's barrel. This alignment helps to reduce lateral movement and ensures the rifle recoils straight back into your shoulder, improving shot consistency.

Relaxed Posture: Your body should be relaxed but stable. Avoid tensing your muscles, as this can lead to subtle movements that affect accuracy. Rest your arms comfortably on the shooting bench, with your elbows positioned symmetrically to help stabilize your grip.

2. Head and Eye Alignment

Proper Cheek Weld: Your cheek should rest comfortably against the rifle's stock in a consistent position. This is known as the "cheek weld." A consistent cheek weld ensures that your eye is aligned with the optic or iron sights in the same position for each shot.

Natural Sight Alignment: Avoid craning your neck or shifting your body to look through the scope. Your head should naturally fall into position so you can see clearly through the scope without straining.

3. Shooting Hand and Trigger Control

Light Grip: Your shooting hand should lightly grip the stock. Avoid over-gripping the rifle, as excessive pressure can induce small movements. A relaxed, firm grip gives you control without influencing the rifle's natural recoil.

Trigger Finger Placement: Place your finger on the trigger in a straight line. The pad of your index finger should make contact with the trigger, avoiding too much finger inside the trigger guard, which can cause pulling or pushing of the rifle.

4. Non-Shooting Hand

Rear Squeeze Bag: Use your non-shooting hand to control the rear of the rifle by gently squeezing or adjusting the rear bag. This allows for fine adjustments to the rifle's elevation without disturbing its alignment.

Stabilize the Rifle: The non-shooting hand should control the rear of the rifle as steadily as possible. It's often tempting to adjust frequently, but small, deliberate movements are better.

5. Foot Position

Firm Base: Your feet should be flat on the ground, providing a stable base. Avoid crossing your legs or having them unevenly placed, as this can affect your overall stability and balance.

Consistency: Make sure your foot position is consistent for every shot. Moving your legs between shots can shift your body alignment and disturb your setup.



Common Pitfalls and How to Avoid Them

Even with a solid setup, there are common mistakes that can detract from the effectiveness of your bench rest shooting. Here are the most frequent pitfalls and tips to avoid them:

1. Over-Gripping the Rifle

Pitfall: Many shooters grip the rifle too tightly with their shooting hand, thinking it will improve control. However, this leads to unwanted tension and rifle movement.

Solution: Use a light, consistent grip. Let the rifle settle naturally on the front and rear rests, and allow it to recoil naturally without muscling it back into position.

2. Improper Rifle Support

Pitfall: If the rifle is not supported correctly on the front and rear rests, it may shift during the shot, causing inconsistent results. For example, the rifle's fore-end should not be bouncing or moving around after the shot.

Solution: Ensure that the front rest (or bipod) and rear bag are properly positioned. The rifle should rest naturally without tipping or tilting. The rear bag should offer firm but adjustable support for the buttstock.

3. Inconsistent Cheek Weld

Pitfall: Moving your head too much between shots leads to an inconsistent sight picture, affecting accuracy.

Solution: Maintain a firm, consistent cheek weld on the stock. Your head should be positioned the same way for every shot to ensure that your sight picture and alignment are identical.

4. Forcing the Shot

Pitfall: Many shooters rush their shots or "force" the shot if the crosshairs are momentarily on target. This can lead to flinching or jerking the trigger, which reduces accuracy.

Solution: Practice trigger control by applying smooth, steady pressure on the trigger until the shot breaks naturally. If your sight picture is not ideal, do not rush. Take your time to adjust your position or wait for the crosshairs to settle.



5. Inconsistent Rear Bag Use

Pitfall: Using the rear bag improperly by squeezing too hard or adjusting it too frequently can introduce inconsistency into your shooting.

Solution: Practice squeezing the rear bag lightly and consistently to adjust the rifle's elevation. Make minor, deliberate adjustments and avoid making constant changes between shots.

6. Forgetting to Control Breathing

Pitfall: Many shooters forget about their breathing, which can lead to involuntary movement at the moment the shot is fired.

Solution: Practice controlled breathing by taking a deep breath, exhaling halfway, and holding it while you take the shot. This helps stabilize your body and minimize movement.



Tips and Tricks for Maximizing Accuracy

Preload the Rifle Slightly:

Apply a slight amount of forward pressure on the rifle (without excessive force) to preload the front rest. This reduces the likelihood of any unexpected movement during recoil and helps keep the rifle stable.

