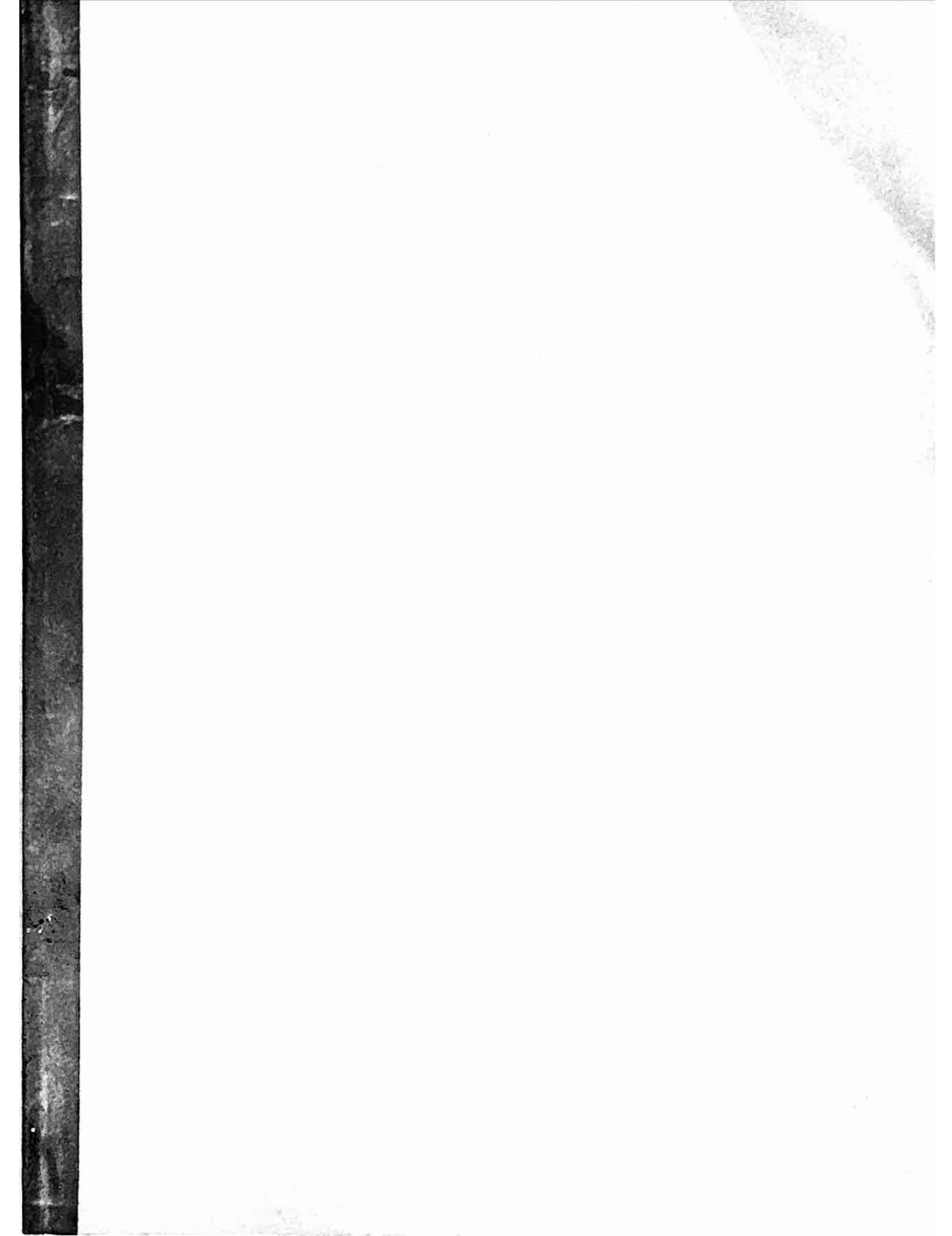




Mental preparation

Shooting is one of the few sports that both sexes can participate in from youth to old age. Separated by classes and categories, a person can decide how well he/she wants to do and reach that goal.

The basic positions remain the same for all, varying slightly by body shape and size. New shooters will need to spend 80% of their time learning the positions, course of fire and adjusting their equipment. Once you are comfortable with your positions and equipment you will direct more of your time to mental preparation till you are spending 80% on mental training.

What is mental training?

To me mental training is bringing together the physical skills and thought process to deliver an accurate shot.

To shoot an X all you have to do is line up the sights and squeeze the trigger. If your zero is on you will have an X. If you do the same thing again you will have another X. To be able to shoot consecutive X's you have to be able to make repeat performances. That is why you practice. Although most people have the ability to develop good marksmanship skills no one is born with the skill to shoot a perfect score. This takes training.

To become a good shooter, golfer, ball player or anything else you have to determine what it takes, decide on a goal, write out a plan, and put it into action. Don't set goals that you can't achieve but never wait till you reach a goal to set a new one.

A goal is a written plan that you put into action and update along the way. Anything else is just a dream.

There is lots of reading material out there to assist you. Below is a very small list of books and articles that will help you achieve your goals.

1. Position rifle shooting by Pullman.
2. Smart running by Hal Higdon
3. You Can Do It by Paul Hanna
4. Running to win by George Sheehan
5. Peak Performance by Charles A Garfield
6. Successful Shooting by Bill Pullman
7. How to become a champion, (bullet statements)
8. Excellence By Design by John A. Edwards PhD. (Lecture notes)
9. Shooting Sports from the NRA

You will note that very few of the above deal with the actual positions of shooting. Even in Position Rifle Shooting, Bill Pullman doesn't get into the positions till the end of the book. This just goes to emphasize the importance of the mental aspects of shooting.

To become good at any sport you first have to believe in yourself. Whether it is a match or training you should have a plan as to what you expect to do there.

Most people are happy in their comfort zones. They don't try for a better job cause they know what they can expect from the one they have. If they normally shoot 85 offhand and all at once they shoot a few tens in a row they freeze up and shoot a 7 to get back to their average. "Back in their comfort zone". You have to break this habit. Set your goal to a higher level and forget about what you normally do. One way to help you do this is to set affirmations. These are statement you repeat or read daily as what you believe you should do. An example is, "I normally shoot 97 offhand". The mental experts in the country recommend you write these down and tape them to your bathroom mirror and read them daily. Your sub conscious actually believes what it is told. You can say "I shoot 10's" enough times and that it will become the new comfort zone in your mind and your score will increase.

Your subconscious can do a thousand things at a time. That is where the training shows up in performance. But like a cruise control you still have to steer the car with the conscious mind. The conscious mind can only think of one thing at a time. It might be just a fraction of a second but still one thing at a time. This is where you do your sight alignment and trigger control.

Physical training is important for all sports. It increases your stamina, lowers your heart rate and increases your muscle tone. A regular routine of walking, running and other physical activities should be on your list of to do items. Your pulse rate normally increases about 10+ beats per minute during competition from the rested rate. If you have lowered your rested rate through exercise then your shooting rate will be lower.

You may have heard people say "I shoot for tens and let the X's take care of their selves". (They get a lot of nines). You should say, I shoot for X's and let the tens take care of their selves". This is part of thinking positive. Expanding your comfort zone. You have to believe you can do it before you can do it!

Winners hang around with winners. This will aid your positive thinking. (You are what you eat, so to speak). When you are talking about your score, talk about what you done right. How you shot those X's. Don't talk about those 8's. You did something wrong to shoot them so talking about that will reinforce that bad performance.

As I said you can only think about one thing at a time with your conscious thought so all you need to do is think about the bullet in the gun. Never dwell on past shots or think about what total score (you think) you will shoot. They will only distract form the job at hand.

It is better to have several shorter training sessions than to try to do it all in one weekend. Decide what you need to work on then go to the range and train primarily on that problem. It is good to always get in some offhand each time you go to the range. When

your performance starts to deteriorate it is time to call it a day. If your performance drops and you continue to shoot you will only be reinforcing bad habits. Train enough so you can shoot more good shots in a row than the number of shots in a match. i.e. 30 shots offhand or 4 strings sitting. If you are shooting offhand in a match and something doesn't feel right it is a good idea to dry fire a couple shots. That will relax you and get you back on course.

Don't be afraid to ask for help or advice behind the line. You will be surprised how much other shooters are willing to help. You can't affect another shooter's score when they are on the line but it is always a good feeling to win when the other shooters perform at their best.

You should go to the range concentrating on performance. Don't worry about the score board till the end of the day.

Along with your sun screen in the heat you need lots of fluids. If you don't need to go pee every couple yours you aren't drinking enough water or Gatorade. Light meals or snacks will help. Cut back on caffeine. Get plenty of rest. You may think you can compete with others and party all night but the winners will be getting plenty of rest.

Obed Adrian Morley

SHOOTING EQUIPMENT CHECKLISTS

Hard gun case, for traveling

Soft gun case, for the range

RIFLE

Ammo for each yard line

Good sling

Shooting jacket

Shooting pants (optional)

Shooting glove

Base ball glove for trigger hand

Mat

Scope and stand

Stop watch

Stool

Ear plugs and ear muffs

Carbide lamp with extra carbide

Spray grip (optional)

Score book with wind charts for each yard line and clipboard

Rule book

Match program

Colored pen or pencil

Cleaning kit

Repair kit

Rain gear for you and the equipment

Sweat shirt (s)

Sweat band

Cap

Parachute bag

Shooting glasses with glass cleaner

Anti fog

Insect repellent

Alarm clock

Sun screen

Chap Stick

Aspirin, Advil, etc.

Flash light

Extra batteries for flashlight and earmuffs

Safety flag for rifle

munchies

HOW TO BECOME A CHAMPION

1. Have good equipment and take care of it.
2. Know the fundamentals of marksmanship and how to apply them.
3. Have an overwhelming and all consuming drive to succeed - a will to win if you would.
4. Have a positive attitude and high spirits.
5. Practice as often as you can to can to confirm zeros, gain confidence in trigger control and develop the ability to hold still.
6. Set high goals and be determined to reach these goals.
7. Develop good concentration and mental control.
8. Focus concentration on each shot as it is fired. Don't worry about total score.
9. Be mentally prepared.
10. Develop good training habits.
11. Be in good physical condition (have good muscle tone).
12. Get the proper amount of rest.
13. Consume alcohol in moderate amounts or none at all.
14. Shoot lots of matches against tough competition.
15. Associate with good shots - champions if you can.
16. Create a state of tranquility in your domestic affairs.
17. Don't make mistakes - wrong target, wrong sight settings, missing relays, forgetting a piece of equipment.
18. Plan, perform, analyze, correct or modify and perform again. Record and study the results. Gain experience and knowledge and apply it to your best advantage.
19. Be truthful to yourself.
20. Remember a quitter never wins and a winner never quits. Never give up because of a bad shot, a bad day or because of bad weather.

I INTRODUCTION

The most important part of championship shooting is what goes on in the shooter's mind. Thinking, psychology, mental discipline -- that is what really produces winning shooters. The real key to training progress is the training of the mind. (If you have only limited time to read this, go to page 3.)

II THE PHYSICAL CHALLENGE

The rifle, its accessories, and other equipment must fit properly. Equipment should be adjusted to fit the position of the shooter, not the position adjusted to the equipment. Get acquainted with the equipment. Spend enough time with it till it feels natural.

All positions, in addition to producing a good hold that is aimed naturally at the bull, must be reasonably comfortable and must be legal by the rules. Build a position that makes maximum use of weight distribution and balance, and then by refining the muscle responses involved in reflexes one can bring movement to a minimum. The rifleman must undertake to train the muscles of his body to hold still.

Learning to hold the body still is probably many times more difficult than developing a good position. It's a fact that unless one is concentrating on being still, the body is almost constantly in motion. The body built in tendency is to hold itself upright. The controlling mechanisms for this reflex are not fully understood, but appears to be spread through the body. One of the control centers is the inner ear which senses the direction of gravity. If the pull of gravity is offset by some means of body support it appears that the inner ear sends messages to the brain, which in turn trigger reflex movement in the muscular system to restore the body to a balance point. Other senses are possibly located in the knees, hips, neck and ankles.

The oscillation of the body in the standing position, then probably results in the following fashion. A change in the center of gravity causes the body to begin to sway in one direction. The complex control mechanisms sense this drifting away from the point of balance and cause righting responses in appropriate body muscles. They pull the body back toward the balance point, but momentum then causes the body to begin to shift balance in the opposite direction. Now you see why we suggest to our shooters to stand as erect as you can with your head held level in the off hand position. This reduces sway.

Though these movements are reflexive, a shooter can learn to minimize their effects. Through good weight distribution and balance and refining muscle response the oscillation can be held to a minimum. When the body sways to the right, the aim of the rifle is moved on the target a corresponding distance to

the left; when the body sways to the left, the aim of the rifle is moved on the target a corresponding distance to the right. By this means, the aim of the rifle may be kept constantly in the 10-ring. This compensating movement, however, is effective only if the sway is relatively small, and is ineffective if the body sway exceeds a certain maximum limit. The compensating technique can be learned and employed only after the riflemen has first reduced normal body sway to acceptable limits.

A true reflex is one we have no control over. A conditioned reflex is similarly automatic and beyond the responder's control, but instead of being inherited the response is learned. Among the semi-conditioned responses found in well-trained shooters is the compensatory response to body sway wherein the aim of the rifle is adjusted automatically to body oscillations. Other semi-conditioned responses are proper procedures of target alignment, eye use, breathing and trigger pull. These skills acquire semi-conditioned characteristics through constant, repeated training efforts until they become more or less automatic. Semi-conditioned responses are extremely valuable in shooting and are worth the repeated training efforts necessary to acquire them. The fewer things a shooter has to think about the better off he will be. If many of his actions are taken care of by conditioned reflexes it leaves his mind free to concentrate on performance.

