

AIR RIFLE

Margaret Murdock

Actually there isn't a whole lot of difference between shooting air rifle and shooting standing with a standard rifle. Equipment wise, I think most of the shooters use a little larger front aperture when shooting air rifle than they use for shooting 50 meters outdoors. The light on air rifle ranges is extremely variable, but even on well lighted ranges a larger front aperture is usually needed. The position is practically identical to standard rifle standing. I'll cover standing in detail later.

Without a doubt, the most important thing in air rifle shooting is follow-through. Shooting air rifle is not a substitute for 50 meter outdoor training, that is you can't expect to shoot air rifle all year long and then go out and shoot a good 50 meter score. But improved attention to follow-through will help your 50 meter standing hold a great deal. You'll really get the follow-through down. If you are shooting good air rifle scores, you have a good follow-through. The technique should carry over into your 50 meter offhand score and raise it three or four points.

Regarding care and cleaning of the air rifle, you will want to keep the barrel dry. With an air rifle you don't want any oil, any cleaning solution, or anything else down the barrel at all. When you get a new air rifle, the best thing you can do is to take a box of pellets and fire about 200 rounds through it to completely clean out any oil. If any oil remains in it, the air rifle will shoot very erratically. Be careful when you wipe the outside of the air rifle barrel and action with oil or cleaning fluid, not to get any on the sliding part of the mechanism that will in turn transfer the oil to the barrel. Action screws should be checked just like any other action screws. When you travel, loosen them and retighten again before you shoot.

IW: Do you give any specific tightening like smallbore 15 to 20 inch pounds or has there been any research to determine what is best?

MM: Well, you may disagree, but in my opinion a good set of action screws and a screwdriver do as good a job as a torque wrench and all the rest.

IW: I've done some experimenting on this with various smallbore rifles and men seem to get from 16 to 18 pounds pressure just tightening like a screwdriver. A woman's turn might run less.

MM: I always put in my own action screws and they are as tight as I can get them, so therefore, they are the same. As far as I know, none of us are using torque wrenches on air rifles.

MA: You might tell the juniors why we don't personally use torque wrenches.

MM: When the action is set in the glass, it is under no strain or twist and hence the action screws put in snugly will adequately hold the action in place. When an action is not glassed properly, by using a torque wrench you can apply

enough additional pressure on the action screws to make the action bend to fit the glass tightly and thus improve its accuracy that was impossible to get when the action was under no strain. Another thing to remember on your air rifle, since most of yours are not glassed, by using extreme pressure of the torque wrench you are compressing the wood further and further until pretty soon your screws are going to bottom.

GP: To me there is a difference in the recoil. I shoot a lot of air rifle and then when I go to my .22 I have difficulty settling down. Do I just need to practice more with both?

MM: On the newer air rifles, like the Walther for instance, there is no recoil that I can discern. In fact when I tried one, I had to take my ear plugs out because I couldn't tell when my shot broke to make the call. You can feel the Feinwerkbau and Anschutz recoil just a little bit in your hands. Now, when you go back to .22 shooting, if you are following through correctly, you should be able to see where the rifle recoils everytime and it should go the same place everytime, or your shots will be going all over because the recoil starts as soon as the bullet starts down the barrel. That's why when you're in position and you change your sling, either tighten or loosen, you will change the point of impact of the bullet. In answer to your question, just watch your recoil carefully with each gun.

ES: If you don't clean your air rifle barrel, how do you prevent it from getting leaded up?

MM: Most air rifles won't do this enough to interfere with accuracy, but a few will. If it bothers you, you can use the nylon-string type cleaning rod with a dry patch. Personally, I've never cleaned any of my air rifles. I'll ask Lanny about this, as he's the expert on air rifle.

MB: I heard Gary Anderson talk about air rifle one time at a clinic. One of the things he mentioned that has helped me, is that you should get really set up on the line with air rifle because you have so many more things to do such as cocking, reeling the target, etc. If you can get a cadence going in between shots, sort of organize your actions, it will help your score.

MM: Yes. I'm an advocate of this for any gun, especially air rifle and gallery when you have so little time. I worked it out so I did the same thing in the same order every time, almost to the minute, so the process was mechanical. Work out your air rifle so that you do everything in order, like roll your target, replace the target, load the rifle, etc, so that you won't forget something in a match. Psychologically it's good to have the routine because when you get in a pressure match and you're upset and you're not thinking as clearly, you have something that's familiar that you can be doing to get yourself back in the groove.

MA: In air rifle, because you have so much movement required, like rolling the target, cocking the rifle, I feel that pulse beat is a problem throughout the match. Do you have a solution to this?