Practice Dry Firing:

Dry firing is an excellent way to perfect your trigger control and ensure your body and rifle are aligned correctly without the added pressure of live ammunition. It also helps you identify any issues in your position or technique.



Maintain a Consistent Setup:

Make sure your setup is the same for every shot. Once you find a comfortable and effective shooting position, replicate it for each session. Consistency is the key to repeatable, accurate shooting.

Conclusion

A successful bench rest shooting position is all about consistency, stability, and control. By aligning your body properly, mastering the use of front and rear

Level the Rifle:

Ensure that both the rifle and the front and rear rests are perfectly level. Even slight canting can throw off your shots, especially at longer distances.

Use a Bubble Level:

Attach a bubble level to your scope or rifle to ensure it remains level for each shot. This eliminates any accidental cant, which is especially critical for long-range accuracy.

Consistent Recoil Management:

Let the rifle recoil naturally, and ensure your body position allows the rifle to recoil straight back into your shoulder. Avoid trying to “control” the recoil too much, which can lead to inconsistent results.

rests, and practicing good trigger control, you can eliminate many of the variables that impact accuracy. Be mindful of the common pitfalls, such as over-gripping the rifle or inconsistent cheek welds, and apply the tips above to fine-tune your bench rest shooting technique. With practice, you’ll be able to achieve tighter groups and more accurate shots every time.



To zero a .22LR rifle effectively, follow these simple steps by Tom Sanford

1. Distance for Zeroing The optimal distance for zeroing a .22LR rifle depends on the intended use:

- **25 yards/meters:** Ideal for plinking and small game hunting at short ranges.
- **50 yards/meters:** Common for general-purpose shooting and competitions.
- **75-100 yards/meters:** Useful for longer-range target shooting or hunting small game at greater distances. However, the bullet drop becomes more significant beyond 50 yards.

Most people zero their .22LR at **50 yards**, as it provides a good balance between short and medium-range shooting.

2. Procedure for Zeroing

- **Set up a solid rest:** Use sandbags or a stable bench rest to eliminate movement.
- **Start at 25 yards:** If you're zeroing for 50 yards, initially sight in closer to ensure you're on target. Once you're close, move the target to 50 yards.
- **Take a 3-shot group:** Fire a tight group of 3 shots and see where the group lands relative to the point of aim.
- **Make adjustments:** Adjust your scope or iron sights based on the group location (e.g., use the windage and elevation turrets on the scope). Adjust the sights until your group is centered.

Fire another group: After each adjustment, fire another group to verify the results. Continue this process until your shots are consistently hitting the bullseye or desired point of impact.

3. How Many Shots for a Consistent Zero

- A **minimum of 3 shots** per group is standard to account for slight variations in aim or environmental factors.

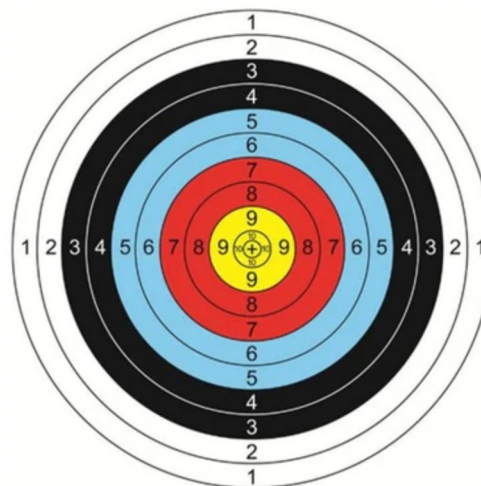
- **9-12 shots** in total across 3-4 groups should allow you to fine-tune your zero.

For a highly consistent zero, continue shooting groups of 3 until you're confident the rifle and scope are aligned with the point of aim consistently.

4. Other Considerations

- **Ammo consistency:** Use the same brand and type of ammunition during zeroing and when shooting for consistency.
- **Environmental factors:** Wind, temperature, and even humidity can affect the trajectory of .22LR rounds, especially over longer distances.
- **Barrel temperature:** A cold or hot barrel can slightly change the point of impact. For a hunting rifle, zero the rifle in conditions similar to when you expect to use it.