The things involved in positive performance are sight picture, hold, trigger pull and follow through. The mind and mental process is used in each of these acts. I will discuss them briefly and then get on to the meat of this paper "The Psychology of Shooting".

Sight Picture - This first mental process involved in shooting is evaluating the sight picture. This involves the selection of the right target then evaluating and correcting the sight alignment. Then comes evaluation and correction of sight picture. The evaluation of sight picture involves judgement whether the aim point is satisfactorily close to the center of the bull. A champion will be shooting for X's and 10's where as an intermediate will sometimes judge a 9-ring sight picture satisfactory in the standing position. To the beginner an 8 or even a 7-ring sight picture may be satisfactory. This is as it should be. The first and simplest process, then, is judging the right sight picture to be satisfactory within the capabilities of the shooter's technique.

Hold - Hold is judged by two things--steadiness and durability. Steadiness is judged by the eye and a hold is said to be steady when it is as free as possible of oscillation and pulse beat. From the instant a hold is judged satisfactory on the basis of steadiness it is then judged for durability. Durability is judged by sensing from the shooter's body. A hold is durable if it will remain long enough to ensure proper trigger pull and follow through. A

shooter must evaluate whether or not all the muscles and bones of the body can sustain the fixed position long enough to allow proper execution of the shot. This process is a very complex sensing process involving evaluation of every muscle in the face, neck, shoulders, arms, hands, back, stomach, legs and feet. Exactly how one learns to judge this sensory feedback is unknown, but the ability seems to come naturally with experience and proper concentration.

Trigger-Pull - When the sight picture and hold are judged as satisfactory, then the trigger finger must be moved without disturbing any other part of the body. This complex process seems to require a divided concentration, with part of the shooter's mental effort devoted to holding the body motionless, insofar as possible, and part devoted to controlling the trigger finger.

Follow-through - Simultaneous with the release of the shot, concentration should shift to follow-through. Complete follow-through involves concentrating on sensing and analyzing every aspect of performance until after the completion of recoil. One should be precisely aware of the feel of recoil and should be able to call his shot to within one minute of where the bullet strikes the target.

Before a man can become a champion he must first discipline and master himself. Shooting allows a person to aim for any degree of self-mastery.

III The Psychology of Shooting

Correct concentration during shooting performance is absolutely crucial. The first and most essential characteristic of concentration is that it be on performance. Second, the entire mental process must be positive. The mind should be directing the body in what it should do. It should not be concerned with the negative side of performance. Like thinking about what you should not do. . . "I will squeeze the trigger". . . not "Don't jerk the trigger." Concentration should be on performance and it should be positive.

How does one concentrate on performance? What does one think about when releasing a shot?

Concentration on performance is concentrating on body control. The four primary principles of sight picture, hold, trigger pull and follow-through are all a result of or a product of a shooter's control of his body. Sight picture is an indicator or "where" he must position his body. Hold is judged on feedback from the body which indicates "how long" he can maintain the position. Trigger pull involves releasing the shot without disturbing the "where" of the body during the time-frame of the hold's durability. Follow-through means maintaining the hold as fully as possible through the completion of recoil. In general terms, concentration on performance is concentrating on body control.

When the mind and body are performing at their best a kind of generalized concentration seems to be all that is necessary for peak performance. Performance appears to materialize with ease and naturalness. But this doesn't happen very often and normally a shooter has to concentrate on some particular muscle group that is causing trouble. It might be the leg, the shoulder, the trigger finger or the neck. The focus of concentration is on the "trouble area" where extra effort is needed to hold the muscle motionless. At other times the focus may shift to trigger pull or to some other component of the shooting process. However, the area of the body where concentration is focused may begin functioning satisfactory and concentration may have to be shifted to some other trouble area. In short there is no one specific way to concentrate properly. You may have to change your point of concentration several times during one string. Remember concentrate on the part of the body that is causing you the greatest amount of difficulty. Avoid wondering thoughts. If you concentrate on some part of the body your mind won't tend to wonder.

Proper concentration during shooting must be learned. How does one learn to concentrate correctly without experiencing stray thoughts? Control can be achieved only by effort.

One method of learning to concentrate has proven successful for many of our olympic shooters. It involves learning concentration in two phase. The first phase centers on the shooter learning to describe verbally what physiologists and psychologists call "internal environment" - the condition of the body and of consciousness - at the moment of firing the shot. The second phase involves learning to expand the frame of concentration to include follow-through. While concentrating on performance a shooter's "thinking" may not be verbal at all. It is more likely to be engaged in a nonverbal kind of sensing of the body, the sight picture, the wind and the trigger finger. When a new shooter is brought into the program the first thing we do is work exclusively on developing a good basic position. When position becomes reasonably stable we next start him working on concentration. During successive training sessions the coach will walk up quietly behind the shooter and, after a shot, ask him what he was concentrating on during the shot. At first shooters can't tell him but with practice they can tell him more and more. The shooter learns to describe his internal environment quite accurately. An experienced shooter should be able to tell the coach his concentration was on the sight picture, on his right shoulder, on the trigger or on some other aspect of shooting. He can normally describe various sensations arising from the body such as a tightening of a particular muscle or groups of muscles just before the shot went off.

Learning to describe verbally one's internal environment during shooting has several advantages. The most obvious is that it gives the shooter a means of being aware of his concentration. If the shooter can think about it verbally it means it has entered fully into his consciousness for the first time. This in

turn facilitates analysis of his shooting performance. If he is aware that he was concentrating on the trigger, but that the hold was disturbed in the last second by a tightening of a back muscle, then he will be able to focus his concentration next time on the real source of his difficulties - his back muscle. Still another advantage is that using this technique the shooter will develop the ability to concentrate more deeply and completely.

A coach is necessary for this type training or the shooter must write down on paper just where his concentration was. It is just not enough to think to oneself "Well my concentration was on sight picture that last round." You have to say it out loud or you have to write it down. Only complete clear verbalization will effectively accomplish the desired end of forcing the shooter into achieving full awareness of his sensations. When the technique of verbal analysis has been mastered, the shooter can then safely resort to thinking each shot silently to himself. This, of course, is what champion shooters always do. This constant, continuing analysis of performance is another hidden "secret" of championship shooting.

IV Mental Discipline

Mental discipline is the ability to duplicate a successful performance. At one level mental discipline is the ability to concentrate solely upon performance to the exclusion of everything else. At a deeper level, it is the ability to think positively about, and thereby control, every step of the shooting process. At its deepest level, mental discipline goes far beyond concentration. It is the deep-seated feeling of confidence that one can, without doubt, duplicate or exceed one's best previous performance. In short, it is the unquestioning belief in one's ability to win.

The key to mental discipline is attention span. Attention span is the length of time that one can devote attention exclusively to one subject. Mental endurance like physical endurance is built up through training. A shooter should train his attention span to exceed the requirements of a match. Shoot more shots in practice than is required in the match you are practicing for. To develop attention span one begins by achieving perfect concentration during one single shot. Then duplicate physically and psychologically everything you did in that performance. With continued effort you will find you can duplicate perfect performance more often.

Remember, concentration is stronger during the middle of a string. It is weaker at the start and the finish so dry fire several rounds to get your concentration on fundamentals.

PLEASE ATTEMPT TO READ THIS ARTICLE
BEFORE DR EDWARDS' PRESENTATIONS

EXCELLENCE BY DESIGN
John A. Edwards PhD

There are no certainties in life. The best preparation - mental, technical and physical - cannot guarantee success. Like it or not, scores and medals are outside a shooter's direct control. Preparation increases the chances, but cannot guarantee, that a shooter produces the desired results. Unfortunately, many athletes' behavior seem to believe that being well prepared must make winning a certainty. If this belief is accurate, why do so many athletes with abundant technical skills - and who badly want to win - often fail to produce the expected scores? I suggest that an exaggerated focus on factors beyond our control (what other shooters are doing, what the coach is thinking, how much the medal means), combined with a distorted belief in our ability to make the world do what we want, conspire to push talented athletes away from the ideal performance state. Mental training teaches that performance excellence is a reflection of the ability - at all times during a competition - to channel mental and emotional energy to fuel constructive rather than destructive behavior. Scores, medals and applause will then take care of themselves.

Athletes' irrational and self-limiting beliefs must be addressed if sport psychologists' lessons on building motivation and self-confidence, boosting concentration, using imagery and relaxation techniques are to have a positive and permanent impact. Mental training techniques cannot be regarded as "off-the-shelf" additions to an athlete's repertoire - like a pair of Reebok energy return shoes -

that will automatically guarantee better performance.

Mental training is a continuous process of self-development that ends with brain death. Paradoxically, the brain is the one thing we all possess that accounts for the uniqueness of each individual. Each person has a different view of the "rules of the game" called Life. Coaches and sport psychologists have a responsibility to assist shooters to develop thoughts, feelings and actions that promote personal development, self-fulfillment and fun. If we succeed then superior scores, medals and acclaim will be close behind.

Our self-image, beliefs and goals offer a clue to current guesses about how the world works. Self-image and beliefs can be strengthened and/or modified by new experiences. Self-image is an internal snapshot of personal qualities and performance potential. We prepare for, and perform in ways consistent with our self-image: our comfort zone. A strong, positive self-image acts as a springboard for developing our true potential. Tensions arise when a new challenge threatens to push us too far outside the boundaries of our current self-image. If, in addition, we presently see ourselves as unadventurous then we will work very hard to resist suggestions to try something new that might bring more success. Self-image imposes limits on what we believe we can do or try to do.

Significant personal growth accompanies expansion of the self-image. For example, few people start, and successfully continue, to exercise through willpower alone. Compliance to an exercise program is higher if we work first on who we think we are. In order to break the couch-potato habit, we must start to SEE - and like - ourselves as placing a high value on good health. A fit and trim body must make

sense to us. At this point, we have a motive to engage in exercise. Physical activity now lies within our range of acceptable behavior. Effective mental training programs promote constructive growth of self-image.

Beliefs summarize current conclusions about how things work. They also set limits on what we will TRY and what level of performance will satisfy us.

"You may do no better than you believe you deserve;
you will be no more than you believe you are; and
you certainly will achieve no more than you believe
is possible." (Bennett & Pravitz, 1986)

Our beliefs help define our reality. They determine what is worthy of attention and what can be ignored. Beliefs are not right or wrong, the criterion for judging beliefs is USEFULNESS. Do our beliefs propel us towards goals or do they throw up roadblocks? We are born without beliefs. Experience helped create them. With new input and an open mind we can change any self-defeating belief. Change your beliefs and you change your reality. Accepting a limiting belief about ourselves or the laws of nature - as in the four-minute-mile "barrier" - can be more catastrophic for performance than the skills of an opponent or the physical difficulty of the task. Believing doesn't necessarily make it so but it does increase the probabilities. Mental training promotes personal excellence which raises the probability of - but cannot guarantee - success.

When Roger Bannister planned to run a sub-four minute mile, he didn't have more information than other athletes or coaches. Ignoring the available evidence, many of them believed that a man cannot run

that fast. They generated a self-fulfilling prophecy because no-one really tried to crack 4 minutes. The mental barrier became a physical "reality". Roger Bannister chose to look for reasons why it CAN be done. He believed the scientific evidence offered little support for a true 4-minute limit. With no guarantees that it would work, Bannister constructed a race plan - an experiment - to which he gave 100% commitment. His experiment worked but many excellent experiments give results different from those predicted. In reality, all competitions are experiments. Until it ends, there remains an element of uncertainty over the final result. Training, preparation and a competition plan can reduce, but not eliminate, this question-mark.

Coaches encourage athletes to learn new skills. This implies change. An athlete's willingness to accept new ideas and welcome challenges depends on his/her self-image and beliefs. Coaching effectiveness depends on an understanding of how the world looks to the athlete. Psychologists and psychological tests are not needed. Patient observation, good listening skills, and a willingness to put yourself in the athlete's shoes, are the main requirements.

Mental training, like technical training, should be viewed as a continuous, sometimes slow, process. I reject the expectation that a sport psychologist's function is to provide "band-aid" solutions to high anxiety, low self-confidence, and poor motivation on the eve of a major competition. Mental roadblocks do not develop overnight. They are related to beliefs and goals held by the athlete for months or years. Usually, there are logical reasons why the beliefs of many athletes would lead to debilitating performance anxiety. Coaches understand that attempting a shooting position change close to a match

is unlikely to have a positive effect on performance in the short-term but will pay off with further training. Likewise, even if a destructive belief could be modified on the eve of the Olympics it will take some time for the athlete to get comfortable with his/her new outlook. Instant effects on performance are the exception. Consider how long it takes you to accept and implement new coaching ideas that challenge long-held beliefs....

A strong clue to a person's self-image and beliefs lies in his/her choice of goals. Irrational beliefs and unrealistic goals generate irrational and self-defeating behavior, the arch-enemies of excellence. Even if they are neither expressed verbally nor written down every shooter has goals otherwise we wouldn't see disappointment when he/she misses a medal or shoots a 6! Goals are pivotal elements of strong and consistent motivation. If you don't have a target, you'll miss it every time. Of all athletes, shooters must relate to this statement most strongly. Goals provide direction. Ideally, goals also stir up the emotional energy needed to breath life into a dream. Goals should be judged by their effectiveness in promoting desire and direction without, at the same time, creating pressure.

Goal-setting is a part of all mental training programs. Effective goals are positively linked to excellence. Yet ineffective goals are responsible for many of the mental and emotional problems observed before and during competitions. How? When asked for their competition goals, most shooters will reply with a score and/or a placing. I call these goals ACHIEVEMENT or OUTCOME goals. While these goals provide direction and can stimulate desire they also hold the potential to produce performance blocks when a shooter believes that outcome goals

are (i) directly within their control and (ii) the only reason for entering a competition. Score goals are convenient and simple, high scores bring medals and admiration but our there is a less than perfect correlation between what we have the power to control - our ACTIONS - and a final score.

