



# MAKING THE SHOT

**Practical Advice from Competitive Riflemen to Improve Your Skills With the Ultimate QDM Tool**

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Harvesting an appropriate number of does each year to maintain a deer population in balance with local resources is at the heart of sound deer management. For many QDMA members, doe harvest is a significant task on the QDM to-do list each season, making your rifle a critical tool. As a hunter, you also have the ethical responsibility to acquire the skills to make a well-placed shot on your quarry. The better your shooting skills, the more efficient you become in harvesting does. Confidence in your shooting skills also will help you make that perfect shot when a quality buck steps out. We fire thousands of rounds yearly in our

competition rifle matches, and we shoot paper targets from 100 to 1,000 yards. While we target shoot longer distances than most deer hunters, when we pick up our hunting rifles, we use a lot of the same techniques to ensure accuracy. Here are some practical tips to help you make the shot.

#### **BUY A QUALITY SCOPE**

Plan to spend about the same amount of money, or more, on your scope, rings, and mounts as you do on your rifle. Why? Quality scopes help you in those low-light shooting situations.

Have you ever spotted a big buck near last light with your binoculars and not be able to clearly see it in your scope?

A quality scope will also have precise windage and elevation adjustments. Recently we were helping a young shooter sight in her rifle. We soon realized that the scope was not tracking with the adjustments being made. Her mother said that she bought the inexpensive scope since her daughter probably would use the youth model rifle only for a short time. We suggested that the parent buy a quality scope. Later, when the young hunter changes rifles, she can then mount that quality scope on her new rifle.

#### BUY QUALITY RINGS AND MOUNTS

Even with the best mounting systems, we lap the rings of all our scoped rifles. Lapping is a process that smooths down the high spots of the bottom rings to closely align or center them with each other. Misaligned rings place bending forces on your scope tube. These forces can cause excessive use of windage and elevation adjustments to bore sight your scope. The farther your scope gets adjusted away from its optical center, the greater the potential for a distorted and darker sight picture. Accuracy problems can start to appear as the scope is adjusted toward its maximum range. A lapping kit costs about \$35 and comes with a precision 1-inch or 30 mm solid steel lapping tube, handle, lapping compound, and instructions. It is easy to use and it takes about 20 minutes to lap a set of rings. The kits can be found at supply houses for target shooting, reloading, or gunsmithing.

#### SNUG THE RIFLE SCREWS

Check your rifle for loose screws. The bedding screws that secure your rifle to the stock are very important for accuracy and should be tightened according to the manufacturer's specification. Refer to your manual or speak with the manufacturer to ascertain the proper amount of torque for each bedding screw.

#### CLEAN YOUR RIFLE BARREL

We see a lot of "shot-out" hunting rifles that just need a good cleaning to restore their accuracy. After ensuring the rifle is not loaded by removing the bolt, look at the muzzle of your rifle in the sunlight. Do you see a lot of copper shining back at you? If you do, a good cleaning is in order. Accuracy decreases as your barrel accumulates powder residue and copper fouling.

Many hunters purchase inexpensive gun-cleaning kits because they feel they are adequate for the job. However, quality cleaning kits cost about \$125 to \$150, and they can improve your accuracy. We recommend that you also get a rifle-cleaning cradle for about \$30 to \$70. The cradle holds the rifle securely during the cleaning process. A cleaning rod guide, \$20, is another must have item. The rod guide is specifically designed for your rifle's



*"Lapping" your scope rings smooths down the high spots of the bottom rings to closely align or center them with each other. Inexpensive lapping kits are available at gun supply outlets.*

chamber and prevents solvents from running back into the chamber and the trigger group. The guide centers the cleaning rod with the rifle's bore and prevents rod damage to your chamber, throat, and bore. Solid, one-piece cleaning rods with freely rotating handles allow the rod to spin with the twist of the rifling in the barrel, and they are available for about \$30. The jag, brushes, solvent and patches should cost about \$45.

More cleaning instructions can be found at the Web site of the Civilian Marksmanship Program ([www.odcmp.org](http://www.odcmp.org)). From the home page, select "Archives," then "2007," then scroll to "June," and see the "Rifle Cleaning and Maintenance" article.

#### BREAK IN YOUR RIFLE BARREL

Most hunting rifle barrels have not been properly broken in, which helps to minimize accuracy-reducing fouling. If not properly broken in, we have observed hunting rifles to completely foul out in as little as five rounds. Many will foul out at fewer than 20 rounds. When a barrel fouls out, accuracy is dramatically reduced. Properly breaking in a rifle barrel is a must for our target rifles and our hunting rifles. We believe that this step is very important to optimize the accuracy potential of your hunting rifle. You will not have to worry about your rifle fouling out during the hunting season.

