

Rifle

STEPS TO SUCCESS



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Launi Meili

Rifle

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Human Kinetics

Web site: www.HumanKinetics.com

United States: Human Kinetics
P.O. Box 5076
Champaign, IL 61825-5076
800-747-4457
e-mail: humank@hkusa.com

Canada: Human Kinetics
475 Devonshire Road Unit 100
Windsor, ON N8Y 2L5
800-465-7301 (in Canada only)
e-mail: info@hkcanada.com

Europe: Human Kinetics
107 Bradford Road
Stanningley
Leeds LS28 6AT, United Kingdom
+44 (0) 113 255 5665
e-mail: hk@hkeurope.com

Australia: Human Kinetics
57A Price Avenue
Lower Mitcham, South Australia 5062
08 8372 0999
e-mail: info@hkaustralia.com

New Zealand: Human Kinetics
Division of Sports Distributors NZ Ltd.
P.O. Box 300 226 Albany
North Shore City
Auckland
0064 9 448 1207
e-mail: info@humankinetics.co.nz

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STEPS TO SUCCESS

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Climbing the Steps to Shooting Success

Congratulations on taking your first step on a journey toward becoming a more proficient and capable shooter. Any long-term, meaningful goal isn't achieved overnight. To experience success in the shooting sports, you must show dedication and spend time practicing to achieve higher levels of accomplishment. You must learn one step at a time to build a strong foundation from which to perform in the future.

In *Rifle: Steps to Success*, you'll progress from one step to the next and continue to expand your knowledge as you build from the simple to the complex. Everyone starts on similar ground in the shooting sports. People can take it all the way to the Olympic Games if they have the motivation and belief that they can do it.

Shooting is a sport that uses not only a rifle but also additional shooting equipment to support positions and modify the rifle itself. In the first step you'll learn about the different pieces of equipment, how to select items best for you, and what to look at for proper fit and comfort. To promote safe shooting and range safety, the second step teaches the principles of staying safe when around firearms. In the third step, you

will get to know all the parts of the rifle and the pieces of equipment that you can use to modify the rifle to fit it better to your body. Gone are the days when shooters needed to conform their bodies to the rifle just to look through the sights. Now you can change the rifle to adapt it to your body for more solid and balanced positions. It also covers maintaining and cleaning the rifle so that it shoots well for years to come.

The fourth step moves into building and establishing positions from the ground up. From the angles to the target to how you want the rifle placed at your shoulder, you'll gain a clear understanding of what it means to have a repeatable and solid position. You are then ready to learn how to take a shot while using all the fundamentals that go into successful shooting. At first you'll learn to aim using the rear and front sights. You'll then learn what a perfect sight picture looks like and how to use breath control, hold control, trigger control, and follow-through to keep the rifle properly lined up to shoot right in the center of the target. After you're off and shooting, you'll discover how to adjust your sights to center your groups and get the

most points for each shot. After you master the fundamentals, you'll move into perfecting each position to build stability and balance through establishing natural point of aim and training your positions. You'll learn how to keep track of your rifle, equipment settings, and positions in a shooter's journal. You'll be shown what to put into a journal and how to use it to track your progress and accomplishments.

Because anyone can compete in shooting, you'll learn where to look for shooting matches and how to sign up. You'll learn what to expect at a match and how to conduct yourself. You'll build a training plan and set goals to work toward throughout your shooting season. You will also be introduced to a variety of organizations that can help you along the way. They may have clubs to join, matches to shoot, summer camps to attend, or additional training information to absorb.

In the final steps you'll learn more about mental and physical training that will help you continue to improve your shooting. At first, shooting and doing a lot of holding is the best way to improve scores. But as you advance, mental tools such as self-talk, imagery, and affirmation can have a significant positive effect on scores. Being physically fit is also important if you want to excel at the highest levels in the sport. Shooting connects the mind and body, so having control and good kinetic awareness of what's happening in your body is critical.

Finally, you'll learn about the various choices out there to continue in the sport and take it as far as you want to. Whether your goal is club shooting on the weekends or earning a college scholarship and becoming an All-American, this book will help you learn about the available opportunities.

To get the most benefit from *Rifle: Steps to Success*, follow this sequence through each step:

1. Read the explanation of what the step covers, why the step is important, and how to execute the focus of the step, which may be a concept, skill, use of equipment, drill, or a combination of those.
2. Study the photos, which show exactly how to assume each position, aim, or shoot a shot.
3. Read the instructions for each drill. Practice the drill for either position training or match training. Record your scores (if the drill has a scoring method) in your shooter's journal to track progress.
4. At the end of the step, review your performance and see whether you clearly understand what you were supposed to accomplish and whether you have reached that level of proficiency.