Weather, ammunition, equipment, influenza viruses and other people all have the potential to deflate scores despite an excellent performance. These factors are outside the shooter's direct control. Similarly, outcome goals such as admiration and respect are for others to give or withhold. Problems arise if an athlete wastes energy trying to exert control over these uncontrollable variables. Scores are uncertain until the performance that produced it is finished. In focusing on a score we are acting on the belief that the future is totally predictable. We put too much faith in the shooting "gods" who direct the external factors. But we can never be sure that they will cooperate. Uncertainty comes hand in glove with trusting factors outside our direct control. Uncertainty breeds anxiety and nervousness. Anxiety is the enemy of superior performance. If you doubt emotional power of uncertainty, think about a child's reaction to a dark room.

In setting a goal of 598, and nothing else, we create a sharp distinction between our definition of success and failure. This is dangerous. To be highly confident of achieving 598 we must deny the fact that external factors can't be forced to work in our favor. Shooters with the single goal of "going for the gold" are in even worse shape. First or twenty-first is not decided until all the scores are in. This takes hours, sometimes days. During competition, there is

little that an individual shooter can do to reduce the uncertainty over the final result. Shooters cannot influence the actions of their competitors. It is possible to shoot a personal best, equal the world record and still finish out of the medals. This occurred at the 1986 World Shooting Championships in the English match when 5 competitors fired 600. Should 4th and 5th place shooters consider themselves failures?

When winning is the only goal, the chances are greatly increased that a shooter will come to the line anxious and pre-occupied with the fortunes of his/her opponents. Anything less than a 10 becomes unacceptable because he/she might be slipping off the pace - even though he/she does not know how other shooters on the same relay are doing. Task focus is disrupted as the results of each shot are evaluated in relation to the final goal. A good string provokes excitement, a pair of nines - frustration because they threaten the end goal. The athlete can quickly find him/herself on an emotional roller coaster which gradually erodes performance quality. Single outcome goals push us away from excellence. However "good" the goal, it fails the effectiveness test!

Support for this analysis comes from studies of highly anxious athletes who perform below their ability. "Chokers" tend to waste mental and emotional energy trying to control the uncontrollable. They worry about how well others are doing in relation to them. They ruminate about the possible consequences of performing badly: loss of status or the esteem of others, punishment or ridicule. They have persistent thoughts and feelings concerning inadequacy and self-criticism. They feel helpless because the reason for their efforts -

the score that defines them as a success - creates too much pressure because it is beyond their control. This waking nightmare can be traced back to beliefs that stimulate a pre-occupation with outcome goals.

Many athletes who set nothing but outcome goals have an unrealistic perception of the strength of the relationship between their ACTIONS and the final OUTCOME. They set themselves up for frustration, uncertainty, low confidence and disappointment. Superior performances are built on a realistic appraisal of the evidence. Mental training shows athletes how to make such an appraisal and then maximise the probability of their actions leading to the desired result or reward. Certainty is not part of the deal. We ignore, at our peril, the complexity of the equation which makes this probability less than 100%. Excellence lives in the performance of an athlete who has pushed his/her chances as close to 100% as humanly possible on that day.

I believe that many of the stress symptoms experienced by athletes will disappear if they use a goal structure, that during a competition, directs a shooter's focus away from outcomes and towards ACTIONS that, from experience, are known to give the best chance of reaching the desired OUTCOME. In this structure, OUTCOME GOALS goals are most effective during the build-up to a competition. They provide the fuel for the hard work necessary to be ready on the day. The more the outcome gets is fired up the harder we will work during the long practice hours. An outcome goal is one of several probable rewards that we want for our efforts. Keeping the outcome goal and the joy of successful achievement in mind during the preparation phase helps to

keep motivation high.

The most important shift in perspective is to view outcomes as "mere" by-products of your ACTIONS. We can't make them happen by force of will. Mental training encourages a commitment to an ACTION plan which maximises the chances of the outcome goal(s) becoming a reality. ACTION GOALS define behavior, thoughts and feelings to be attempted minute-by-minute during a competition. Action goals shift focus to those aspects of performance over which, from training and past competition experience, are known to be worth using mental and emotional energy to control. Action goals simplify a competition: it becomes a contest between you and your action goals. It matters less what the match is, where it is or who the other shooters are. Nobody but you can prevent you from reaching most of your goals. Confidence will be high because - from your training - you know in advance what needs to be done to give you the BEST CHANCE of reaching your outcome goal. Outcome goals give meaning and purpose to training and signal the importance of the match to YOU.

Multiple goal structures facilitate the ideal performance state. When aiming for a future competition, choose the achievement goal(s) first. Then decide what set of ACTIONS will give you the BEST CHANCE of reaching the ideal performance state in that match. Always keep in mind that this plan is an experiment. There is no guarantee that your actions will lead to the outcome. All you CAN guarantee is 100% commitment to your action goals. Nobody can ask for more.

My presentations will provide practical examples of the form and use of Action goals. I will demonstrate the role of relaxation and imagery exercises in promoting the ideal performance state.

EFFECTS OF WIND

GENERAL

This section provides detailed information concerning the effects of wind on the M16A1 bullet. Marksmanship instructors should be very familiar with the information contained in this section, all officers and NCOs should have a working knowledge of wind effects on the bullet, and all soldiers should know, as a minimum, that wind can affect the bullet and which way they must aim to compensate for bullet displacement caused by wind. The material in this section is appropriate for Preparatory Marksmanship Training or concurrent training and should be incorporated into all marksmanship training when wind can have an effect on the bullet.

BACKGROUND

Wind was not taught in the previous marksmanship program. Perhaps it was not taught to simplify the marksmanship program or because it was impossible to accurately determine wind effects because the marksmanship program did not include precise feedback concerning bullet location. In any case, there is a general lack of knowledge concerning the effects of wind on the bullet. As with gravity, wind is included as part of the program because some knowledge of these effects on the bullet is necessary if soldiers are to be effective riflemen in some combat environments. In addition to the need for inclusion of instruction concerning wind effects into the current marksmanship program to improve firing performance out to ranges of 300 meters, the recently Army-approved M16A2 has sights which are adjustable to ranges of 800 meters, making it even more important that some instruction concerning wind effects be introduced to all personnel.

WIND DIRECTION

For practical purposes, the exact same gravitational forces are at work all the time. However, the effects of wind will vary greatly based on changes in wind speed and direction. Wind is classified by the direction it is blowing in relationship to the shooter/target line. Using the clock system to indicate direction (Figure 16-1), winds which blow from the right (3 o'clock area) and winds which blow from the left (9 o'clock) are called full value winds because they have the most effect on the bullet. Winds which blow at an angle from the front or rear are called half value winds because they have about 1/2 the effect on the bullet as they would if they were blowing from either 3 or 9 o'clock. Winds which are blowing straight into the firer's face or winds which are blowing straight into the target are termed no value winds because their effect on the bullet is too small to be of consideration to the soldier. Once the wind direction has been determined, the wind speed must be estimated to know if it will have any significant effect on the bullet. A wind gauge may be used for precise measurement of wind velocity, but when a gauge is not available, velocity may be estimated by one of three common methods:

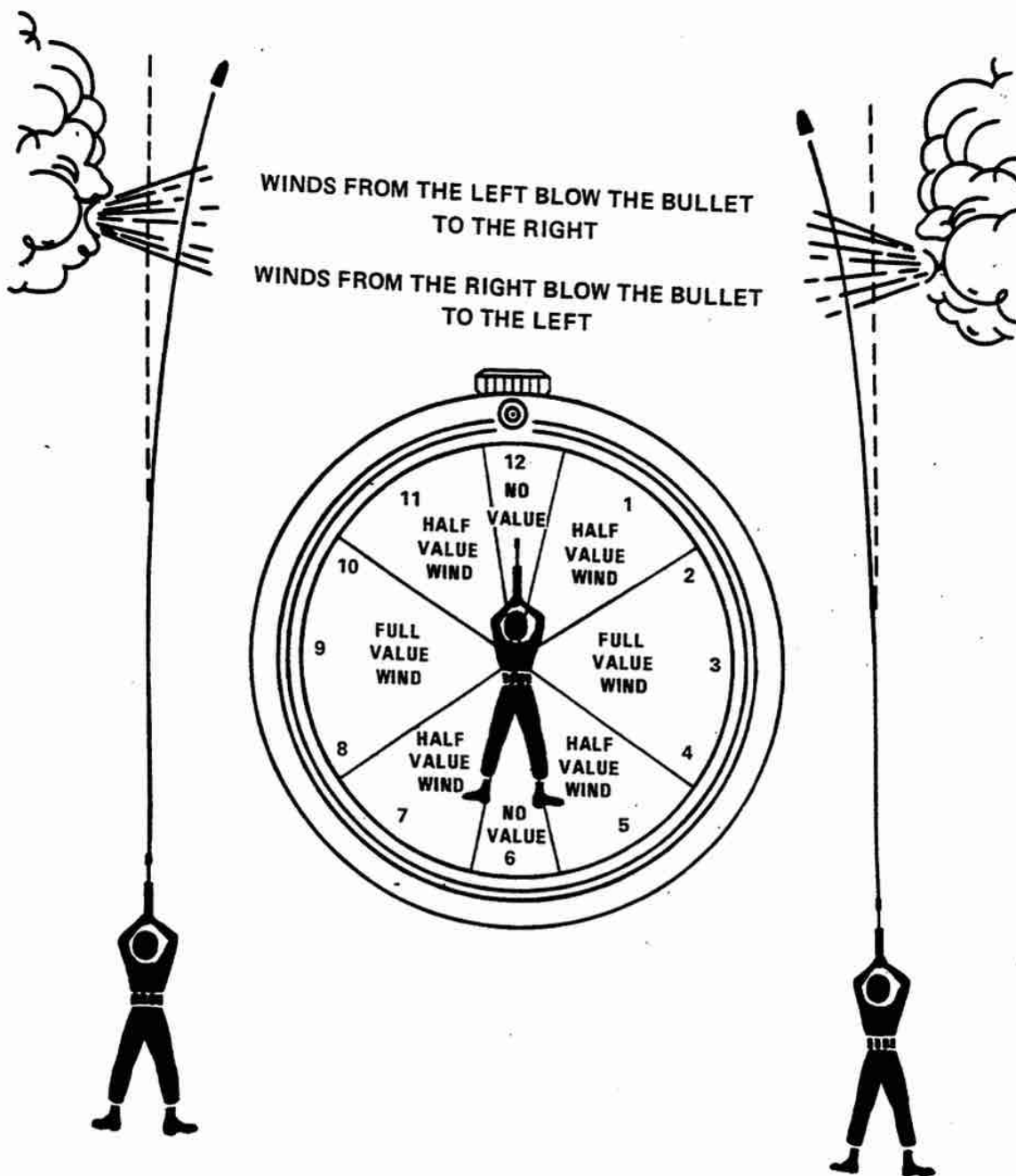


Figure 16-1. Using the clock system to specify wind direction and value, a 3 o'clock wind is a full value wind which blows from right to left.

- Flag method. If the shooter can observe a flag or any clothlike material hanging from a pole, he should estimate the angle formed at the juncture of the flag and the pole. As shown in Figure 16-2, dividing this angle by the constant number 4 will give the wind velocity in mph.

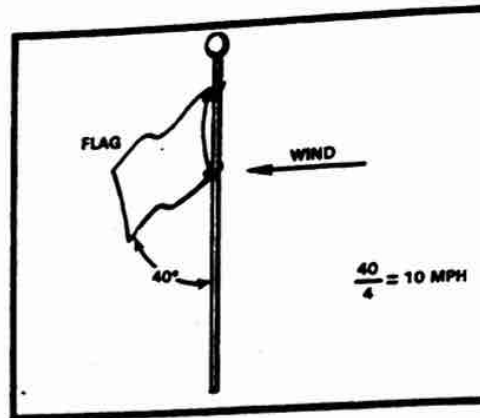


Figure 16-2. Determining wind speed by the flag method. Estimate the angle between the pole and the flag and divide by "4" to find wind speed in miles per hour.

- Pointing method. If no flag is visible, a piece of paper or other light material may be dropped from the shoulder. By pointing directly at the spot where it lands, the angle can be estimated. As shown in Figure 16-3, this angle is also divided by the constant number 4 to determine the approximate wind speed in mph.

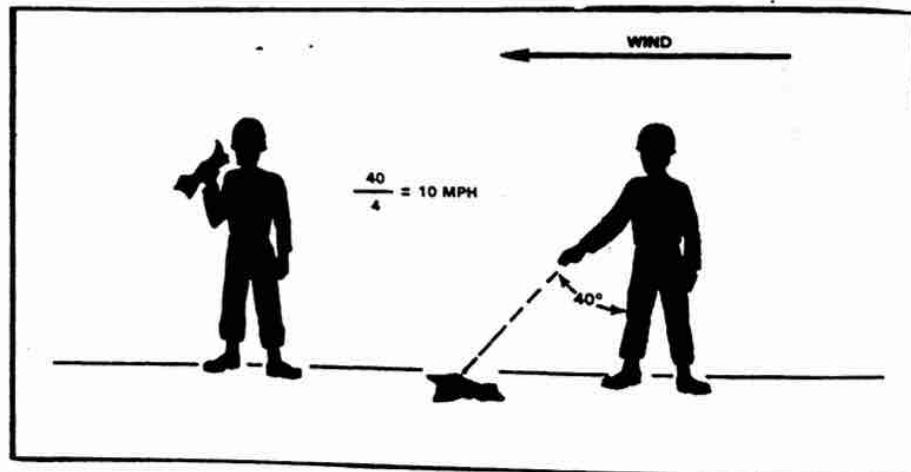


Figure 16-3. Determining wind speed by the pointing method. Estimate the angle between the arm and the body when the arm is pointing at a dropped piece of paper or other light material. Use the same procedure as in the flag method — divide the angle by "4."