By following these steps, you should be able to zero your .22LR rifle effectively at the desired distance with repeatable and consistent results.





In the context of shooting a .22LR rifle, **near zero** and **far zero** refer to the points at which the bullet intersects the line of sight after being fired, due to the arc of the bullet's trajectory. Here's the difference between the two concepts:

targets at medium distances, like 50-75 yards. This zero setting helps you maximize the effective range of the .22LR by minimizing the impact of bullet drop over a longer range.



Near Zero: This is the first point where the bullet crosses the line of sight, typically at a shorter distance. When you zero your rifle, you adjust your sights so that at a close range, the bullet hits exactly where you're aiming. For example, a common near zero for a .22LR might be 25 yards. At this point, the bullet is still climbing as part of its trajectory, which means it will continue to rise slightly before starting to drop as it travels farther.

Far Zero: This is the second point where the bullet intersects the line of sight as it descends in its trajectory. A common far zero for a .22LR might be around 50 to 60 yards, depending on factors like bullet velocity and environmental conditions. After the near zero, the bullet climbs above the line of sight, and then due to gravity, it falls back down, crossing the line of sight again at this farther distance.

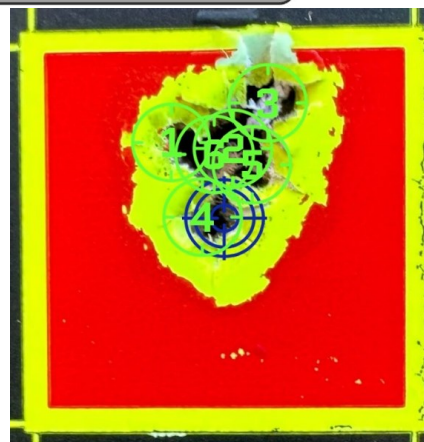
Practical Usage:

- **Near Zero:** Useful when you are shooting at shorter distances and want precision at, for example, 25 yards. This setting might be ideal for small game hunting in tight or dense areas.
- **Far Zero:** Important when you expect to engage

By using a near zero and far zero concept, shooters can better predict where their bullets will hit at various ranges, allowing for more accurate shooting without constant sight adjustments.

Photo by https://www.reddit.com/r/22lr/comments/of2w7s/twenty_two_tuesday_bergara_b14r_edition/

BALLISTIC-X
50 Yards / 6 Shot group
Group: 0.347" [0.193 MIL]
ATZ[INCH]: D: 0.17 R: 0.00
Begara B14R 11/19/2023





The Benefits of Rifle Tuners by Tom Sanford

Rifle tuners have gained popularity among shooters seeking enhanced precision and accuracy in their firearms. These devices, mounted at the muzzle of the barrel, fine-tune the barrel's harmonic vibrations, resulting in better shot consistency and overall performance. While tuners are commonly used in precision shooting disciplines, they also appeal to competitive shooters, long-range hunters, and even recreational marksmen. Below, we will explore the benefits of rifle tuners, their types, examples, and the shooters who might use them.

Benefits of Rifle Tuners

Improved Accuracy: The primary benefit of a rifle tuner is its ability to improve a firearm's accuracy by managing the barrel's vibrations. When a bullet is fired, the barrel vibrates, and small inconsistencies can lead to shot deviation. A rifle tuner adjusts these vibrations to reduce the spread of shots, ensuring that each bullet exits the barrel at the same point in the vibration cycle. This results in tighter shot groups, especially at long ranges.

Consistency in Ammunition Performance: Even the most meticulously hand-loaded ammunition can vary slightly from round to round. A rifle tuner helps mitigate the impact of these variations by making the firearm less sensitive to small differences in ammunition. For shooters using factory ammunition, which can have larger tolerances, tuners are particularly beneficial because they help maintain a higher level of accuracy across different loads.

Customization to Environmental Conditions: External factors like temperature, humidity, and elevation can affect a rifle's performance. Tuners allow shooters to adjust their setup according to these changing conditions, providing a level of adaptability that can make a significant difference, especially in competitive shooting or when hunting in varying environments. This adaptability also reduces the need for extensive re-zeroing when moving be-

tween shooting environments.