Shooting is an exciting sport. You get out of it what you are willing to put into it. If you have a safe range space and backstop, you can shoot in your own backyard, or you can explore the world by participating in international competition. Shooting is an individual sport; you are out there to prove to yourself and no one else what you are capable of. You experience a thrill when you shoot well and know that you accomplished something that you set out to do. Every time you pick up your rifle, you challenge yourself to be better than you were before. Through this you can build self-confidence, which lends itself to trusting and believing in yourself in other areas of your life as well. So take your first step and enjoy the journey. It could be the ride of a lifetime.

History of Three-Position Air Rifle

Three-position air rifle is one of the newest and fastest growing shooting sports in the United States and Canada. The sport got its start in 1978 when the National Guard's competitive shooting program asked Bob Smith and Leo Lujan to devise a recruiting plan to encourage junior shooters to become involved in the shooting sport so that they would possibly join the sponsoring military unit to continue their shooting in the future.

The initial thought was to have a traditional small-bore rifle program. Junior shooters would come to the more than 3,000 National Guard locations across the country to learn to shoot from Guard instructors, thus beginning their shooting sports journey and introducing them to the National Guard. But a couple of critical changes at that time required ranges and shooting facilities to adapt to new U.S. federal regulations. Because of new regulations regarding airborne lead, ranges had to install ventilation systems to move fresh or filtered air across the firing points to keep any lead exposure in line with the standards set by the Occupational Safety and Health Administration (OSHA). If the club or

organization running the shooting range couldn't afford the new system, it would be closed down. Faced with the possibility that 80 percent of the National Guard ranges would close, Bob Smith and Leo Lujan had to look for other options to get the National Guard Junior Marksmanship Program off the ground. The option that made the most sense was using air rifles.

Air rifle shooting was just getting its start in the United States about this time. In 1977 the National Rifle Association (NRA) had added a collegiate air rifle sectional to its program, and college teams started training and competing in the new 40-shot standing event. Junior shooting programs also added air rifle to their NRA marksmanship qualification programs, and more shooters became aware of this inexpensive yet challenging way to train and compete. Air rifle was added to the list of Olympic shooting events for the 1984 Olympics. American Pat Spurgin was the first woman to win an Olympic gold medal with an air rifle.

The increasingly popular air rifles provided an easy solution to the problems faced by the National Guard to get a national shooting program up

and running. Air rifles didn't create an airborne lead safety issue, pellets were inexpensive, and air rifles could be shot in a variety of locations including classrooms, basements, gyms, or any portable or temporary range area. Air rifle ranges could be easily set up and dismantled, so the program would be more versatile and adaptable to the options available at any location.

Another positive aspect of using air guns was cost. At the time, high-quality competitive small-bore rifles cost hundreds to thousands of dollars, but air rifles were in the \$85 to \$100 range. A proposal went out to air gun manufacturers to create an air rifle that would cost less than \$50. The Crosman and Daisy companies developed air rifles at that price, but the rifles had accuracy and durability problems. The second generation

of inexpensive air guns had better accuracy and durability but also a higher price. It wasn't until the mid-1980s that all National Guard and Junior Reserve Officers' Training Corps (JROTC) programs involved in air rifle changed over to new and improved models, such as the Daisy 853 sporter rifle, which helped the overall program by improving marksmanship, scores, and credibility.

OSHA restrictions were also affecting JROTC marksmanship programs across the country. To maintain their shooting programs and teams, programs were encouraged to change from small bore to air rifle so that they could continue to shoot at their school locations. They too adopted the Daisy 853 for their units, and their programs continued to grow.

GROWTH THROUGH THE AMERICAN LEGION

By the late 1980s the National Guard marksmanship programs were being consolidated, and funding was shifted away from junior programs. To keep the movement afloat, Leo Lujan approached the American Legion about taking over the reigns of the National Guard air rifle program. The American Legion had begun a national junior air rifle program and had the resources to publish and distribute *The Shooter's Guide to Position Air Rifle*, a publication that the National Guard had been printing and distributing to junior shooting programs for years. The American Legion was able to provide this service, and it continues to provide the guide to interested programs today.

By 1992 air rifle was becoming so popular that the Cadet Command bought 20,000 Daisy air rifles to supply each JROTC unit with 10 to 15 rifles. By 1993 more than 2,000 youth programs across the country were shooting air rifle. The sport was ready to move to the next

level—getting all the groups under one set of rules and providing national championships for shooters.