- Observation method. If the above methods can't be used, the following information will assist in determining wind velocities:
 - Under 3 mph winds can hardly be felt, but the presence of slight wind can be determined by drifting smoke.
 - A 3 to 5 mph wind can be felt lightly over the face.
 - Winds of 5 to 8 mph keep tree leaves in constant motion.
 - At 8 to 12 mph the winds will raise dust and loose paper.
 - A 12 to 15 mph wind will cause small trees to sway.

Wind is highly variable and sometimes it will be quite different at the firing position than it is at the target. The wind may be blowing relatively hard at the firing line, but the path of the bullet may be relatively well-protected by trees, brush, or terrain. The wind can vary by several miles per hour between the time a measurement is taken and the bullet is fired. For these reasons, a great deal of training time should not be consumed trying to teach soldiers a precise way to measure wind speed. It is important that they have a general understanding that wind can blow the bullet off course, but the trainer must be careful that the soldier does not overcompensate for this and miss targets as a result of applying too much holdoff for wind.

EFFECTS OF RANGE AND WIND SPEED

You may note from the sketch in Figure 16-4 that wind acts on the bullet in a manner very similar to gravity -- as range increases, the effects of wind are much greater. The sketch shows how much a 10 mph full value wind will move an M16A1 bullet out to ranges of 475 meters -- moving the bullet about 1/2 inch at 25 meters and about 46 inches at 475 meters. Using the data presented in this chart, wind effects for all conditions can be determined.

Effects of wind are much greater at longer ranges; however, wind effects are uniform in relation to speed. In other words, a 5 mph full value wind would have exactly 1/2 the effect shown in the sketch, moving the bullet 5 inches at 250 meters than 10 inches, etc. A wind of greater speed would just increase bullet movement by a uniform amount--a 15 mph wind would move bullets at all ranges 1-1/2 times more than a 10 mph wind, or 7-1/2 inches at 175 m.

The same rule also applies to a half value wind. A 5 mph half value wind would move bullets 1/4 the amount shown in the sketch, 3-3/4 inches at 300 m.

Since no one should try to remember all the numbers shown in Figure 16-4, four ranges are highlighted, and it is suggested this may be an easy way to remember the general effects of wind. A 10 mph wind will move the bullet 10 inches at the battlesight zero range of 250 meters, and if this information is taken to the standard field fire range with targets at 75, 175, and 300 meters, then it is relatively easy to remember that a 10 mph wind will move the bullet 1, 5, 10, and 15 inches at the ranges of 75, 175, 250, and 300 meters, respectively. It may also help to convert these numbers to a 1 mph wind: 1/10 inch at 75 meters, 1/2 inch at 175 meters, 1 inch at 250 meters, and 1-1/2 inches at 300 meters, so that when the wind speed has been determined, it can be multiplied times the mph figure to determine bullet displacement.

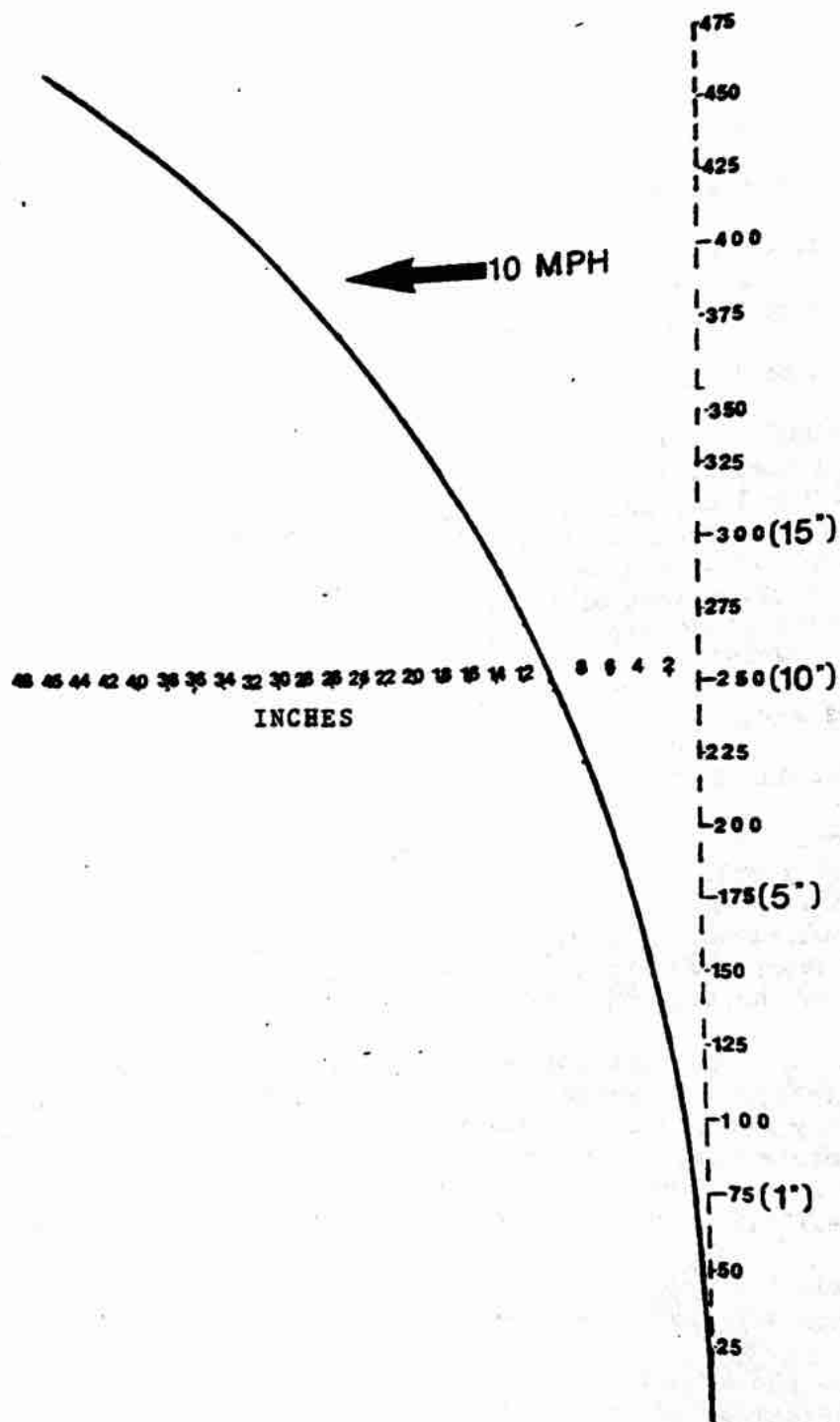


Figure 16-4. The effects of a 10 mile per hour wind blowing from 3 o'clock (full value). The sketch is drawn to scale, showing the number of inches a 10 mph wind will move bullets at ranges out to 475 meters.

STANDING POSITION - CPT B. O'Brien

The 200-yard line begins with your best opportunity to dazzle the competition and jump into the lead. Eighty percent of the competition is mentally unable to shoot standing. They have "told" themselves that they are incapable of winning standing and proceed to prove themselves correct. They are of no concern to you. Fifteen percent of your competition has a good mental attitude, but has not developed the physical capacity to match.

If these people continue to shoot, they will give you serious competition: but not yet! That leaves 1 shooter in 20 on the line - 5% who have the capacity to win the yard line and frequently the match. This is your competition. To them, standing is not the most difficult position, it's everyone else's most difficult position.

Now that you are going to allow yourself to win standing, there are 8 considerations:

- 1) Equipment
- 2) Selection of Firing Point
- 3) Position
- 4) Sight Picture
- 5) Trigger Control
- 6) Breathing
- 7) Follow Through
- 8) Recording

In this section, we will cover considerations 1, 2, and 3. The remainder will be covered in other sections.

1) Equipment

Since offhand is usually your first shot of the match, careful attention to detail prior to going on the line is essential.

- A) Rifle - sights set and blackened. 5 pt. check negative.
- B) Sling - in the parade position, frogs out. Tight along the right side of the magazine (if right handed), or under the magazine.
- C) Glove - Left hand - medium to heavy, but allowing one to moderately grip the magazine. Open finger tips. Right hand - very thin, pliable leather to increase grip and decrease slippage without increasing tension. Open finger tips and index finger.
- D) Hat - adjusted just over the rear sight.
- E) Ear Plugs and Muffs
- F) Shooting Glasses - check sighting area for scratches daily.
- G) Magazine - checked and clean.
- H) Jacket - usually worn firmly closed. Keep rubber fresh and tacky without firm grip.

2) Selection of Firing Point

Your numbered point will be selected for you. Your job is to find the best location between the numbered stakes. Look for a level position without forward or backward slope. Lateral slope, if unavoidable, is more acceptable.

3) Position

The erect but relaxed human naturally assumes a position over his normal center of gravity (usually located at or near the 1st lumbar vertebral body). When we add 15 lbs of rifle, placed well above and anterior to the center of gravity, this causes increased muscular strain that translates into body motion as the body constantly corrects its position.

To minimize the muscular strain, you must adjust the body so that the center of mass of the new upper body + rifle mass lies directly above the normal center of gravity. Since the rifle lies laterally and is anterior to the upper torso (remember the barrel), it follows that the normal adjustment will be back bend and lateral shift. This has the effect of thrusting the pelvis forward.

As the back is composed of 17 sets of lumbar and thoracic intervertebral joints, a slight counter-clockwise twist will serve to "lock" the joints (for right-handed shooters).

A radically bent and twisted position has been shown to cause temporary, and/or permanent low back degenerative changes. Positions which cause excessive stress should be avoided.

The feet should be shoulder width apart and roughly perpendicular to the target. Body weight should be evenly distributed with the center of gravity between the position of the feet. The knees should be straight, not bent or relaxed, nor "locked" stiffly in position.

Remarks for the left arm and right arm are for right handed shooters, reverse them for left handed shooters.

Left Arm

The left arm should be bent. The elbow placed on the left hip in its forward thrust position. This forms a solid "bone to bone" contact. The left hand then comes up under the magazine (sling just to the right of the magazine) and grasps the bottom of the magazine, forming a solid base with the fingers holding the sling. Allowing the magazine to rest on the hand or fist allows the rifle to "jump" and can cause variations in point of impact.

Right Arm

With glove on, firmly grasp the pistol grip with the thumb, middle, ring, and little finger. The index finger is only placed in the trigger guard when the rifle is pointed down range and the line is firing. The finger is placed on the trigger only when the sights are aligned. Only the portion of the finger determined by test to not affect lateral alignment of the bullet impact when pressure is applied is used to touch the trigger.

The elbow may be up or down. In high wind conditions, an elevated elbow with moderate rearward pressure of the right hand is desirable to decrease wind induced motion.

Head

The head is erect, with the butt of the rifle placed high on the shoulder. Tilting of the head, either laterally or longitudinally, is to be avoided as you will induce body motion to "correct" your tilt.

Firm placement of the head against the stock with a good "stock weld" is necessary to insure repeatability in sight alignment. The rifle butt position on the shoulder may be adjusted slightly to vary eye relief.

Wind Shooting - Offhand

A general increase in body tension will be useful in decreasing wind-induced motion. Trigger control then becomes even more essential. One method of increasing your wind day score is to increase your static, or base line, trigger pressure to 3 1/2 - 4 lbs. Leaving only minimal increase in trigger pressure necessary for those fleeting instances, the sights will be well aligned.

Remember, the rapid application of 8 ounces or less of trigger pressure will result in much less rifle deflection than 4 1/2 lbs of pressure applied in the same time period.

Conclusion

A good mental attitude, the application of basic shooting principles and practice, practice, practice will win those matches that you previously had "bad luck" offhand, but did well for the remainder of the match.

Good Shooting!

RAPID-FIRE SITTING POSITION - MAJ Chris Stark

I. INTRODUCTION

The second stage of the National Match Course is 200 yards, sitting, which consists of 10 shots fired in 60 seconds. This is the easiest position to obtain a 100 and is closely related to the "gimme" in golf and the "free spot" in bingo. You are expected to shoot a perfect score of 100 consistently. If you are not doing so at this time, additional work is needed. If you were not already fairly proficient in the sitting position, you would not be on this team and issued this manual. Therefore, the following are checks and guides to improving your scores.

II. DECISION - CROSS-LEGGED OR CROSS-ANKLED

There are only 2 sitting positions that highpower shooters can consider using. One is the cross-ankled sitting position. The other is a cross-legged sitting position. If you find that you can shoot the cross-legged sitting position, you should stick with it because it is the most stable. If not, the next step is simply to extend the legs out in front of you and support the rifle in that position (see photographs). Once you have decided which sitting position to use, you must turn your attention to building the rest of your position. Both positions have advantages and disadvantages. Find the position that is right for you.

III. HEAD POSITION

The head position must be relatively erect. You must look forward through the sight without straining the neck or eyes or tipping the head down or sideways.

IV. THE SLING

The position of the sling in sitting is a little more critical than in the other positions. The sling is going to be shorter than it is in prone, and a good guide to follow would be to mark your sitting position notch. Remember, however, that your body changes from day to day, and you should be prepared to use the marking only as a guide. If possible the left hand should be extended to the sling swivel. This is not always possible and it may be necessary to bring the left hand back towards the magazine and hold it in place with a little firm grip.

V. TORSO

The weight of your upper body falls down the legs with the torso and legs fully relaxed. You should not use any muscles in your back or legs to hold your position.