Extended Barrel Life: By reducing the stresses placed on the barrel from erratic vibrations, tuners can potentially extend the barrel's lifespan. This can be particularly valuable for precision shooters and competitors who put high round counts through their rifles, as replacing a custom match-grade barrel can be costly.

Easy to Adjust: Most modern rifle tuners are designed to be user-friendly, allowing shooters to make minute adjustments in the field without the need for special tools or extensive knowledge. This makes tuners a practical choice for shooters who want to fine-tune their rifles on the fly, such as in competitive matches or dynamic shooting scenarios.

Types of Rifle Tuners

There are different types of rifle tuners available, catering to a variety of shooting disciplines and preferences. Each type is designed to offer specific benefits, with variations in how they manage harmonics and interact with the rifle's barrel.

Muzzle Tuners: These are the most common type and are installed at the end of the barrel, adjusting the harmonics at the barrel's muzzle. Muzzle tuners allow fine-tuning by adjusting the weight and position of the device, often via a series of incremental settings that shift the balance of the barrel. Examples include:

Harrell's Precision Tuner: Popular among benchrest shooters, this tuner allows for precise adjustments and is known for its reliability in competitive settings.





The Benefits of Rifle Tuners—Continued

EC Tuner Brake: A combination muzzle brake and tuner, this device offers recoil reduction and harmonic adjustment, making it a popular choice for long-range shooters and hunters who want both reduced recoil and enhanced accuracy.

Barrel Sleeve Tuners: These tuners attach around the barrel rather than at the muzzle, distributing weight along the length of the barrel. While they are less common than muzzle tuners, some shooters prefer them because they offer different adjustment characteristics, depending on where the weight is distributed. Examples include:

BRT Barrel Tuner: Designed for rimfire rifles, this tuner provides a sleek, low-profile solution that tunes the barrel without significantly affecting its overall balance.

Stock Tuners: Unlike the other two types, stock tuners work by adjusting the harmonic interaction between the rifle barrel and the stock. This type is less common but can be useful in precision disciplines where shooters are looking for extremely minute control over their setup.

Kidd Innovative Design Tuner Stock: This tuner is integrated into the rifle stock itself, allowing for harmonic adjustments by modifying the contact points between the stock and the barrel.

Shooters Who Use Rifle Tuners

Precision Rifle Competitors: Competitive precision shooters, particularly in disciplines like F-Class, benchrest, and PRS (Precision Rifle Series), frequently use rifle tuners. These shooters need to squeeze every bit of accuracy out of their rifles, often shooting at targets hundreds or even thousands of yards away. Tuners allow them to maintain consistent, predictable shot placement, even in the most demanding conditions.

Long-Range Hunters: Hunters who pursue game at long distances, such as elk or deer hunters in open country, benefit from rifle tuners. While hunters may not need the sub-MOA accuracy that competitive shooters require, tuners can help ensure that their rifle performs reliably at extended ranges, giving them confidence in making ethical shots. A rifle tuner, paired with a quality muzzle brake, can also reduce recoil, making follow-up shots faster and more controlled.

Rimfire and Small-Bore Shooters: Tuners are also popular among rimfire shooters, especially in small-bore disciplines like 50-yard benchrest competitions or silhouette shooting. The .22 LR cartridge is highly sensitive to barrel harmonics, and tuners can make a significant difference in accuracy with this ammunition. Tuners help mitigate the inconsistencies found in rimfire cartridges, making them an invaluable tool for serious rimfire competitors.

Recreational and Target Shooters: Even recreational shooters who enjoy target practice at the range can benefit from rifle tuners. While they may not need the absolute precision required in competitive shooting, a rifle tuner can help casual shooters improve their accuracy and confidence, especially when shooting at longer distances.

Conclusion

Rifle tuners provide a clear advantage for shooters seeking improved accuracy, consistency, and adaptability in their firearms. Whether it's a muzzle tuner for precision competitors, a barrel sleeve tuner for rimfire shooters, or a combination tuner-brake for long-range hunters, the benefits are apparent in every discipline. These devices allow shooters to fine-tune their rifles for optimal performance, making them an essential tool for anyone looking to take their shooting skills to the next level.