After starting three-position air rifle in their junior shooting programs, the American Legion recognized the advancement that the discipline could make by hosting a national championship. The Legion established a national championship in 1990 and has hosted one every year since. The top junior shooters from around the United States are invited to come together for a two-day match. Because many junior programs were also shooting precision three-position air rifle at this time, with better rifles and equipment, the American Legion added precision three-position air rifle to the championships, and the organization now has a national champion in both events. Some of the top U.S. shooters in international competition have gone through the American Legion and its junior shooting program and championships.

SUPPORT FROM THE NATIONAL RIFLE ASSOCIATION AND THE CIVILIAN MARKSMANSHIP PROGRAM

The NRA also got on the three-position air rifle bandwagon and set up provisional NRA rules for three-position air rifle in 1983. They helped NRA junior clubs and teams around the country that wanted to participate in three-position air rifle get started. The NRA now has a rule book for both sporter and precision three-position air rifle shooting. In 1996 the NRA started the Indoor Junior Air Rifle National Championships. At this sectional event, participants could shoot either sporter or precision and send in their scores to compete with others around the country. More than 1,500 competitors now participate in this sectional, and it continues to grow. In 1999 the NRA held its first Indoor Air Rifle National Championship. But it wasn't until 2001 that they separated the guns so that each type of air rifle had its own event in the national championship. The NRA hosts the national championship in a different location each year. They hold events in sporter, precision, and air pistol. Looking to the future, you'll see the NRA add a new sporter event in which competitors shoot a 40-shot standing match. The NRA sanctions a variety of matches, camps, and marksmanship qualification programs and supplies an abundance of safety, coaching, and training material all over the world.

The Civilian Marksmanship Program (CMP) has also been an important supporter of sporter and precision air rifle shooting. The organization provides safety and marksmanship training material to clubs and organizations with shooting sports programs across the United States. One of the fastest growing groups that the CMP supports is the JROTC units. Because this group has many teams and individuals involved in the sport, they host an extremely competitive JROTC National

Championship. The CMP hosted the first JROTC championship in 2004. To qualify for the championship, a shooter must first qualify at his or her state and shoot in either the Eastern or Western Regional JROTC championship. These matches now feature 400 or more shooters in sporter and precision events, so the competition is first rate. The top teams and individuals are then invited to the JROTC National Championships, where the best of the East and West compete shoulder to shoulder. This exciting event allows participants to compete against the best junior shooters in the country and prepare for higher levels of competition.

The CMP has hosted shooting camps across the United States for a number of years and reaches hundreds of serious shooters every summer. The CMP also sanctions matches; provides helpful training materials, including plans for pellet traps; sells guns, pellets, and equipment; and oversees the Excellence-In-Competition Program and the Junior Distinguished Program.

One of the premier events that the CMP sanctions with USA Shooting is the National Junior Olympic Three-Position Air Rifle Championships. Teams and individuals must qualify in their state tournaments to determine who earns an invitation to the championship. This event has been held for nearly 10 years and continues to grow in popularity. Now thousands of shooters attempt to qualify at the state level, and a state may qualify as many as four teams between sporter and precision air rifle. If an individual doesn't shoot on a team, she or he can qualify by shooting a cutoff score. At the match, participants shoot with the best shooters from every state in the country and gain valuable experience on their journey through the shooting sports.

COLLEGIATE SHOOTING AND INTERNATIONAL EVENTS

Collegiate matches now include air rifle events as part of their discipline. In recent years, the number of small-bore shots has decreased from 120 shots in a 3×40 to 60 shots in a 3×20 course of fire, the same as the course for three-position air rifle. The number of air rifle shots has increased from 40 to 60 in standing for a longer course of fire. Air rifle now has equal weighting with small bore. In the past the strongest small-bore team would usually end up taking the trophy, but now teams must be strong in both events.

Collegiate shooting models itself after Olympic events. In recent years the targets have grown more challenging in small bore to represent more closely scores shot at 50 meters in international shooting, and air rifle has increased in importance because it is now an Olympic event. In international air rifle, women shoot 40 shots standing and men shoot 60 shots standing (now also the collegiate course of fire) for an entire match. The women's air rifle event is the first medal given

at the Olympic Games because shooters start the morning of day 1 and finish some hours later. Many shooters at the international level shoot only air rifle to increase their proficiency and improve their chances of making an international team. Training is easier as well because only 10 meters of range space is needed instead of the 50 meters required for small bore.