VI. ELBOWS

The position of the elbows on the legs is also important. If you are using the cross-ankle position, there is a flat area on the shins just below the knees that will hold the elbows in position during recoil. In the cross-legged position, the legs are bent and the elbows simply sit in a "V" found on the inside of the knees, and there is no difficulty in finding it.

VII. CADENCE

Cadence is a smooth rhythm of firing that allows for the most efficient use of the time allowed to aim and fire a rapid-fire string. Dry-firing at home of the complete stage is essential to maintaining flexibility and to make refinements in assuming the position of your reloading technique. There are no set, inflexible rules for the amount of time you should take to assume position, shoot your shots, or reload. Bear in mind that as discussed elsewhere in this article, during the reload, you have an opportunity to scope your first 2 shots or check for wind or mirage changes, and in team matches you will be given instructions from your coach. Accordingly, your cadence should be adjusted to allow for scoping the shots or sight changes.

VIII. NATURAL POINT OF AIM

Because of a lack of stability, as compared to prone, it is even more important that you assume a natural point of aim when the targets appear. In order to do this, you determine that point of aim while dry-firing during the preparation period. After you assume a sitting position, and it feels comfortable, close your eyes, shoulder the rifle, relax and breathe as if you were going to break a shot. Then open your eyes. If your front sight is on your target, then you have a natural point of aim. If not, you need to make adjustments.

Horizontal adjustments are made by shifting your feet or buttocks either right or left until the front sight is aligned with the target. Remember to repeat the previous method described for obtaining a natural point of aim.

Vertical adjustments are primarily accomplished by moving your hand on the forestock of the rifle, tightening or loosening the sling. Again, check for your natural point of aim.



Figure 2



RAPID-FIRE SITTING POSITION

IX. FOLLOW-THROUGH

Follow-through is especially important during sitting rapid-fire in order to avoid disturbing the sight picture and to defeat the tendency to jerk or yank the trigger. In order to follow through, you must squeeze the trigger through the recoil, holding the position until you have recovered back on the target. Failure to return back on the target is a good indication that you do not have a good natural point of aim and a further adjustment is necessary. Again, a good, crisp cadence will allow you sufficient time to make such adjustments even during the string.

X. CONCLUSION

Remember, you are expected to shoot consistent, perfect scores. The primary difference being the X count.

RAPID-FIRE CHECKPOINTS

Preparation has to do with your time before the "preparation period." Normally, a good rapid-fire shooter begins his preparing to shoot about 15 minutes before the preparation period. You have to do such things as check your gun, check your zero, calculate the wind, recalculate the wind, recheck your zero then check your zero and the wind a third time. When the guy in the tower calls you to the line and says, "Your preparation period starts now," you should have your mat in your hand, your rifle already hooked up to the sling, and your magazines loaded and in your hand. All you have to do is walk up to the line, lay down your mat, and you are ready to start thinking about how you are going to shoot.

A. Preparing Period. During the actual preparation period of 3 minutes, you should be putting the finishing touches on what you have already done to get ready to shoot. The way you lay out your equipment is very critical -- where you put those magazines, where you put your telescope and how you lay out your mat, scorebook, etc. You should have spent at least half of your preparation period time dry-firing. At the end of the preparation period, you should lie quietly and think about how you are going to shoot each shot.

B. "Firer's Rise." When you stand up, you should recheck your zero and wind setting. As you load the rifle, you should visually check to make sure the first round goes home in the chamber. Once you have done that, it is very important to do two things: First - remain erect, Second - stay relaxed. It is also a good idea to stand 15 or 20 seconds before the command "Firer's Rise" is given. Usually, that command will come when nearly all of the targets are at half-mast, and that is your cue to go ahead and stand as erect as possible with your first magazine in hand. I feel that the additional few seconds gained will accomplish 3 things: 1) it will make you a few extra seconds to recheck the wind and to make your final windage adjustments; 2) it will give your heart time to recover from the exertion of standing in a cross-legged position, thus aiding

in heart recovery after you reassume the sitting position; and 3) it will give you an opportunity to breathe deeply and to become fully relaxed and mentally alert to make sure that you are shooting at the

correct target. Finally, in the event that there is a long period of time between the command "Firer's Rise" and the time the targets actually appear due to other individuals not being ready, etc., an erect, relaxed, and comfortable position give you that much more of an edge on your nervous competition.

C. Assume Position. When the targets begin to come up, drop down into position quickly, but without rushing. This is a movement you should practice many times so you can get into the same position each time. Be sure to give your position a chance to settle down and relax. An extra second or two spent settling your position for that first shot is time well spent. Make sure that your point of aim is on the correct numbered target and that your area of aim is on the target. If it is not, make the slight position shift necessary to get your area of aim centered.

D. Firing Shot. As soon as your position is settled and centered on the target, you must begin your first shot. First, concentrate on getting a good hold that is centered on the target. The second step is trigger release. Trigger release happens quickly in rapid fire, but it must be a trigger squeeze.

E. Reload. The reload occurs immediately after the second shot of the string. The key words are "careful" and "quick." Do not panic; have every motion working correctly. Keep the rifle lubricated and cleaned so it will not malfunction.

F. Scoping. After you have reloaded, if you are shooting an individual match, you may then want to "scope" your first 2 shots. Your telescope should be placed in such a position that is easily accessible to you without changing your position, with only a slight head movement required to look through the scope. Many times you may not be able to see your shot holes. Do not waste time looking for them, if they are not easily readable, but check instead for mirage and wind changes that may have occurred.

If the shot holes are easily readable, you can check both the placement and the mirage. If the shot placement and mirage are not in accordance with your call, you may adjust as needed. It is vitally important, however, to note that scoping is done only after you have completed reloading and chambered that third round. This makes it easier to make windage and adjustments, since the bolt is already closed.

Remember, scoping is not always absolutely necessary and can sometimes be described as a luxury, which is available only if your timing has been good enough to allow for the extra few seconds needed to scope your shots.

G. Analyze. When all 10 shots are fired, most shooters are concerned only with their score. Actually, the period after a rapid-fire series can be as critical as the preparation time ahead of the string. This is the time when you analyze what you have done, recheck the wind, and do your scorebook work.

If you are in a team match, as soon as you have completed firing, you immediately get up from the firing point, pick up your mat and other equipment and remove yourself as quickly as possible from the line. You can engage in conversation with your coach and tell him all your sad tales of woe after the team has completed shooting. Neither the coaches nor the other shooters are interested in your problems once you have fired, so keep your mouth shut and use the time to set up your telescope, to check your score on the scoreboard, and get your scorebook out to make a careful record of what you have done. Failure to do this means you have wasted the value of this training you have just fired.

H. Conclusion. Remember, a perfect score sitting will probably not win any matches for you, since most of the "big guns" will also be shooting perfect scores. But a bad sitting, especially "eating" a round, can certainly lose a match for you or your team. At home, dry-fire practice of sitting is vitally important to maintain flexibility of the muscles and ligaments necessary to get into this position, as well as developing cadence and consistent positions.

RAPID-FIRE PRONE - SSG Tobias Benton**A. General**

Rapid-fire prone is the ultimate challenge in competitive shooting. Whether shot in the National Match course or the Infantry Trophy Team Match, the skills needed to perform well are more critical and demanding than any other position. When analyzing the progressive stages used to shoot rapid-fire prone, over seventy (70) major acts are performed in the process of firing a single ten (10) round stage. The challenge to perform each intricate act well can be appreciated when adding other factors like weather conditions, light conditions, range conditions, and distance to the target.

Today, service rifle teams have developed rapid-fire prone to a level comparable to 200-yard sitting. Only a few years ago a score of 98 or 97 was average and acceptable for most good shooters. Today, competitors realize the ability of their equipment to shoot well, and the attitude has changed to accepting only a perfect performance and score.

The following outline will highlight the basic techniques used in rapid-fire prone shooting. Although the points may seem elementary, the road to success is rooted in basic concepts.

B. Preparation

Before any successful performance can be achieved, the shooter must consider his preparation. Prior to assuming a prone position two considerations must take place: 1) Setting up the firing point, and 2) Analyzing the conditions.

1) The first consideration in setting up the firing point is choosing the best possible area for placement of the shooting mat and accessory equipment. After shooting on many different ranges, I can appreciate finding a flat area to build my firing point around. By selecting a flat firing point, you have already eliminated the possibility of changing your natural point-of-aim after assuming the position from standing or after a magazine change. The second consideration is placement of the accessory equipment. The spotting scope, shooting stool and other equipment should be located in a convenient place for ease of handling.

2) Every range and every day of firing represents different conditions which will affect the performance of your shooting. There are many ways in which to analyze the range and weather conditions. Beginning with the basic tools - the use of flags, mirage and past experience provide a starting point for deciding how to attack the match. Other information is at your disposal, including, wind diagrams, observing the effects of the conditions on other shooters, and asking fellow shooters and coaches about the conditions.

C. Assuming the Position

The U.S. Army Marksmanship Unit's manual on International Rifle Marksmanship states the true importance of the position: "The most important requirement of a position is that it must provide a good hold." Although this manual was intended for shooting single shots as in international competition, the basic requirements are the same for highpower shooting. The goals to achieve in rapid-fire are twofold: maintaining a natural point of aim during the string, while using maximum support for every shot.

When building a prone position, a shooter must consider support areas and decide whether they are being used to their maximum. Because the prone position is the most stable of all the shooting positions, it is only natural that it utilizes more support areas than the other positions. The areas of support are: left leg, right leg, left arm, right arm, sling, head, shoulder, and abdomen.

1) The first consideration in assuming a prone position is aligning the body in relationship to the target. When a field goal kicker prepares to kick, he aligns his stance and addresses the ball towards the pin. A basketball player shooting a free throw squares his body towards the hoop. The same principle is true in shooting rapid-fire prone: the shooter must align himself towards the X-ring.

The average national level shooter will align himself from a 5 to 15 degrees angle from the target. The best way to check this angle of approach is by imagining a line from the target to the firing point, placing the shooting mat directly over this imaginary line and by using the point where the left elbow is placed on the mat (or the right elbow for left-handed shooters) as a pivot point to move the mat to the desired angle from the target. This method is foolproof in establishing a consistent angle of body position.

2) The next consideration will be the positions of the left and right legs, and the percentage of weight placed on both. The left leg should be parallel with the spine and the toes of the foot pointed slightly inward. The only difference to the position of the left leg depends upon the personal preference of the shooter. Personally, it is more comfortable for me to angle the left leg toward my right leg at a 10-degree angle from my spine. The modification in this prone position adds to stability while forcing more pressure towards the butt of the rifle. At any rate, the left leg and abdomen should support about 70% of your body weight.

The right leg is usually angled or cocked between 30 to 90 degrees from the spine, while bent at the knee with the lower leg somewhat parallel with the left leg. The importance of bringing the right leg forward is twofold: it helps to bring forward pressure on the butt of the rifle, while centering the shoulder in the position, and elevates the stomach for easier breathing and a reduced pulse rate. The angle in which the right leg is cocked is probably the single most important factor in establishing a solid prone position.

When shooting Infantry Trophy on bare ground, the cock in the right leg should be exaggerated from the normal 300-yard, rapid-fire position. One very important consideration is the consistent placement of the right leg. By changing the placement of the right leg, the pressure on the gun may also change. The result will definitely be a change in zero. The right leg should support about 20% of your body weight.

3) The third consideration is the placement of the right and left arms. The purpose of the arms are to support the rifle and manipulate its operation. On the left arm, the elbow is placed slightly to the left of the rifle. This point is considered the pivot for the position.

The left hand supports the rifle with the stock and fore-end placed over the heel of the hand. The hand and wrist should be straight, and the fingers should not grasp the rifle. The left arm, in conjunction with the right shoulder against the rifle butt, should support the total weight of the rifle.

The right arm serves a somewhat different purpose than to support the rifle. The objective of the right arm is to position the hand comfortably on the pistol grip.

This is achieved by the individual finding the most comfortable placement of the right elbow away from the rifle. This placement will depend on the length of the shooter's arm, the angle of his position, and whether a high or low position is desired. The right elbow should absorb a small amount of recoil and support about 10% of body weight.

D. Overview

Although this section concentrates on rapid-fire prone, there are considerations to be made which affect all shooting positions. In watching other shooters and the different positions and techniques they use, it becomes apparent that success can come in many forms. The basic concepts of position, sight alignment, and trigger control must be mastered before success happens.

THE SLOW-FIRE PRONE POSITION - MAJ Robert Gustin

Requirements of a Good Prone Position

The most important requirement of a good prone position is that it must provide a good hold. Other requirements are: (1) Be comfortable and able to maintain the position for a long period of time without fatigue deteriorating the position. (2) It should be easy to duplicate the exact position, time and time again. (3) It should be an easy position from which to load and look through the spotting scope.

Assuming the Prone Position

To assume a good prone position, the shooter first finds a smooth, level place of ground. There should be no holes, bumps, or rocks under the shooting mat. The shooter lies facing the target at an angle of approximately 5 to 15 degrees. The body is not twisted, but is stretched out and relaxed. The spine is straight.

Position of the Left Leg

The left leg is roughly parallel to the spine with the toes pointed inward. The left heel should not be forced down to touch the ground. Pointing the toes outward is not recommended as this places too much strain on the muscles of the leg and tends to roll the body to the right. This results in too much body weight being placed on the right elbow.

Position of the Right Leg

The right leg is angled away from the spine at approximately a 45-degree angle. The knee is bent and the lower leg is roughly parallel with the left leg. The toes are pointed outward. The purpose in bringing the right knee forward is twofold: (1) To locate the right shoulder closer to the center of the position, (2) To facilitate easier breathing. This will, in turn, reduce the pulse rate. The chest and abdomen are lifted up off the ground by pulling the right knee up. The majority of the weight is then transmitted onto the left elbow.