MM: I have a real problem with this, more than the guys and I haven't come up with a good solution for this. The one thing I do is roll the target in and out

first, and I do it slowly, then I take several deep breaths before my next shot. My waiting between shots air rifle is to get my pulse down. The electric carriers are really a help and hopefully more ranges will get these.

MA: When you shot in Europe on the electric carriers, how much then did the cocking bother you?

MM: The Walther is the hardest to cock, but if you can put something on the line to raise the level of the provided bench, it will allow you to place the rifle on it in such a manner that you can cock it by pushing the lever down with your arm almost straight and thus with less effort. By doing this I was able to eliminate a lot of my pulse problem that comes from the cocking of the Walther. Now with the Anschutz or Feinwerkbau, I really don't have any problem with this.

EH: Why is it illegal to have your shooting kit forward of your shoulder?

MM: It's a prone rule basically. Shooters are used to those big boxes with the lids up for a windbreak. It's totally irrelevant for position, but at the World Championships in the U.S. in 1970, it was enforced for all positions because the U.S. people running the match had never seen an international competition, so they did a lot of nit-picking. It's been carefully enforced since that time.

IW: It's an old NRA rule from about 1916. Piling something beside you really doesn't help even in American prone. If you can't feel the wind, you are losing one of your best indicators of wind switch.

EH: I heard somewhere that cheek pressure is very critical with air rifle.

MM: Yes, it is critical, but I don't think it's anymore so than with your .22. Cheek pressure has a lot to do with where the rifle recoils and hence the point of impact of the bullet.

MA: Could you expand on cheek pressure a little bit.

MM: Expand on it. Well, I'm not Writer, I can't expand on all these things! There are a lot of ways you can place your face on the stock. I shoot with mine partially under my jaw bone, but most people set it in a little higher. It helps a lot on sight alignment, and when I talk to you later about wind, you can do a lot with sight alignment to help your wind reading, so it's important you have a consistent reference with your cheek. For me, cheek pressure, more than pressure with either hand, seems to change the placement of the shot. You need to keep it the same, both up and down and sideways.

EH: Lanny was saying that the pressure of your trigger hand is important.

MM: Yes, it's important on all makes of air rifles. Here again the result is that your hand pressure effects the recoil of the rifle.

GP: Writer was telling me something about the difference in the Anschutz air rifle, that you had to pull it back into your shoulder whereas with the Walther you just let it sit there due to the difference of recoil.

MM: Yes, the Anschutz does recoil quite a bit more than the Walther. With air rifle it has been my experience that the more recoil it has, the more cheek and hand pressure I must use to control the recoil. I like to shoot the Anschutz because I use tight cheek pressure and it is very much like shooting standard rifle. I hold it back in my shoulder tight with a lot of down cheek pressure, whereas on the Walther, you do let it float. It's been so long since I've shot air rifle, I've forgotten a lot of these things. Your cheek pressure, your hand pressure, and whether you pull back into your shoulder or let it float are part of what you should be writing down in your diary. For instance, decide today in training, I'm going to pull the gun back in my shoulder. Write down what it looked like, what it felt like, what kind of score you shot, and then give it enough time to make an intelligent decision. Don't evaluate on one practice session. Something new usually works great for two or three days because you're paying attention and working harder, but in the long run it may not be better. With Feinwerkbau and Walther, you don't need a lot of pull-back pressure since there is little recoil. If you do pull back hard with them, you quite possibly might cause more problems by messing up your follow-through with inadvertent muscle movements.

MA: For me, the lighter weight of the air rifle makes pull-back pressure I use with standard rifle too much.

MM: You might try putting some weight up front. For the women who cut off the stock, you can add weight. I did add a little at the front of the stock, just under the barrel. Don't add it under the stock up front or hung it off the barrel, but you can tape on a little to the front end of the stock to steady it some. You don't want the air rifle too front heavy because you don't have a hook and it has a tendency to flip forward then. If it is so light it seems to be bobbing around, then you need to add a little. You do need a steady hold air rifle, because you must have good follow-through. Trigger control is also important. It amazes me that Writer and Lanny can shoot good air rifle because they both have a pulse problem. I think with air rifle, instead of trying to time the shot, you are better off to squeeze through the area of wobble you've got. When it's coming in, take up pressure on the trigger, then hold it, then take up a little more pressure the next time it's coming in. When the air rifle is moving, it moves the pellet a lot farther out than with smallbore. It takes a lot of practice, but you juniors are getting good at it, and I'm really glad to see this. We've been weak in this country in air rifle, mainly because we all learned to shoot smallbore and we didn't like to shoot it. Then just before the world championships, we would panic and train for three weeks with air rifle, and have a big shoot off to decide who was going to be on the team. This naturally resulted in a poor showing. It's all basic fundamentals and by growing up on it, you'll have the same background in air rifle as we had in gallery. There's no doubt the U.S. could really put it on the world gallery, if that were part of international shooting, because we've shot it so much. It's good to see your positive attitude toward air rifle.