The humble sport of three-position air rifle, which got its start in a classroom almost 30 years ago, has become the fastest growing shooting sport in North America and continues to expand. Now tens of thousands of interested shooters can get their start and take it all the way from their local shooting team, to a national championship, collegiate shooting, the national shooting team, and to the Olympic Games. Few sports offer this kind of direct progression and a chance to rub elbows with some of the top performers right on the local range. So get started and have fun. We'll see you at the range.

Selecting and Fitting Equipment

This step introduces some of the required and optional equipment items that will help you get started in the sport. Three-position air rifle equipment is quite specific, so you need to know what is involved and what to look for before going out to buy your new shooting gear. Ideally, you'll have a chance to try out various rifles or shooting jackets at your local club or shooting organization to get a feel for their fit and form. Selecting a brand and model of rifle or clothing takes time and serious consideration because you want to use this equipment for a long time. If you take care of it properly, your gear can last

many years, and your rifle may last your entire shooting career. Proper cleaning and maintenance of the rifle is important to maintaining its safety and precision.

After reading this step you should be able to identify the types of air rifles used in three-position air rifle shooting, the kinds of shooting jackets and pants used in competition, and other equipment common to shooters in the sport. Some of the items are not required, but many shooters have found them useful in their training and competitive shooting.

RIFLES

Many rifles are available to choose from when starting in the sport of three-position air rifle. Although some beginner rifles are made in the United States, the best competition rifles come from Europe. The most popular manufacturers are Anschutz, Feinwerkbau, and Walther from Germany; Air Arms from the Czech Republic; and Avanti from Italy. These rifles use a compressed air cylinder, and have many adjustments to help the shooter fit the rifle to her or his body. In step 4 we will cover how to set your rifle into a basic configuration and then adjust one element on the rifle at a time to design it specifically for

your body. Figure 1.1 shows two examples of high-end precision rifles that are available.

Less-advanced air rifles (figure 1.2) can be bought at a lower price. Air Arms, Walther, and Anschutz all make basic versions of their precision rifles. These rifles cost considerably less than international precision air rifles and are a good way to get started in the sport. You can often buy an excellent used rifle at a lower cost. If you keep it clean and tuned, it will shoot just fine for years to come. In step 3 we will go over maintaining your rifle and keeping it clean so that it shoots accurately.



a



b

Figure 1.1 High-end precision rifles (a) Feinwerkbau 700; (b) Anschütz 2002.



a



b

Figure 1.2 Basic precision air rifles (a) Feinwerkbau P70; (b) Anschütz 8002.

Rifle models and brands have different balances. The shapes of their cheek pieces, butt plates, and fore-end stocks vary, and all have a different feel when you hold them. Hold as many different rifles as you can to get a feel for how each particular make and model fits you. Although you will need to make some adjustments to fit the rifle to your body, you should at least get a feel for how heavy the rifle is and where the balance of the rifle settles. If the rifle

is front heavy, the rifle probably has too much weight out at the muzzle, although that can be adjusted. The rifle should feel balanced in your hand, as you hold the rifle right in front of the trigger guard (figure 1.3). A rifle that feels slightly heavier at the muzzle is okay because you can use that weight to help slow down your hold. But if the rifle wants to tip forward constantly and not stay in your shoulder, then it's too front heavy.

Figure 1.3 **Evaluating Balance**



TESTING RIFLE BALANCE

1. Hold butt plate or cheek piece with one hand
2. Place four fingers under rifle stock, just in front of trigger guard
3. Open hand on butt plate to see whether rifle will balance on four fingers
4. Keep open hand close to butt plate in case rifle tips
5. Rifle balances properly if it tips forward slightly or stays balanced on fingers under stock

Another dimension to check when going for rifle fit is stock length. You determine stock length by placing the butt plate close to the bend in your elbow and extending your forearm along the stock to see whether you can easily reach the pistol grip with your hand and the trigger with your index finger (figure 1.4). Now that most air rifles have adjustable butt plates that you can move in and out, stocks don't have to be cut to

fit the rifle to the shooter. The butt plate is just moved in or out for the correct stock length.

If you have a wood stock with a butt plate that doesn't move in or out, you can cut the stock down to fit your body. Keep the piece of cut stock so that you can attach it later as you grow or provide it to a larger-framed person who later acquires the rifle.