Position of the Left Arm

The left elbow should be slightly to the left of the rifle. Placing the elbow under or to the right of the magazine strains the muscles of the upper torso. The left hand and wrist should be straight, and the fingers should not grasp the stock. The stock is placed well over the heel of the hand and not positioned toward the base of the fingers. The left hand, if at all possible, should be firmly placed against the sling holder. If the sling holder cannot be utilized, then "Firm Grip" should be applied to keep the left hand from slipping down the stock during the shooting period.

Adjusting the Sling

The sling may be either high or low on the arm and adjusted so it supports the weight of the rifle, and does not cutoff the flow of blood to the left hand. The sling should lie flat against the back of the left hand and have only 1/2 turn before placement on the left upper arm. The lower arm placement of the sling will normally give less pulse rate, but also gives less stability and is more difficult to obtain the same position every time. No effort should be made to hold up the rifle with the left arm. The sling is a prime source of both pulse rate and stability. One should find the area on his arm where the placement of the sling gives the most stability, with the least amount of pulse beat.

Position of the Right Hand and Arm

The right hand should grasp the stock in such a manner as to let the trigger finger get a proper position on the trigger without the finger touching the stock. The right elbow is then placed a comfortable distance away from the body. The elbow should be able to withstand the recoil of the shot without movement, yet be easily moved to reload.

Positioning the Rifle

The butt plate should fit snugly into the pocket formed when the right shoulder is moved forward, so the right hand can grasp the stock. This positioning of the butt should be stable, able to withstand recoil without slipping, but easily found after reloading.

Positioning the Head

The head should be in an erect position or as nearly as possible. Whether the facial pressure is applied to the stock or to the right thumb, the key is consistency. The eye should be able to see clearly through the rear sight without looking through the eyebrows or to the near edges of the shooting glasses. The head position should be easily held throughout 20 minutes of shooting without tiring the neck muscles. This will help the shooter to obtain the correct sight picture every time.

Orientating the Position

The prone position is so steady it can be said that it has but one point of aim. The natural point of aim must be the X-ring. Any variation of this will cause the use of unneeded muscles and the constant fight to center the rifle, which will result in wild shots and an improper zero. Small changes in the point of aim can be effected in several ways. Small horizontal changes may be made by moving the right foot to the right or left. Very fine elevation changes can occur with breath control. Major changes should be made by re-orienting the entire position or by readjusting the sling, or left hand position. Keeping your head position the same every time is paramount. You must look through the sights the same way every time. The whole position pivots on the left elbow. Once the elbow is set, all adjustment should rotate around it. The left elbow should never be moved once shooting has started.

Shooting the Shot

Once a position is found with a good natural point of aim, but before shooting starts, several important details must be attended to. The positioning of the spotting scope is critical in allowing the shooter to check wind and mirage without any undue movement. A very slight turning of the head should allow the shooter to look through the scope, read conditions, and spot his shots. Everything a shooter feels he needs to shoot must be within easy reach (stop watch, score book, firm grip and ammo). The ammo must be easily withdrawn from its holder and placed into the magazine. If this process can be accomplished without removing the butt from the shoulder, so much the better.

The right shoulder should always be in a relaxed state. Tightening of the right shoulder causes wild shots in the 6 or 7 ring at 10 or 11 o'clock. A poor head position or tiring of the neck muscles from having to hold your head up to get a good sight picture will give a shooter elevation problems. Two ways of solving elevation problems are: (1) to cut down the front sight so you have less elevation on the rear sight. Keeping at least 2 or 3 clicks for a standing elevation will give under 20 clicks for a 600-yard elevation. (2) if needed, raise your right thumb so your cheek can rest on it for a higher head position. A glove on the right hand will help with a more comfortable head position.

Since prone is such a steady position, a slow, steady increase in trigger pressure will allow the shot to break clean without disturbing the rifle. Think "follow-through." Even in prone position, a poor follow-through can produce bad shots. Approach the bull in the same manner and direction every time. This will help group size and wild shots.

Don't make sight corrections off of a poorly-performed shot. Know your rifle's and ammo's capabilities and accept them. Consistency is the key word. Only with consistency can progress be made to improve performance and raise scores.

NATIONAL MATCH TEAM SHOOTING - *SFC John Kesler*

The national match course is shot in 4 stages that consists of 500 possible points. The teams consist of either 4 or 6 men teams. The National Match Team course is essentially the same as the individual matches, with a team normally consisting of 4 or 6 shooters, team captain and team coach. Each team is assigned a target and all shooters will first at it.

During slow fire stages, 2 shooters are on the firing line at the same time, and alternate shots. The team is allotted 1 minutes per round and 3-minute preparation periods for each pair of shooters. For example, at the 200-yard first stage, 6 shooters have 66 minutes, and at the 600-yard fourth stage, they have 126 minutes.

Rapid fire stages are shot with the team shooters following in rotation on the same target.

The team should arrive on the range at the 200-yard line, 30 minutes before starting time. Each team shooter must bring all of his shooting equipment and should be in the right frame of mind to win the match.

The team coach will move to the firing point assigned to the team. The team shooters then move to the assembly area behind the firing point and prepare themselves to begin the match.

Five minutes before starting time the range officer will give the command: "Team Captains move the first pair of shooters to the firing line." When the first 2 shooters arrive at the firing point, the team coach takes charge and prepares the team to be ready when the 3 minute preparation time begins. The other shooters should be preparing themselves to move to the line when their turn comes. We expect the shooters following to have equipment in hand when the last shot is fired by the shooter on the line. They should already have the sights set, sling adjusted, front sight blackened, magazines loaded (if applicable) and be totally prepared to start the preparation period without wasting any time and making the best of every available minute.

COURSE OF FIRE FOR NMC**STAGE I: 200 YARD - SLOW FIRE**

Position: Standing
Time : 10 Minutes
Rounds : 10 rounds to be fired

STAGE II: 200 YARD - RAPID FIRE

Position: Standing to sitting
Time : 60 Seconds
Rounds : 10 rounds to be fired

STAGE III: 300 YARD - RAPID FIRE

Position: Standing to prone
Time : 70 Seconds
Rounds : 10 rounds to be fired

STAGE IV: 600 YARD - SLOW FIRE

Position: Prone
Time : 20 Minutes
Rounds : 20 rounds to be fired

For the rapid-fire series, the rounds will be fired from 2 magazines. The first magazine containing 2 rounds will be loaded while standing. When the targets appear, the time begins. The shooter assumes the sitting position at 200 yards, prone at 300 yards, and fires the first 2 rounds. He then removes the first magazine and loads the second magazine containing sight rounds, and continues to fire the string.

STAGE I: 200 YARD - SLOW FIRE

The team has been allotted 66 minutes to fire 60 rounds from the standing position. The first pair of shooters will take as much time as needed to make all shots as good as possible. Depending upon the experience of the shooter and the weather conditions, extra time may be needed. The coach monitors the team time and makes use of it properly. Usually, the slower off-hand shooters will be called to the firing line last. Remember, in offhand positions one has enough time to make the shot as good as he wants to. Any slow target service or range procedure may warrant extra time.

STAGE II: 200 YARD - RAPID FIRE

Each shooter will fire 10 rounds rapid fire from the sitting position in a time limit of 60 seconds. The first magazine will have 2 rounds placed in it and loaded into the rifle on command from the range official. When the targets appear, the shooter assumes the sitting position and fires the 2 rounds. He then removes the magazine from the rifle, inserts the magazine of 8 rounds, and continues to fire. The coach will position himself to the rear of the shooter, with the team scope focused on the target being fired upon. While the shooter is shooting the string, the coach will watch the strike of the bullet in the target and decide if there is a need for sight correction. Most corrections are made by having the shooter favor the aiming point on the target, using the clock method of favoring.

After the first shooter has completed the rapid-fire string, he will stay in position until the firing line is cleared. Then he may get out of position and move to the assembly area. The second shooter will have his equipment ready and move to assume the position when the team coach signals him to do so. The preparation time for the next shooter may be when the targets are being scored from the first shooter. The zero is confirmed by the team coach and previous plotting sheets which are quickly reviewed. The other team shooters will be fired in sequence. If there is a team re-fire, or range alibi, the string will be fired as the last (or alibi) relay on this stage of fire.

STAGE III: 300 YARD - RAPID FIRE

This stage will be fired from the prone position at the 300-yard line. The shooter will have 10 rounds to fire, loaded in 2 magazines (the same as Stage II). The time limit will be 70 seconds. In the 3 minute preparation time, the team coach reviews previous plotting sheets and confirms the sight settings for the proper zero of the shooter on the line. The coach places the team scope behind the shooter, aligned with the rifle barrel of the shooter. This scope is used to detect needed adjustments and to seek any changes of conditions that might arise during the string. At the end of the preparation time, the team coach will give the shooter any windage adjustments. During the string the coach may give the shooter sight adjustments. The team coach also monitors the time during the string.

STAGE IV: 600 YARD - SLOW FIRE

The team will pair-fire and has a team time of 126 minutes for completion of this stage. Each shooter will have 20 rounds to fire. The team coach will place the scope on the firing line to the right of the assigned point number. During preparation time, the coach will place the first pair of shooters on the firing line; one on each side of the team scope. The coach will position himself at the scope and observe the shooters. The team captain will position himself to the rear of the team coach, but close enough to talk with the coach, if

NATIONAL TEAM SHOOTING

necessary. The shooters will only bring the necessary equipment to the firing line. The team coach determines the wind value, if any, for every shot. When the coach give windage changes, it will be in *clicks*, and *both shooters* will put the number of clicks of their rifle at the same time. While shooting prone slow-fire, the shooter must have a comfortable position. Sometimes the pair of shooters will be lying for 20 minutes or longer. It is the shooters duty to be ready to fire when the target is in the "up" position. If the team coach decides there is no longer a change in windage needed, then the shooter should be sighting, and ready to fire when the target appears. The first pair of shooters should be finished in 15 minutes. Remember, the most important factor in shooting -- TRIGGER SQUEEZE.

FAVORING

During rapid fires, the coach may need to "favor" when the strike of the bullet is not in the center of the bulls eye. Normally, the coach will use the clock method of favoring, i.e., "Favor 2 o'clock." This means the shooter should attempt to shoot the next shot through the 10-line at 2 o'clock, or slightly to the right, and slightly closer to the bulls eye. If the coach feels there is more of a favor needed, he will repeat the favor will more emphasis in his voice.

Always hold favors to the end of the string when the coach indicates "good." With good established zeros, there should be no need for favors. Normally, you will not shoot your best scores when you are required to favor shots during rapid-fire strings.

There are times during long-range that favoring is desirable. Normally, the favor will be slight, such as "X at 9 o'clock." The coach wants your next shot to break slightly to that side of the target. Remember, an X-line shot is only 3 inches to that particular side of the target.

INFANTRY TROPHY TEAM SHOOTING - SGM Richard Skolsky

The Infantry Trophy Team Match is a precision, rapid-fire team match fired with the service rifle (M14 or M1). It is one of the few true team matches in the shooting sports. Each of the firing members, team captain and coach must do their part, correctly and precisely, in order for the team to win. There are no "stars" on the team - each member contributes to the effort to win and cooperation among the team members is the key to winning.

The team composition, course of fire, and scoring are explained in AR 920-30, Para. 5-7.

5-7 NATIONAL TROPHY INFANTRY TEAM MATCH.

a. Team composition: six members fire for team score. Team shall consist of not more than a team captain, team coach, six firing members, and two alternates.

b. Course of fire:

- (1) First Stage : 600 yards prone
- (2) Second Stage : 500 yards prone, sitting or kneeling
- (3) Third Stage : 300 yards sitting or kneeling
- (4) Fourth Stage : 200 yards standing

c. Conditions:

- (1) Use of the sling for support is optional in all positions.
- (2) Firing time is 50 seconds for each stage.
- (3) 384 rounds of ammunition of one caliber shall be issued to each team on the 600-yard firing line. This ammunition is the team total for the match. The division among firing members and stages, and the number of rounds loaded into clips or magazines, shall be as directed by the Team Captain.

- (4) Eight adjoining targets shall be used for each team, with gaps in the target line separating the groups of team targets.
- (5) For 600 and 500 yards, the standard competitive target frame shall have a standard 600-yard target pasted on with the face reversed to display a solid white background, the Army "E" silhouette target shall be pasted on this background, centered horizontally, and with the top of the silhouette 13 inches below the top frame. For 300 and 200 yards, the Army "F" silhouette target shall be pasted over the face of a standard 200-yard target with the top of the silhouette located at the top of the 8 ring.
- (6) Teams shall take firing positions on the 600-yard firing line as directed by team officials. Only the captain, coach, and firing members shall be permitted on the firing line during the match. After teams are in firing position with rifles loaded and locked, firing may commence when targets appear. Targets shall be withdrawn after 50 seconds. Movement of teams forward between stages shall be in a line abreast, with rifles unloaded, magazines withdrawn if applicable, bolts open, muzzles elevated and pointed down range. Firing procedure at each range shall conform to that at 600 yards. Each relay shall complete the match before the next relay takes initial firing positions.
- (7) Scoring:
 - (a) All scores shall be recorded on the firing line at the completion of each stage. Spotters shall be used to indicate hits on the silhouettes only.
 - (b) Hits on the silhouettes count 4 points at 600 yards, 3 points at 500 yards, 2 points at 300 yards, and 1 point at 200 yards. Hits outside the silhouettes shall not be scored or marked.
 - (c) To the total hit score at each range, add the square of the number of silhouette targets which contain six or more hits each as a bonus for distribution.

- (d) Ties shall be broken by highest team score at the longest range, or if not broken thereby, by the highest team score at the next longest range, and so on.
- (8) No adjustments shall be made for misfires, disabled pieces, or other failures of range or team material or personnel.