Why do I keep missing the target when I think I am doing everything right with my 22LR rifle? by

Tom Sanford

Missing the target by 0.25" at 50 yards can be caused by several factors, many of which can be subtle but have significant effects on accuracy. Here are some common reasons why shooters might miss by such a small margin:

1. Parallax Error

If the rifle scope is not properly adjusted for parallax at 50 yards, the crosshairs may not align with the same point when the shooter's head position shifts slightly. This causes small but noticeable errors in the point of impact, especially at close ranges like 50 yards.

2. Trigger Control

Poor trigger control or "slapping" the trigger instead of squeezing it smoothly can pull the shot slightly off target. Even small inconsistencies in the trigger pull can result in a 0.25" miss, especially with lightweight rifles or sensitive triggers.

3. Breathing

Improper breath control can cause small movements of the rifle, which can translate into slight deviations at the target. Shooters are typically trained to shoot at the natural pause between breaths to minimize movement, but if this isn't done consistently, small shifts occur.

4. Sighting Inconsistency

A slight difference in sight alignment (even a small shift in eye position relative to iron sights or the scope) can cause the shooter to miss by small amounts. This inconsistency is more pronounced with open sights or red dots where head position can affect point of aim.

5. Wind or Environmental Factors

Light, unnoticed wind can deflect a .22LR bullet slightly. Even though .22LR rounds are slow and light compared to other calibers, a slight breeze at 50 yards can

push the bullet 0.25" or more off target.

6. Bullet Drop or Incorrect Holdover

Even at short distances like 50 yards, slight errors in compensating for bullet drop can occur. If the shooter misjudges the amount of holdover needed or if the rifle is zeroed for a different distance, this can cause a small miss.

7. Rifle or Scope Imperfections

Slight imperfections in the rifle's barrel, mounting, or scope alignment can cause very minor accuracy issues. For example, a slightly loose scope mount or a small mechanical imperfection in the rifle can lead to a small but consistent deviation in the bullet's flight path.

8. Ammunition Variability

Minor inconsistencies in ammunition (such as differences in powder charge, bullet weight, or case imperfections) can affect the accuracy of each shot. While premium match-grade ammo is more consistent, lower-quality or bulk .22LR ammo often has small variations that could easily cause a 0.25" miss.

9. Shooter's Body Movement

Small muscle movements, even slight shifts or tension in the shoulder, can affect the stability of the rifle and introduce small deviations in accuracy, especially with lighter rifles or in unsupported shooting positions.

10. Shooting Position

Small differences in shooting position (prone, standing, bench-rest, etc.) and stability can make the rifle more or less prone to small movements. For example, a standing unsupported shot might lead to small, unintended movements of the barrel that can push the bullet slightly off course.

11. Temperature or Air Density

While this is a minor factor, changes in temperature or air density can slightly affect the ballistics of a .22LR round. In extreme conditions, this can cause minor differences in bullet trajectory, leading to small misses.



Why do I keep missing the target when I think I am doing everything right? continued

12. Barrel Fouling

If the barrel has accumulated fouling (dirt, carbon, or lead deposits from previous shots), it can slightly affect the bullet's path. While this usually becomes a bigger issue after many rounds, even a small amount of fouling can cause accuracy to shift by fractions of an inch.

13. Shooting Rest or Support

A poor or unstable shooting rest can cause the rifle to move slightly between shots. Even if the rest moves just a fraction of an inch or is inconsistent, it could cause the point of impact to shift by 0.25" or more.

14. Recoil Management

While recoil is relatively minimal with a .22LR, how the shooter manages the recoil (or lack thereof) can still affect where the bullet hits. Inconsistent follow-through after pulling the trigger can result in slight shifts in aim as the bullet leaves the barrel.

15. Heat Mirage

On hot days, mirage effects can distort the target image when viewed through a scope, leading to very small aiming errors that may result in a 0.25" miss at 50 yards.

Conclusion:

Hitting or missing the target by 0.25" at 50 yards can be the result of a combination of many factors, including the shooter's technique, equipment, environmental conditions, and even the ammunition. Fine-tuning shooting habits and equipment can help reduce these minor errors, but slight variations can always occur due to the inherent complexities in ballistics.

The Overlooked Importance of Magazines in Shooting Fundamentals

In the realm of shooting sports and self-defense, magazines are often an overlooked component in training and prac-

tice. Shooters tend to focus on firearms themselves, ammunition, or shooting technique while disregarding the vital role that magazines play. The magazine, a device that holds and feeds ammunition into a firearm, significantly influences reliability and shooting accuracy. This essay explores the often-neglected importance of magazines in shooting, delving into their maintenance and how they contribute to overall shooting fundamentals.