GP: I think air rifles have been refined a lot also.

MM: Right. The 1966 World Shooting Championships in Weisbaden was our first experience with it. They recoiled all over - some up, some sideways - so it was wild learning to shoot air rifle. We could get a group out of a rest with them, but all shooters were definitely having trouble, especially the U.S. shooters. The

Europeans love it, they shoot it like we shoot gallery, and they are good at it. If we're going to be good at it, we've got to put some time in on it. The medal for air rifle means just as much as the medal for 300 meters. I hope we'll start seeing it in collegiate shooting. Some of us are working to have air rifle put into physical education programs, because nonshooters see it as less dangerous. We could reach a lot of people if we could put it in the schools. It is in the Pan American Games now and someday it will be in the Olympic Games.

EA: Now that so many shooters are using tripod stands for offhand, should you use it for air rifle or should you use the table that is usually provided for air rifle?

MM: With air rifle, you need to stay close enough to the line to work your crank. Also since the crank or electric box has to connect with the cables, every place I've been there was a table or bench. If the table is too low, use something to build it up. There is a point with air rifle where you would be losing a point or two on your score because of the increased distance. If you back up far enough to use your tripod, this could be a problem. I'm sorry, I can't tell you what that distance is. If you are used to a tripod, be careful when faced with a stationary provided rest not to get against it accidentally. If your coat should touch the rest, you will see a totally unnatural hold pattern. You will get your sights aligned and suddenly it will take off in an erratic direction and tend to stay in the new place and not swing back on the bull easily.

MA: I have difficulty positioning my scope with a provided table.

MM: That sounds like a personal problem! I've had trouble too, but I don't have a good solution.

MA: You might mention the rules about sighters and ten shot strings.

MM: Okay. The rule is that you have ten sighters with forty shots for record in a time limit of one and a half hours. You cannot take sighters during your ten shot strings - take them at the first or inbetween ten shot strings. Shooting sighters any time was allowed here at the tryouts for awhile, but you're better off to follow the straight ISU rules so that you never make an error in an important ISU competition. It's better to shoot training matches the way you will shoot an important match so that it doesn't cost you critical points. With air rifle, these shots are really not sighters so much as training shots to check out everything. Don't dry fire the air rifle a lot because it is hard on the mechanism on some of them, but you can take several holds before beginning the sighting shots. Don't waste your first sighter. Make sure you learn as much off it as you can. Be sure it's on call, so you can adjust for lighting, position, follow-through, etc. Verify it with the second and third shot. Hopefully you will need only five or six sighters to begin. Always save one for the last string just in case you need to take a break. Especially in a big match you might be a little bit more nervous and it is helpful to know you have it.

I want to say something else regarding the rules. Be sure that your equipment and positions are completely legal. Train this way so that you never put pressure on yourself wondering if you'll be checked. The U.S. is often protested in ISU

matches, but we are always legal and we know it, so it doesn't bother us. We've learned to expect it and take it in stride. It's a pressure tactic that is tried by some countries, but it doesn't hurt us because we are so careful to be in complete accordance with the rules.

MB: How can we find out about ISU rule changes? Do they put out a book each year or what?

MM: You can order an ISU rule book from NRA. Also you'll need the NRA International Rules, which are a modified form of the ISU rules, as you have to shoot under these in this country unfortunately. One of the rules currently in the NRA version is the incorrect junior age limit. In ISU rules, you are a junior to twenty-one years of age. (Specifically, you may not have your twenty-first birthday in the year the competition is being held, so you may not actually reach age twenty-one.) So far we've been unable to get NRA to correct this. Read both rule books thoroughly and read the program thoroughly each year for these matches, the U.S. International Shooting Championships. Every year there is some kind of surprise. Going back to the ISU rules, I think they have settled down now for awhile. Since we've gotten over the zipper-on-the-shooting-pants hassle and the shooting jacket hassle, I think the rules will be more stable. Contrary to European belief, these were not the U.S. secret as U.S. shooters are still on top. If you have a question about the rules, I probably shouldn't say this, but don't ask NRA officials because they won't know. You've seen that here at this tryouts. Ask an experienced international shooter what is done in the big ISU matches to learn how the rule is interpreted. For instance, we questioned the air rifle official here allowing us to put up two or three targets at a time air rifle. He said it is a range decision. But you can be sure you won't ever shoot an ISU match that way. You will put up one air rifle target at a time.