Now that you are familiar with the Infantry Trophy Team Match, the following section deals with what you as a shooter should do when shooting trophy with the All-Army Reserve Service Rifle Team.

First, you should know that the team you are now a part of has won the most Infantry Trophy National Championships of any other team in the United States. We have done this by training hard and working together as a team.

Being prepared to shoot the Infantry Trophy, whether at one of the team training sessions or an Infantry Trophy Match, will begin many days before you are at the range, with special items to be done the night before, and the day of the match/practice.

Days before you leave for the match/practice, you should thoroughly check the equipment you will be using. A complete check of the rifle you are going to use should be done at this time. Check the rifle for any mechanical problems--

1. Make sure the front sight screw is tight.
2. Inspect flag suppressor for cracks.
3. The gas cylinder plug should be tight.
4. The gas cylinder itself should not be loose on the barrel.
5. Front band should be clean with fresh grease on it.
6. Check the front sling swivel.
7. Check OP rod guide is not loose nor broken.
8. Check OP rod is clean with fresh grease on it.
9. Inspect bolt face for cracks.
10. Clean and grease bolt roller.
11. Check operation of rear sight, making sure it is not too loose.
12. Make sure the rear sight is clearly marked, both elevation and windage, so that you are very, very sure of what your sight settings are.
13. Inspect the stock for any cracks.
14. Check action for looseness in bedding.
15. Make sure both the chamber and the barrel are clean.

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16. Inspect the sling, making sure that the frogs are not bent or pulling out of the sling, that it is not cracked or stretched thin (ready to break).

If you discover a problem with your rifle, bring it to the attention of one of the coaches when you get to the training site so that the armorer can repair it. Don't wait until it is time to shoot Infantry Trophy to bring it to the attention of the coach. Valuable training time will be lost. -

Once you have checked the rifle, then you should inspect the other equipment you will be using. Your jacket should have all the straps on it, the pads firmly in place. Your glove should be in one piece and serviceable. the magazines you use should be clean and free from any dirt or grit, especially on the inside surfaces where the magazine follower rides. Use a very light coating of a lubricant inside the magazine. The other supplies you use, like Hawkeye adhesive or Firm Grip, carbide for sight blacking, should be checked so that on the day of the match you don't run out. Make sure you have your Infantry Trophy scorebook with all the sight setting information you will need.

Now, you should be thinking about what you will be doing at the match/practice. You should practice your mental training techniques, think through all the things you will be doing in preparation for the shoot. Visualize yourself laying on the line ready to shoot, listening for the commands from the team coach, actually firing each shot, making each shot perfect.

The night before you shoot the match/practice, once again, you should go over your rifle and equipment to make sure there are no problems. On the morning of the shoot, make sure you wipe the chamber and bore clean and leave them dry.

At a practice session, when the time comes for the Trophy practice, pay attention to the person in charge and be ready to come to the line when called. Have your sights set, equipment ready, and take your place on the line. The coach will tell you what position he wants you to take. When you have finished firing and the coach moves the team off the line, make sure you check with the coach and confirm that he has the right zero and number of rounds loaded and fired by you on the plot sheet. It is important that this data is correct because the coach will be making decisions based on it.

The conduct of firing, whether at a match or practice, will generally be as follows:

Usually, at the practice sessions there will be three squads of six shooters firing - eighteen shooters total. The coach will call the team to take their positions on the firing line. Once on the line, he will check with each shooter to confirm the zero that will be used, then assign the target number for each. You should be at wind zero. After the preparation period is over and the targets have been withdrawn, the coach will call out the wind to be used. Call out the wind back to the coach so that he is aware that you have heard him. At that time, immediately set your wind. Then be ready to load your magazine on the command "LOAD." When the targets appear, you will start to fire.

Start out firing with a slower cadence. You will build up the cadence during the first five to six shots to the level you will use for the balance of the string. Do this again on the magazine change. While firing, instead of breathing between each shot, you should fire two or three shots on each breath. If you attempt to breathe between each shot you will not be able to get all of your rounds fired in 50 seconds. This may contradict what you have been taught in shooting "round bull", but with more experience shooting Infantry Trophy, you will find that it is very different from round bull shooting.

The prone position is used to fire the 500 and 600-yard stages of Infantry Trophy. You will use techniques that are different and directly opposed to those used to shoot round bull. The most noticeable difference is the muscle tension used in your shoulders, arms, and body to hold the rifle and control it during recoil so that you can recover quickly. This allows you to come back on target in the minimum amount of time with the minimum amount of movement.

The sling tension used is greater than the tension you use to shoot 300 yard rapid-fire. Most shooters will move their sling setting up one notch tighter than their 300-yard rapid-fire setting when they shoot Infantry Trophy. This is a good place to start. You may need to move it up more in order to maintain proper control of the rifle, but that is something you will have to experiment with.

When in position you will use muscle tension in your left arm to pull down on the front end of the rifle and your left hand will grip the rifle stock (these instructions are for a right-handed shooter, lefties use the reverse). With the right hand, grip the pistol grip firmly and pull the rifle back into your shoulder. The effect is that it will feel like you are trying to "stretch" the rifle.

Your body should be positioned directly behind the rifle to absorb the recoil. Some shooters will bring their legs around to the right side of their body in order to get the maximum amount of their body behind the rifle. Try to get as much of your body weight as you can pushing forward against the rifle. You can use your toes to push yourself forward, or bring your right knee up closer to your right arm, or use muscle tension to push your body down against the ground. No one technique is the best for everyone. Most shooters use a combination of these techniques in order to keep their positions stabilized during the firing of each stage.

The sitting position is used to shoot the 300-yard stage. The sling setting and position should be the same you use for shooting the 200-yard sitting rapid-fire. At this stage we usually have on 7 or 8 shots per target to fire. There is a 50 second target exposure, and remember, you already are in the sitting position aiming at the target before the time starts. So the firing cadence used to shoot this stage is slower than what you would normally use to shoot the 200-yard sitting rapid-fire. The half-size silhouette is much larger than the ten-ring you normally shoot at. Even with these advantages, you still must work at each shot, firing very deliberately. Do not take this stage for granted.

Remember, you have no alibis in the Infantry Trophy shooting. So if you are having trouble with your rifle, or your sling breaks, or anything happens to keep you from firing your rounds, call out your target number so that the shooters on either side of you and the coach can hear it. If you hear the shooter next to you call out a target number, when you reload, swing over on the target and fire your rounds on that target. This will help assure that the minimum amount of hits are on the target to get the bonus points allowed each stage.

The scoring in Infantry Trophy, as noted in the regulation above, is based on the number of HITS, not the number of rounds you can fire in 50 seconds. Therefore, you should concentrate on making every shot a hit. The average trophy shooter can handle from 22 to 25 rounds at the 600-yard stage with 80% to 90% hits. This is not good enough to win the National Infantry Trophy Match. The shooters on this squad can average 24 to 26 rounds with 95% to 100% hits. At the 500 yard stage they can average 28 to 33 rounds with 95% to 100% hits.

We normally shoot 7 to 8 rounds at the 300-yard stage, with 100% hits. Just a little calculation will show you that this level of hits leaves almost no room for error, each shot must be a hit. This is the level that is needed in order to win at the Nationals.

Those of you who are new to shooting Infantry Trophy with the All-Reserve team will have the opportunity to talk with the best Infantry Trophy shooters in the United States. Ask them about shooting Trophy, especially when you are having trouble. Remember, each one of them was new at one time. The knowledge, expertise, and experience that these shooters have will help you immeasurably. There are no secrets to being a good Infantry Trophy shooter, just a lot of hard work, practice, and dedication.

One last thought to remember -- ONLY HITS COUNT!

USAR RIFLE TEAM TRAINING PROGRAM - CW04 Al Coots

The following are some of the approaches to a training program that will improve your shooting and not take up all of your time. Parts are very boring and dull, but in reality will assist you in your mental training process. Your abilities to concentrate will be tested in dry-fire sessions and your desire to produce winning scores will be evident in physical training sessions. All are designed to assist you with such basics as holding, squeezing the trigger, and developing muscle tone for the time you are in the various positions. You will see results by following the recommended schedule.

DAILY 10 minutes - Mental training; Peak performance, Mental Training Techniques of the World's Greatest Athletes

3/WEEKLY 20 minutes - Physical training; DA Pam 350-21, Family Fitness Handbook or RCAF Exercise Plan for Physical Fitness

30 minutes - Dry firing (at least 100 shots)

1/WEEKLY Live firing on the range; this can be match competition, position work, rifle testing, smallbore or even air rifle. It must give you down range feedback.

MONTHLY Match competition. Should be high power service rifle, however, bolt rifle and smallbore competitions should not be overlooked.

In addition to the above, you should add to your program training which adds to your upper body strength. Light workouts with weights that emphasize several repetitions, rather than heavy weights, will be better. Running can help as long as it does not bother your knees or feet. Walking may be the better alternative. Bicycling can be substituted for the running or walking.

As you can see, there is not too much involved that anyone cannot work it into your schedule. It may mean that you will have to get up an hour earlier in the morning. Some may have trouble with finding the range to conduct their regular dry-firing, but with some imagination, that can be overcome.

IT IS ALL UP TO YOU !!!

INDIVIDUAL TRAINING - CWO2 Heigh Orav

Introduction

Many Army and Marine Corps shooters wonder how the USAR "weekend warriors" win matches against the professional who trains 5 to 6 days a week for months. There are many answers to this question, but the real reason lies in the individual training we put in at home. The Sundays at our local gun club, the air rifle in the back yard, and the dry firing in the basement long after the sun has gone down. That's why we win!

This article will help you understand principles of individual training, and how to use your limited training time wisely. Our dedication to training will help assure our continued domination of service rifle shooting in the U.S.

Objectives

Before beginning a training program, it is important to understand the objectives and emphasis of one. Personally, I have five training objectives:

1. Develop eye-finger coordination.
2. Slow down body motion.
3. Experiment with techniques.
4. Merge physical action and mental thought.
5. Physical conditioning.

All of these objectives have two things in common. First, it will take a long time to achieve a high level of competence. Second, that as much training as possible in each area is desired before a match. Once at the match, you cannot go back and make up for the lack of proficiency. Individual training is a long-term plan, and when you get to Camp Perry, it will show.

1. Eye/Finger Coordination

This is perhaps the most important reflex action in shooting. When you recognize an acceptable sight picture and arc of movement of the rifle, you pull the trigger rearward in a smooth motion. To achieve this action, we use the old training technique that "we become more consistent and precise by spaced repetition of a physical movement or mental exercise."

Both quality and quantity is important. Thousands of correct repetitions are required. Range firing will not accomplish the number of repetitions required per week. Dry-firing and the air rifle really come into play here, and you can easily dry-fire the M-14 and air rifle 40 to 80 times per session.

INDIVIDUAL TRAINING

The air rifle has the added benefit of instant feedback. Being able to see the results of good trigger control is important. It is easier to build upon success when you can see the center shot. Most triggers on air rifles have to be made heavy with added springs to have a pull similar to the M-14. Maximum benefit is achieved with 4 1/2 pounds of pull.

Range fire the M-14 between matches. The addition of recoil and outdoor conditions are important. Avoid body actions which are hidden by recoil, for example, anticipate recoil and noise by closing your eyes, shouldering the rifle, or lifting your head as you shoot the shot. You will destroy any benefit you have gained from practice if you repeat unwanted "flinching." A dummy round inserted into your magazine without your knowledge can reveal how "pure" your trigger control is.

2. Slow Down Body Motion

If your front sight is spending half of its time in the 8-ring, it will be difficult for you to have a smooth trigger squeeze. The less motion the rifle has, the easier it is to apply trigger control. Many shooters neglect this area. Dry-firing is helpful, but for some, additional effort is required.

The "holding" exercise of aiming the rifle at the target as steady as possible for one minute, breathing as needed, should be practiced 20 times or more.

3. Experiment With Technique

A match is not the place to attempt something new - begin at home with an empty rifle. With a new position in mind, experiment with it until it looks good. Then dry-fire until you feel comfortable with it and then practice on your home range. Finally, test it out at a match.

4. Merge Physical Action and Mental Thought

An important point to consider is whatever you do mentally at a match, you must do at home. If you have a "thought pattern" you go through when you shoot, go through it each time you dry-fire or shoot an air rifle. Only in this way will it become an automatic process that will help carry you through tough times.

5. Physical Conditioning

Our desired results here are endurance for a long match and slowing down your heart beat. There are hundreds of good books on how to get in shape and stay there. Choose one yourself for details.

It is well known that people who are physically fit generally perform better under pressure than those in poor condition. Techniques of spaced repetition apply here - exercise 3 to 4 times a week. Consider the areas in the chapter on Physical Conditioning.

For most shooters, practice "the positions" as follows:

1. Standing
2. Prone Rapid-Fire
3. Prone Slow-Fire
4. Sitting Rapid-Fire

Generally, the standing position takes the longest to master and, therefore, should be given the most attention. Since the prone position is used in over half of the matches, it should be your next priority. I start my annual cycle with 50% slow and 50% rapid-fire practice. By the time Camp Perry arrives, my emphasis is on rapid-fire. I shoot sitting about every second or third time I go to the range, unless I'm having a problem.

Pre-Range Activities

Read carefully the chapters on Travel Tips and Checklist and follow them, so you will show up at a match with everything you need.

You should have set up training goals for the year. Have them written down so you can review and update them. Go to the range with a purpose in mind that will move you toward your goals.