The break-in process is simple but takes time at the range. Use any inexpensive ammo that you can find. Start with a clean



*A cleaning-rod guide is a must-have item. It centers the cleaning rod with the bore and prevents damage to the chamber, throat and bore and prevents solvent from running into the chamber or trigger mechanism.*

barrel, fire one shot, and clean the barrel. Make sure that you get all the copper out. Repeat the single shot/clean routine for five shots. Next, fire two shots and clean. Repeat three times. Now, fire three shots and clean. Repeat three times. Cleaning the barrel should become easier and copper fouling should be minimal.

#### CHECK THE TRIGGER PULL AND ACTION FIT

The trigger pull is important in making an accurate shot. We see hunting rifles with trigger pulls that range from very good to awful. The worst hunting trigger has excessive creep so that you

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are never sure when it will break. In those cases, we suggest that you see a gunsmith. A trigger job costs about \$100. A fully adjustable replacement trigger costs from \$40 to \$100 or more.

The fit of the action to the stock or bedding is another critical accuracy factor. The accuracy of most hunting rifles would improve with a custom bedding job. Bedding work costs about \$150, and you should be prepared for a long wait before the gunsmith returns your rifle. We decide to bed a rifle when we cannot get it to shoot tight groups after trying a few different types of bullets.

#### FIND THE RIGHT BULLET

This quest is where the rubber meets the road, and we do not have any quick solutions. The answer is trial-and-error. Each rifle is different, and your rifle will tell you immediately which bullets it does not like. Your job is to find the one it prefers.

We suggest taking several different bullet weights to the range. When you change from one type to the other, you should clean your barrel or allow up to five shots of the new ammo to settle in the bore. If you clean your rifle, allow two fouling shots with the new ammo to settle in the bore. If you switch from non-coated to coated bullets, clean the bore and allow for five or more shots to properly coat the bore before testing for accuracy. If you are going from coated to non-coated bullets, give the bore a thorough cleaning. Then, add two fouling shots with the non-coated bullet before testing for accuracy.



*The authors always bore-sight newly scoped rifles, starting at 25 yards, by removing the bolt, centering the target through the bore, and checking to see that the crosshairs are also on the target.*

rings, have broken in the barrel and found the right bullet, your rifle should shoot a group size of 1½ inches or less at 100 yards. We think that with today's rifles and ammo, you should obtain groups closer to the magic 1 inch or less with a little work at the range. Even with a 1½-inch group at 100 yards, that group becomes 4½ inches at 300 yards and certainly accurate enough to take deer ethically at those distances.

If you're unable to consistently achieve this degree of accuracy, you should have your gun checked by a gunsmith and then spend additional time practicing at the range. With increasing pressure from society for hunters to be more ethical with our practices, we can't afford to have substandard shooting skills.

#### ZERO YOUR RIFLE FOR 200 YARDS

Look at the drop chart on this page for several favorite deer hunting loads zeroed for 200 yards. You quickly see that with a 200-yard zero, you can place the crosshairs on a deer's vitals and make that shot from close up and out to 250 yards without adjusting your aim. We realize that some hunters shoot far less than 200 yards while others shoot farther.

This chart is simply a guide to where your rifle can be expected to shoot at varying distances.

If you do not have a 200-yard range, notice that at 100 yards, you can zero your rifle about 1.75 inches high and be about right for 200 yards. We test our rifle's final zero with one shot from a cold barrel that has had only two fouling shots. Think about it – you shoot your deer with a cold barrel. Normally, we will not clean the barrel of our hunting rifle again until the end of the season.

If you zero your hunting rifle in the heat of the summer, your bullet will impact lower during the colder winter hunting season. Try to get the final zero on your rifle when temperatures are closer to your hunting weather.

#### SHARPEN YOUR SHOOTING SKILLS

By now you have realized that the first step in improving your shooting skills is to start with an accurate rifle with a quality scope. You have also hopefully spent time at the range shoot-

#### Drop in Inches

Bullet Caliber	25 yds	100 yds	200 yds	250 yds	300 yds
130 gr. .270 Win	-0.3	+1.6	0	-2.8	-7.0
140 gr. 7mm Mag	-0.4	+1.3	0	-2.4	-6.0
150 gr. .308 Win	-0.2	+1.8	0	-3.1	-7.8
165 gr. .30-06	-0.2	+1.8	0	-3.1	-7.7
180 gr. .300 WSM	-0.4	+1.5	0	-2.6	-6.7

#### BORE SIGHT YOUR RIFLE

We have seen shooters coming to the range with newly scoped rifles who are not able to place a bullet on their target at 100 yards. We start at 25 yards. Removing the bolt, we center the target through the bore. We check the scope to verify that the crosshairs are also on the same spot. We fire a couple of fouling shots to see how close we are. We then fire one shot for accuracy. We adjust the scope to place the impact of the bullet in the center of the target. If we had to make a large adjustment, we might take one more shot to fine-tune our adjustments. Remember that it takes four times the scope adjustment to move your bullet's impact at 25 yards as it does to move the impact at 100 yards. We move the target to 100 yards to begin testing for accuracy and group size. Testing for accuracy requires a lot of patience and time. You do not want your rifle barrel to overheat. A hot barrel may cause your shot group to open up and certainly will cause the center of impact to rise.