Magazines: The Unsung Hero of Shooting Accuracy

A malfunctioning magazine can lead to misfeeds, double feeds, or other stoppages that can render a firearm useless. As firearms instructor Chris Sajnog notes, "Poor-quality magazines or ones in poor condition can cause stoppages, whether from worn springs, damaged followers, or bent feed lips" (Sajnog). Consequently, even the most reliable firearm will malfunction if the magazine is faulty. Such malfunctions directly impact shooting accuracy and can cause shooters to lose confidence in their gear. Therefore, ensuring that magazines are in good condition is essential for maintaining both consistency and trust in the shooting process.

Maintenance for Long-Term Performance

To maximize the lifespan of magazines and maintain peak performance, proper cleaning and inspection are necessary. Over time, magazines can accumulate dirt, carbon deposits, and other debris that hinder smooth feeding. According to firearm expert Patrick Sweeney, shooters should "periodically clean and inspect their magazines for signs of wear" (Sweeney). This includes checking for cracked feed lips, rust, worn springs, and bent or damaged followers. Lubrication should be used sparingly to avoid attracting excess dirt, and springs should be replaced if they become worn or compressed. Additionally, rotating magazines during use will prevent one magazine from enduring excessive wear and allow for more even distribution of stress across multiple magazines.



Contributing to Shooting Accuracy

Accurate shooting relies heavily on consistent feeding and reliable ejection. Any inconsistency in ammunition feeding can alter a shooter's rhythm, leading to accuracy issues. Furthermore, tactical or competitive shooters rely on rapid magazine changes to maintain momentum and accuracy. Practice with magazines not only builds familiarity and efficiency with the equipment but also reinforces muscle memory in magazine handling.

Some shooters even go so far as to label magazines as expendable components, recognizing that their lifespan is finite, especially under heavy use. However, neglecting magazine maintenance or failing to replace damaged magazines can negatively affect overall shooting performance. Therefore, high-quality, well-maintained magazines are integral to any shooter's accuracy and reliability.

Conclusion

In conclusion, the role of magazines in shooting fundamentals cannot be overstated. Properly maintained magazines are crucial for preventing firearm malfunctions that can impact shooting accuracy and reliability. Regular inspection and cleaning of magazines ensure smooth feeding and provide peace of mind to shooters, whether on the range or in a defensive situation. By acknowledging the significance of magazines and incorporating them into regular shooting practice, shooters can greatly enhance their confidence and accuracy.

Works Cited:

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Getting the most out of our new 3D Archery Range by Tom Sanford

Getting the most out of a 3D archery range requires a blend of technique, preparation, and strategy.

3D archery involves shooting at life-sized animal targets in various outdoor settings, simulating real-world hunting scenarios, and testing your accuracy under diverse conditions. Here's a guide to help you maximize your experience:

1. Preparation and Gear Setup

- **Know Your Equipment:** Ensure your bow is properly tuned before heading to the range. Whether you shoot a compound, recurve, or traditional bow, make sure the sights are sighted in for various distances, and your arrows are properly matched to your draw weight and length.
- **Check Arrow Spine:** For optimal performance, ensure your arrows are properly spined for your bow. Arrow flight is critical for accuracy in 3D archery.
- **Use Field Points:** Most 3D ranges require field points instead of broadheads to avoid damaging the targets.
- **Stabilizer Setup:** Depending on your setup, adjusting your stabilizer to improve balance can make a big difference, especially when shooting from uneven terrain.
- **Rangefinder:** Many 3D courses don't have marked distances, so having a rangefinder to accurately gauge yardage is invaluable. Practice guessing distances as well—some competitions don't allow rangefinders.

Appropriate Clothing:

Dress for the environment. Since 3D archery courses are typically outdoors, wear clothes that match the terrain and weather conditions. Comfortable boots are essential for walking uneven, sometimes rough terrain.