At The Range

Hopefully, you will have your written plan. Consider the general range practices below:

1. Try to go with another shooter. The companionship helps you to get more involved, and you have less tendency to quit before it's time. Coaching each other is a plus.
2. Start immediately after you get to the range. Don't waste valuable time.
3. Always shoot the best you can - never allow yourself to get sloppy. It could become a habit.
4. Strive for the smallest "wobble" area. If it is bigger than normal, figure it out and note it down. A 20+ power scope prone can show you how small adjustments in your position can cut down your movement.
5. The only way to learn how to shoot in the wind is to train in it. Look forward to windy days and remember, most days at Camp Perry are windy.

6. When shooting in the wind, note how many times you put your rifle "up" for a 20-shot match. It can be more than 40 times. Train as much as possible at home on windy days, shoot 30 shots standing, instead of just 20.

7. If you are shooting exceptionally well in a position, keep shooting. Repeat the movements that are making you shoot so well. Shoot an extra 20 shots.

8. If you are shooting poorly, stop and shoot another position and review the basics. Do not continue a bad performance.

9. Always work with time - you can't escape it in a match. Make your practice as real as possible.

10. Practice at the proper distance if you can. If your range isn't 300 yards long - practice the position anyway. Remember eye-finger coordination, spaced repetition of proper technique, and developing a hold. Zeros and estimating wind can be learned better when you get to a full range.

11. Some shooters only have public ranges available. Often these ranges have rules that prevent practice under match conditions, for example, single shot rifles only. You might solve this problem by getting to know the rangemaster and explaining your training needs.

12. On public ranges remember to maintain security on your weapons and ammunition. It's not a good idea to draw attention to yourself with the M-14 government rifle.

REMEMBER:

You have to do your homework before you can pass the test.

BE A SMART SHOOTER - SFC Greg Voss

When each of us started in the target shooting game, one of the first "truisms" that we heard was that marksmanship is 90% mental. That is probably an understatement. Now with years of training and practical experience under our belts, we've supposedly reached a plateau of physical excellence. Our tools of the trade are certainly capable of 500 scores, yet our level of performance continues to lag far below expectations. Why? Because we have not applied our mental faculties to match our physical capabilities.

Do you ever wonder how certain team members can always turn in "the scores to beat" without having the opportunity to put in nearly the amount of practice that you are? Quite simply, they are shooting smarter than you are. Now, I'm not saying that they are smarter than you are, but they are *thinking* more about what their performance is going to be and their expectations are higher.

When you show up at the range on the morning of a big match, just how much mental preparation have you done? Did you bother filling out a pertinent data in your scorebook ahead of time? Were you confident with your zeros? Have you anticipated how you will handle inclement weather in the event you are confronted with it? What kind of scores are you expecting to shoot at each stage? Is your equipment in top shape and accessible when you go to the firing line? Are you eager to get started and ready to win the match? My guess is that your answer to most of these questions is "no." Are you still "shooting for 10's and letting the X's take care of themselves?" To me, that is saying that you're shooting for 10's and accepting occasional 9's, rather than shooting for X's and accepting occasional 10's. There's a world of difference in your aggregate score.

Let's expand on a couple of those questions...

Inclement Weather

Bad weather should be your biggest ally. You have only 2 options on what to do about adverse weather: it's either a friend or a foe. Make it a friend. My own observation of a peculiar phenomenon is that those hard holders that shoot consistent a 196 are going to suffer just as much (score-wise) in bad weather conditions.

Oddly enough, they are going to suffer more, meaning that their scores are probably going to drop off more than yours will. A case in point would be the year that Gary Anderson set the national record offhand with a 200-15X. Calm, beautiful weather. The next day was windy and lousy conditions, and his scores were no where on the leader board. You should realize this fact, and it should be a positive motivator to you.

Beyond the offhand stage, you should be mentally able to use the same line of thinking for the 600-yard line. In my own program, this is where I honestly feel that I can catch these hard holders, if I remain fairly close to them, or maintain my lead if I'm ahead of them.

But you have to shoot smart. Being able to read the wind well would be a helping factor, but no more so than having confidence in your shot calls and your technique. More advantageous still are those days when there are no conditions to read. Changing conditions with no visible buildups on one side or the other by watching their spotters and making changes off of them. Try to shoot after that big gun next to you, and use his information as well as your own. Never rely on just your own ability to read the wind, ignoring all other information available to you. You'll be amazed at how many times you can come up with a higher score than the fellow next to you by simply using his shots as a guide. Be observant and shoot smart.

Scorebook Preparation

The reason I suggest filling out your scorebook before is that it will get you thinking about the match on the next day, and it starts your competitive juices flowing. Eager anticipation is 100% better than fear of that first round going down the range. Confidence in your zeros, recording prevailing conditions on certain ranges, new sling setting, position changes, adjustments that you have made, and notes of your last match or practice session are all part of a match preparation. Now on the morning of the match, you should only have to observe conditions and be anxious to go on the firing line.

Let's talk about your own score expectations. You know that to be a member of this team, your coaches and peers expect you to shoot in the 490's. If you aren't shooting in the 490's in your practice sessions, don't expect to go on the line for a big match and shoot a score you have never obtained. When Lanny Basham won the gold medal in the Olympic games, he was constantly shooting scores about world record levels.

When he went to the firing line, all he had to do was shoot his average to come away with the Gold. Trying to shoot above your average in a team match is simply going to put too much mental pressure on yourself, and chances are you will shoot below your average. Work on each stage in practice to bring it to perfection, and you will then expect to shoot consistent 490 scores.

Make your practice sessions meaningful, stage by stage. If you figure that you have one stage of the NMC that is consistently weak, then work on that stage to bring it up to par. Never practice casually. Keep honest scores and treat each practice session as a match. Try to put some pressure on yourself each time you shoot. It will help you when you stand up there, knowing that team members are depending on you. Expect to shoot X's each and every shot. Visualize what that last X looked like through the sights and imitate it again and again.

Analyze your performance at the end of the day, whether you've had a particularly good performance at any one stage. Then sit down and figure out why. It hasn't been because you were "on the wind" today for your 600. Learn to experience and describe your sensations of a good performance. Make a mental note and then put it in writing to help you repeat that performance.

At one recent practice session, I asked a shooter, who happened to have the high score for the day how he did it. He rattled off his scores stage by stage. It was his highest score ever, and he never stopped to ask why that day was so exceptional. Neither has he repeated the performance.

So what makes a good shooter better? Simply put, it's basics: sight alignment, sight picture, and trigger squeeze -- shot after shot. If you think that you're executing these 3 basic tasks perfectly for 50 consecutive shots, you're wrong! As we get more proficient, or as I put it, "reach a high degree of mediocrity," we get complacent and forget about the basics. We put everything on "auto pilot." That works until our scores start to drop, and we don't bother to stop and analyze our performance. Every one of us has the physical ability to be the best, and we have the equipment to fire that perfect score, but we don't execute 50 perfect rounds, do we?

Some shooters manage a high level of proficiency with concentrated practice. It must be very disconcerting to these people to see a fellow competitor outshoot him when he knows that the individual has not put hours into firing practice rounds. It's time for you to start thinking about how someone like this does it. Of course, the main reason is that he has good, sound basics, but the big divider is that he knows what he is going to do before he walks to the firing line.

His expectations are higher, based upon his analysis of his own program. He has always analyzed his performance. He has confidence in his own ability. His match has been thought out before he walked to the firing line. He shoots higher scores because he expects to shoot a 500. It's exactly like the first time you shot a 100 at a stage. The next time that you fired that stage you expected to shoot another 100, didn't you?

BE A SMART SHOOTER

If that 100 didn't materialize, did you bother to analyze your performance as to why not? More importantly, did you analyze the 100 performance as to how you did shoot it? Too many of us are too anxious to get off the line and tell our buddies how well we did, rather than take a few minutes to ask ourselves how we did it.

What does your program hold for you? What are your expectations? Have you set goals that are obtainable? Are you analyzing your practice and match results? Are you thinking about how you are going to perform before the day of the match? Are you communicating with yourself?

SCOREBOOK - SFC Greg Voss

Your religious use of your scorebook is a combination of "memory," "diary," and "bible." It's an accurate chart of your progress, performance, and perhaps most importantly, your only record of zeros.

Starting with the opening pages of the score book, there is a wealth of information to be absorbed and referred to throughout your competitive shooting career. Study the wind diagrams and use them as reference material.

The most important entry in your scorebook while you are shooting is the plot of the shot on the bulls eye.

SLOW FIRE 200-YARD

Fill out all the pertinent data that you can: wind, weather, ammo used, rifle serial number, sight picture used, wind and elevation zeros, etc. When firing, develop a sequence for recording your shots. Shoot, make a mental call of that shot and mark it. Reload, fire again, make a mental call of your second shot, record it and record on your plot sheet the location of your first shot. Follow this throughout the string. Remember, you're always plotting two shots behind.

Since your scorebook is an item that you will most likely have on the firing line rather than your diary, record some meaningful information in the "remarks" section. Did you have a good performance in good condition? Why? Did you discover a better position? What were your sensations on those great shots? Did you have a zero change on a strange range? Did you have to come a click left because of the left morning sun at Ft. Benning? Put it in writing. Your memory is not as good as you think. Now refer to these pages the next time that you fire a match or a practice.

RAPID FIRE 200- AND 300-YARD

Fill out all of the pertinent data, most importantly your zeros. Make note of whether your slow fire sighters are in the same location as your rapid fire string. It's amazing how many experienced shooters center their sighters and then shoot ten shots for record in a different location.

Upon completion of your 10-shot string, did you use the same sight picture that you indicated on your scorebook? Use the "remarks" section again. Has your sling "grown"? Make a record of it. I guarantee that you won't take it up a notch the next time that you shoot, if you don't write it down. Was your pulse rate less this time because of something new that you tried? Write it down and try to repeat it. Were you shooting cleans two months ago and now all you can muster are 98's and 99's? There might be notes on those old scorebook pages that can help you. Don't just treat these pages as plot sheets.

SLOW FIRE 600-YARD

Once more fill out the pertinent data. Zeros are all important. You've heard coaches harp on the fact that your windage no-wind zero should be as close to MZ as possible. When you're on MZ, you simply record what you think the wind is worth for each shot or change. When you're in switching conditions where you're going from L2 to MZ to R2 it's certainly easy to lose track of where you are on the gun when your no-wind zero is L6. A no-wind MZ is also going to help you learn to read the wind since you're continuously recording the actual value of the wind.

Record your sighters. Are they going to be in the same location as your first record shot? Remember, there aren't any sighters in team matches, and it makes it hard to shoot a 200 when your first shot for record is a 9 or worse.

In your actual firing sequence, make your best guess at the wind value. Record it. Load. Scope the wind again and fire. Scope the wind immediately after firing that shot to see if the wind is the same. Reload. Scope that first shot and fire again. Scope the wind, record your first shot and the wind. Plot the first shot. Reload. Scope again for wind changes and fire again. Remember, you are plotting 2 shots behind. You should be able to fire 20 record shots in this manner in less than 10 minutes. If the competitor next to you is using the full 20 minutes, he's shooting through twice as many wind changes, isn't he?

Record some written information for future reference. What were your sensations after that great performance? Why did you shoot so well today? Talk to yourself in writing and refer to it. How about range conditions? Was the wind out of the left worth honest values where right wind was not? That would be worthwhile information the next time you fire on the same range, wouldn't it?

Compare plot sheets for different matches. Are you losing more points for elevation than wind? Why? Compare plot sheets for different rifles. I've known shooters to use one rifle more than another because it fit better, had a better trigger, etc. They were very surprised to discover that the other rifle actually produced better scores.

Your scorebooks should not be an interim match bulletin. It can help you in troubled areas and be one of your most important tools.

PHYSICAL CONDITIONING - SFC Mark D. Bearnson

"Top shooters are tremendous athletes." This quote comes from SGT Ruby Fox, an Army Reservist. While she has been an excellent pistol shot for many years, she did not realize her full potential until she became a superbly conditioned athlete. It was only then that she was able to progress to the point of medaling in the 1984 Olympics.

The fact is, athletes in any sport must work hard to acquire and refine their skills. Rifle shooters are no exception. They too, must develop a comprehensive physical conditioning program in order to excel in competition. Such a program should include both physical training ("PT") and dry firing.

Why a competitive rifle shooter must undertake PT is no secret. He strives to assume a comfortable position, hold the rifle as motionless as possible, and shoot for long periods of time without becoming excessively fatigued. It is well documented that PT substantially enhances these skills.

Optimal types of PT activities vary from shooter to shooter. The following have proven effective for many; running, swimming, bicycling, aerobics, calisthenics, flexibility training, and various combinations of team and individual sports. Weight lifting, however, is not recommended since this form of training usually increases muscle tension.

Any conditioning program should be designed to provide long-term benefits; it can not produce overnight miracles. Physical training must be initiated gradually and conducted at regular intervals. The particular PT activity, as well as one's present level of physical fitness, should determine the frequency and duration of workouts. There is, however, a point of diminishing returns. After one has reached an acceptable level of fitness, additional increments of training may not contribute significantly to maintaining that fitness level.

Physical training's advantages extend beyond the attainment of an optimal level of fitness. A regular program of PT generally benefits the shooter psychologically by improving his self-discipline, esteem, and confidence.

Important as physical training is, it still is no substitute for dry-firing. Only by dry-firing can one condition specific muscles used in each of the different shooting positions. A shooter, therefore, should regularly and diligently engage in dry-firing exercises. Each session should simulate the firing of considerably more rounds than ordinarily fired in a match, so as to increase one's match shooting endurance.

An effective, comprehensive conditioning program - including both regular dry-firing and physical training activities - is essential to achieving success in competitive shooting. One's failure to become well conditioned cannot be hidden, for it will become painfully evident at the next big match. On the other hand, if a shooter steps up on the firing line, having faithfully applied himself to a physical conditioning program during the preceding weeks and months, he will be a serious contender for the championship.