We believe that if you have a quality scope with lapped

ing your rifle to find the bullet that it likes. Rifle shooting is a perishable skill. The second tip is practice, practice, and practice. Practice shooting year-round. Do not wait until the fall to start.

#### MAKE RIFLE PRACTICE FUN

We like to shoot plastic jugs filled with water. We suggest that you start with the gallon size jugs at 50 to 100 yards, then you can move them farther out. When you are consistently hitting these jugs at the longer ranges, switch to smaller jugs and start over. You will be amazed that you are soon hitting small soda bottles at 300-plus yards.

Practice like you hunt. Take standing shots, sitting shots, or use a tree for a rest. You can also practice mounting and dry firing your rifle year-round at home.

One of the best ways to improve your shooting skills is to practice with a .22 rifle. Walter's safari buddy fires a .22 Mag every day that he can. He shoots standing with the 3-legged African shooting sticks, exactly the same way he would on safari. Walter practices the standing position almost daily with his pellet rifle.

#### MATCH YOUR HUNTING SHOTS WITH YOUR SKILLS

As you practice, you gain confidence in your ability to make a well-placed shot on your quarry out to a certain range. That distance will be your limit when it comes time to decide whether to take the shot or not. With continued practice, you will know instantly if you can make the shot or if you should wait.

#### UNDERSTAND THE DEER'S ANATOMY AND SHOT PLACEMENT

A deer does not always give you the perfect broadside shot. You have a responsibility to learn the deer's anatomy and where to place your first shot for a quick kill. Today, we have a lot of materials covering that information. Take time to study them. When you are glassing deer during the off-season, play the mental game of where to place the shot or if you should wait for a better angle. This mental game will help you quickly make the right shot-placement decision when hunting.

**(Editor's Note:** This year, QDMA will release a new software program called *CyberDeer*, which allows you to "shoot" a three-dimensional whitetail from multiple angles, heights and distances. You can then remove layers of the deer's anatomy, including skin, skeleton and individual organs, to see the path of your bullet/arrow through the organs. You can also rotate the deer to see the exit path of the bullet/arrow. Stay tuned to Quality Whitetails for an announcement of *CyberDeer's* availability).

#### STAY IN THE RIFLE

We think that more deer are missed at 30 yards than are missed at 300 yards. We are asked frequently to check the zero of a friend's rifle who has just missed a deer at close range – so close in fact, that something must be very wrong with that rifle. It is just human nature to pull your head up to admire the shot you just made on a deer, especially when it is so close. You can-

## Tactical Doe Harvest

Being competitive rifle shooters goes hand-in-hand with our love of deer hunting, and our skills also attract invitations from friends who need help with doe harvest! We recently made a trip to help a friend harvest does at his farm, which is under Quality Deer Management. He prefers to take does early in the hunting season before they become hard to find and before the rut starts. With the bumper acorn crop in our area in 2007, we had to take to the dense woods to find deer. Slipping slowly down logging trails, we were able to get several close shots.

We also took several does in open fields using our two-person ground blind system (seen in the photo on this page). The observer uses a spotting scope to identify the deer and to estimate the effect that wind, mirage, and light will have on the bullet's flight. The observer also ranges the distance to the deer to be taken. The shooter adjusts the target scope for elevation and wind deflection for the exact distance to the deer, confirms the deer to be taken, and concentrates on shot placement and making the shot.

We were using a 6.5/284 Winchester target rifle with hunting bullets. The rifle shoots these bullets in a group about the size of a quarter coin at 300 yards. With the shooting bench and front rest, we were able to make one-shot kills on does at extended ranges. This system is very mobile and we were able to quickly set up anywhere on the farm.



not make that movement and hit where you are aiming. Follow through with the recoil and stay in the rifle.

You put a lot of hard work into your QDM program, and you spend a lot of time maintaining and learning to use the tools of habitat and deer management, from your chainsaw and food plot implements to trail cameras. Your rifle is also among these valuable tools that will perform more efficiently if you spend time learning to use it. When you make that first shot count, that moment should be one of the more rewarding steps in your QDM efforts.



**About the Author:** Walter Stroman of Pine Mountain, Georgia, is a QDMA member and was the Team Adjutant for the 2005 United States F-Class Rifle Team that competed in the World F-Class rifle matches in South Africa. In 2007, he won the 1,000-yard Southeast Regional Rifle Matches, F-Class Rifle, at Fort Benning, Georgia. He has assisted landowners with laying out private rifle ranges and provided instructions to improve their shooting skills. Having time to enjoy the outdoors more in his retirement, he has made numerous hunting trips to Africa. For more information about F-Class rifle shooting, go to [www.usfclass.com](http://www.usfclass.com).

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