GP: Should you score your air rifle targets as you shoot?

MM: This is up to the individual. In Switzerland they took our targets after each ten shot series to get the score out faster. However, if it pressures you to score as you shoot, don't.

MA: You might explain this reverse scoring.

MM: You all understand regular plugging. Here at the tryouts, NRA uses a special set of plugs that are not available to shooters, which we object to but which they have persisted in using. In reverse scoring, the plug has a flange that extends to the next scoring line. For example, if your shot doesn't make the plug touch the inside of the eight ring, it is a ten. If it touches the eight ring, then it is a nine. They mill the plug according to the exact distance between target rings. The problem is the printing on the little ten dot varies. This could be solved if printers were required to use what is called dot-gain scale to insure absolute accuracy of reproduction, but evidently target manufacturers don't have plate-makers and printers skilled enough to do this fine type of printing. Back to the reverse scoring - the theory is fine, but it is not working out in practice. Obvious tens are being scored nines so the plugs or the targets apparently aren't correct. Also, we have found one type of pellets makes a bigger hole. With regular scoring, this is to the shooters advantage. With reverse scoring, it works just the

opposite. Regular scoring means you have a ten if the pellet cuts into the ten dot. In Europe, regular plugging is used.

MA: Could you talk about seals for the air rifle.

MM: I can't tell you too much about this. On the Walther, if your loading port starts popping open, you need to change your seals. If you shoot every day, you probably should change your seals every six months or so. The heat here in Phoenix seems to cause problems with the seals.

IW: What is the rule about extra shots air rifle.

MM: It's the same as 50 meter. Anything that goes out the barrel, is a two point penalty if it's not in the scoring rings.

GP: But it's okay in NRA matches.

MM: Yes, in true NRA matches such as American prone, so long as you don't crossfire on someone else. However, if it's NRA International, the rules used here at Black Canyon, it's not okay to fire extra shots off the side of the target.

EP: I had my trigger adjusted and it is worse now. What should I do.

GP: I talked to Writer about this and he said I should learn how to adjust my own trigger, because I'm the only one who knows what it should feel like. Writer covered this in detail in his lecture.

MM: That really is the right approach (refer to Chapter Two).

AIR RIFLE

Lanny Bassham

(Margaret asked Lanny to read the air rifle chapter and make additional comments.)

I shoot air rifle exactly like standard rifle standing, and with the exception of the palm rest and hook, exactly like smallbore three-position with the free rifle. I use the same trigger weight and try to make all my position guns feel the same in the trigger. This is possible if you shoot one brand of rifle all the way, and I do now, although I have shot Feinwerkbau and Anschutz combo in '71 and '73. I do not try to squeeze the trigger in any event except army rifle. In air rifle you have to shoot your hold, as Margaret said, but I try to break the shot within the ten ring every time.

As regards to cleaning the air rifle, Neal Stepp of International Shooter Service (who probably has had more experience with servicing air rifles than anyone I know) says that nylon brushes used dry, will clean the barrel satisfactorily. Oil is a big problem, as Margaret pointed out. I personally have never cleaned my barrel with oil, but new rifles always come oiled and you need to shoot the oil out.

One should remember that air rifle is less difficult than standard rifle standing because the target is bigger (compare the ten ring of the air rifle target shot at 33 feet with the smallbore A-36 shot at 50 feet) and because you are closer and your sight picture is clearer. As it is easier the scores are higher and one has to raise his standards. This is helpful when you go back to smallbore because you are still "thinking" air rifle scores.

Air rifle is like all events, it requires a lot of training to do well. Before the '74 World Championships, I shot a lot of air rifle and it paid off in them. Also in '76 I shot a good deal of air rifle and I think it helped my smallbore in Montreal. I feel all new shooters serious about making world teams should shoot air rifle regularly.

It is very important in air rifle that you use the same pressure with the right hand on each shot, especially with the Feinwerkbau. The Walther is less critical and I feel this is an advantage in a match where shooters are likely to tense up a bit from shot to shot. If you like Feinwerkbau, just be sure to use the same pressure.

I feel you can duplicate eighty to ninety percent of all mental and position training in rifle shooting with the air rifle. It is the "most valuable rifle" I own as I cannot get to the range (50 meters) very often and must train at home.

MM: To change a seal on an air rifle, carefully pry the old seal out with the tip of a knife. Push the new seal in with your finger. You can use a dry Q Tip to clean the seal occasionally.