Figure 1.4 Determining Stock Length

CORRECT STOCK LENGTH

1. Move the butt plate in as far as it will go
2. Place the butt plate inside your upper arm as close to your elbow as possible
3. Reach your forearm up to the pistol grip
4. Wrap your fingers around the pistol grip



If you can easily wrap your fingers around the grip, the stock length of the rifle is at the proper starting point around which to build positions. If you can't reach the pistol grip, the stock length is too long (figure 1.5). Building positions around the extra length will be difficult. If you reach past the pistol grip and trigger, the stock length is too short. Add some space between the stock and butt plate.



Figure 1.5 Shooter is unable to reach the pistol grip, demonstrating that the stock length is too long.

JACKET AND PANTS

In three-position sporter shooting, a shooting jacket and pants are not allowed. This rule eases the way in the sport because you have to use your body to build positions and learn to hold the rifle with little support. When faced with challenges, you look to your body for correction and work hard physically to hold the rifle steady. In precision three-position air rifle shooting, you will need a shooting jacket and pants to compete at the higher levels. Revel in the fact that the hard work done when you weren't allowed to wear a shooting jacket and pants will pay off because your positions and ability to hold the rifle steady will improve quickly.

As with rifles, many brands of shooting jackets and pants are available. For shooters getting started, the best bet is to get a ready-made set in your size (figure 1.6). As you continue to advance in the sport, you may want to buy a custom-

made jacket and pant set that specifically fits your body. These cost more but will last a long time if you take care of them properly. If you are still growing, you may want to wait to invest in custom-made jacket and pants until you either become very skilled and compete at a high level (where everyone else is getting additional support from their shooting gear) or haven't changed in body proportions for some time.

The jacket (figure 1.7) is made with padding running down the back of the arms and across one shoulder. The padding protects your body when you are in the prone position and using a sling and helps secure the butt plate into your shoulder. Jackets are made of leather or canvas and, when fitted properly, support your back when you are in the standing position. Jackets come in models for right- or left-handed shooters. This factor determines the placement of the



a



b

Figure 1.6 Off-the-rack jacket and pants.

pads and the strap to hold the sling. Specific overlap rules, as well as thickness and stiffness limits, apply to jackets. We will provide more information about these issues when we talk about rules and equipment control at matches in step 8. When trying on a jacket, wear something underneath it such as a T-shirt or Under Armor and a shooting sweater or sweatshirt. The added cushion from these items helps muffle your pulse and allows a more comfortable fit inside the jacket. If you wear just a T-shirt under the jacket, you are sacrificing points because the sweater or sweatshirt adds to the stiffness and supportiveness of the jacket in each of the positions.

Put the jacket on over a T-shirt and a shooting sweater or sweatshirt. Button the jacket to see whether it gapes around the shoulder area. The shoulder seam of the jacket should be close to the outside of the top of your shoulder. If the collar gapes and doesn't form to your shoulder, the jacket is too large.

Make a fist and hold your arms down close to your sides. The total length of the jacket can be as long as the second knuckle on your fingers. If the bottom edge of the jacket is up past your wrists, you are not getting as much support from the jacket as the rules allow.

With the jacket on, lean back in a simulated standing position. See whether the jacket gapes in the back or forms to your body. A jacket will form to your body after it is broken in but not if a huge gap is present between it and your back. Raise your arms to the front and sides. If you can get your arms over your head or at least past your shoulders, you will be able to work the jacket into shooting positions. If you can't raise your arms past your shoulders, you'll be

fighting your jacket the whole way. Although the jacket should feel snug, you need to be able to raise your arms easily overhead. If the arms and shoulders are so tight that you can't raise your arms, you'll stress the jacket and your body to get into shooting positions. The jacket needs to feel supportive and stiff but not so tight that it feels like a straight jacket.

Pants also come with pads to protect your knees when you are kneeling and can be helpful in reducing movement in the prone position as well. They have zippers going down the backs of the leg to accommodate bent knees and other options that you need when establishing good positions. Pants come in leather or canvas and provide good support when you are in the standing position. You also want to wear tights or sweats under your shooting pants. Again, this additional layer adds comfort and makes the pants feel stiffer, and the added volume makes them feel tighter. Shooting pants are designed to provide support, so a tighter feel aids stability and stamina. Matches last a long time so the more support that you can get from your pants, the easier it is to shoot for the long haul.

When trying on shooting pants, start by wearing tights or sweats to make the pants feel more comfortable. Step into the pants with the zippers open. The pants should be able to close over your tights or sweats and not cut into your abdomen. The waistband should be no more than 50 mm over your hip bone. The back of the pants should fit your hips snugly and not gape out below the waistband in the back. After you zip the back of the pants, they should feel snug, but not constricting, on your thighs. Cuffs should not rest on your boots; they should be just above your foot or boot.