2. Mastering Range Estimation

- **Practice Distance Judging:** One of the most challenging aspects of 3D archery is estimating the distance to the target, especially if rangefinders are not allowed in the competition. Practice gauging distance by eye, using objects in the environment to help you (trees, rocks, or landmarks).
- **Bracketing:** This is a technique where you compare the size of the target to a known distance you are familiar with, like 20 or 30 yards, and make a judgment based on the size and appearance of the target.
- **Use Reference Points:** On a 3D course, use features of the environment to help estimate distances. Trees, hills, or bushes near the target can serve as visual cues for judging how far away the target is.

3. Focus on Shot Placement

- **Understand Scoring Zones:** Each 3D target has different scoring zones, typically ranging from 5 to 12 points. The highest-scoring zones are often in the animal's vital areas (heart/lungs), simulating a clean kill shot in a hunting scenario.
- **Aim for Vital Zones:** Practice focusing on the vital zone of the animal. Even though you may be tempted to aim for the high-scoring ring, maintaining a mindset of aiming for realistic shot placement helps you transition from the range to real hunting scenarios.
- **Pick a Small Spot:** Instead of just aiming at the target as a whole, pick a small, specific spot within the scoring zone to focus on. This will help you improve precision and increase your chances of a higher score.

4. Practice Shooting from Various Angles and Positions

- **Simulate Hunting Scenarios:** Many 3D archery ranges are designed to mimic real-life hunting conditions, with targets placed at different angles, elevations, and distances. Practice shooting from different positions, including:
- **Uphill and Downhill Shots:** Learn how to adjust your aim when shooting on uneven ground. Remember, on steep angles, aim slightly lower than

normal, as the distance is effectively shorter.

- **Through Obstacles:** Practice shooting through narrow windows between trees or shrubs, simulating real-world hunting conditions where the perfect shot is rarely in the open.
- **Kneeling or Sitting Positions:** Some targets may require shooting from a kneeling or sitting position, which can challenge your form and accuracy.

5. Develop a Routine and Focus

- **Shot Routine:** Establish a consistent pre-shot routine to ensure each shot is executed in the same manner. This routine should include steps like:
 - Setting your stance
 - Drawing your bow
 - Aligning your peep sight (if using one)
 - Focusing on your target
 - Maintaining follow-through after the shot
- **Mental Focus:** Stay mentally engaged and focused on each shot. Treat each target as a unique challenge and avoid rushing your shots. 3D archery is as much about mental discipline as it is about physical skill.

6. Adapt to Environmental Conditions

- **Wind and Weather:** Outdoor 3D ranges can expose you to wind and other elements that affect your shot. Learn to compensate for wind by adjusting your aim or using heavier arrows that are less affected by crosswinds.
- **Lighting Conditions:** Shadows and lighting can trick your perception of distance and target placement. Practice shooting in different lighting conditions (morning, midday, and evening) to adapt to how the light changes how you see the target.

7. Keep Track of Your Performance

- **Score Yourself:** Keep track of your scores and the distances at which you miss your targets. This will help you identify patterns in your performance, such as specific yardages or shot angles that need improvement.



- **Record Your Results:** If possible, take notes on which targets or distances gave you the most trouble. This will help you know what to work on during practice sessions.

By following these tips and strategies, you'll get the most out of your time on the 3D archery range. Whether your goal is to sharpen your hunting skills, improve your accuracy, or simply enjoy the challenge of hitting realistic targets, regular practice and a disciplined approach will help you progress.

8. Improve Through Practice

- **Frequent Practice:** Regular practice is key to improvement. Spend time on the range working on your form, shot consistency, and accuracy at various distances.
- **Shoot with a Group:** Shooting with others can help you improve, as you can observe their techniques and learn from their successes and mistakes. It can also make range sessions more enjoyable and push you to improve in a friendly competitive setting.



9. Stay Hydrated and Take Breaks

- **Stay Hydrated:** Walking a 3D course and focusing for long periods can be exhausting. Carry water and snacks to stay energized and focused throughout the course.
- **Take Breaks:** If you start feeling fatigued, take a break. Fatigue can affect your form and concentration, which will lower your accuracy.

Photo by unknown photographer

10. Join Competitions and Challenges

- **Local Competitions:** Once you've gained confidence on the 3D range, consider joining local competitions or leagues. Competitions can push you to improve and give you valuable experience under pressure.
- **Friendly Challenges:** If you're not ready for formal competition, start with friendly challenges with fellow archers to add a competitive edge and improve your focus.