TAMING THE BEAST

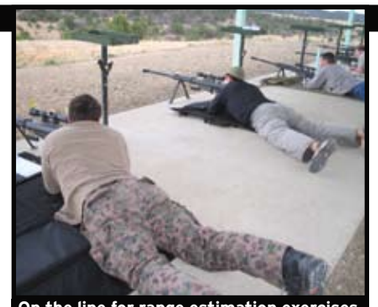
BARRETT'S LONG RANGE BASICS COURSE SWEPT AWAY MY ROOKIE-SHOOTER JITTERS AND GAVE ME EVERYTHING I NEEDED TO PUNCH TARGETS AT 1,000 YARDS.

BY DAVID KENIK

It's quite an understatement to say I was excited to take part in Barrett's Long Range Basics course—both for the opportunity to learn long-distance shooting from the experts and for the chance to spend some quality time behind the stock of a Barrett .50-caliber rifle.

My own attempts at shooting my .223 rifle at 200 yards had been pretty frustrating, so I was looking forward to some professional instruction. While much can be gathered from books and the Internet, these aids can't compare to hands-on training. The class answered many of my questions, corrected my misconceptions, and cleared up confusing issues I had with ammunition, ballistics, and scopes.

I have long admired the Barrett rifles. I've drooled over the advertisements and longingly stroked their actions at the SHOT (Shooting, Hunting, Outdoor, Trade) shows.



On the line for range estimation exercises.

While I was excited to finally get to shoot the Barrett, frankly I was more than a bit intimidated by the prospect of feeling the sheer power of the .50-cal. Jon Weiler, the instructor, assured the class that much of the trepidation disappears once we learn how the rifle works and how to handle it properly.

Jon was correct. The most relevant analogy I can think of to describe Barrett's Long Range Basics course is that it is akin to "Taming the Beast." Once you understand how it works and learn to maintain, repair, and shoot the Barrett, the beast subsides and the big .50 becomes obedient and downright fun.

The first offering of the Long Distance Basics course was in April 2006. Enrollment is limited to just eight students which allows for plenty of personal attention. Originally, Barrett scheduled just two classes for the inaugural year. Having filled them up so quickly, two additional ones were added for 2006.

The three-day course includes armorer training on the Barrett M82A1, M95SP, and M99 rifles. It also includes basic ballistics, marksmanship, range estimation, and scope adjustment training. A full day of live fire includes working up to 1000-yard shooting. Ammunition is included in the $1,000 student fee.

LEFT: Jon Weiler, Barrett's head instructor, discussing the inner workings of the Barrett M82A1 50-caliber semi-auto.

The muzzle blast from Dan Rinaldoso's Barrett kicks up the dust against the desert mountain backdrop of the NRA Whittington Center's 1000 yard, high-power range.

I attended the May 2006 class, which was only the second time the course was offered. I was pleasantly surprised to find that I was not the only rookie handling the Barrett rifles. Four other students had also never fired one. In addition to novices, several students owned their own Barretts. They were sportsmen, law enforcement officers, and even a sniper from the Department of Energy.

The Barrett Long Range Basics course is hosted by the NRA Whittington Center in scenic Raton, New Mexico. The center is widely regarded as the most comprehensive shooting facility in the world. Set among the desert mountains, the center provides facilities for just about every shooting sport. Shooters enjoy small-bore rifle, high-power rifle, black powder, trap, skeet, sporting clays, PPC, and pistol disciplines as well.

Looking down the numerous rows of shooting positions, you can't help but be in awe of the size of the 53-square mile facility. In addition to supporting all of the shooting disciplines, the center also offers hunting trips, camping facilities, competitor housing, and a 150-person dining facility. Driving throughout the campus, passing Whittington's 12 ranges, it's easy to envision the 150,000 shooters that partake in the hundreds of shooting events held there each year.

The Barrett Long Range Basics course is a creation of Jon Weiler, Barrett's training manager. Jon came to Barrett after his military service where he served as a sniper for six years. Jon joined the army in 1997 and went to Jump School at Ft. Benning, Georgia. After going on to Sniper School, he spent the last two years of his tour as a Scout Sniper in Ft. Drum, New York. After 9/11, Jon patriotically decided to serve again and joined the 82nd Airborne. He and his Barrett saw extensive action in Operation Iraqi Freedom, putting his rifle to the test in the demanding conditions of the sandbox.

DAY ONE: BASICS AND BEYOND

Day 1 was an armorer's class covering the M82A1. We spent one full day on the M82A1 because, being a semi-auto, it is more complicated than the bolt rifles. The armorers portion of the Long Range Basics class is a shortened version of the full two-day armorers course, giving participants a depot-level armorers certificate.

Jon's first demonstration was breaking down the M82A1 into its three basic components: the upper receiver, lower receiver, and the bolt carrier group. Once opened up and laid out on the table, the simplicity of the design becomes apparent. The upper receiver is held in place by two receiver detent pins. Having removed the magazine and cleared the rifle, removing the two receiver pins allows separation of the receivers and removal of the bolt carrier group. To fit the M82A1 in its carry case, the spring-loaded barrel key is released and the barrel is lowered.

We all practiced breaking down the gun. After some practice, there was a competition to see who could disassemble and reassemble it the fastest. The winner was Tim Scott, who completed the task in just 48.75 seconds.

How did the author do? Well...oh...uh... very good actually, but, and this is a big but, I did not set the magazine in place properly. After asking me if I knew what I did wrong, Jon pushed on the front end of the magazine, which then fell onto the table. Including recovery time from my laughter and reinsertion of the magazine, my final time came in at 63 seconds. I lost a lot of time finding and recovering from my goof—without which I would have scored much better. All I could think of was "Rats,

"ONCE YOU UNDERSTAND HOW IT WORKS AND LEARN TO MAINTAIN, REPAIR, AND SHOOT THE BARRETT, THE BEAST SUBSIDES AND THE BIG .50 BECOMES OBEDIENT AND DOWNRIGHT FUN."

I coulda been a contenda!" The competition did a lot to make the class fun and build camaraderie, as we all cheered for each other.

After the fun, it was time to get back to work. The next step in breakdown is the removal of the bolt from the carrier, which is about as far as the average shooter needs to go to perform normal cleaning and lubrication.

The armorer's job is to maintain rifles to factory specification. In addition to performing periodic maintenance, the armorer is trained to diagnose problems. Although Barrett rifles have a well-earned reputation for reliability, a Barrett rifle is still just a machine, and machines sometimes fail. Barrett trains armorers to completely disassemble a rifle. Then, by examining the physical condition and operation of each part, the armorer can get the rifle back in working condition by replacing worn or damaged parts with new factory parts.

Like most semi-autos, the most demanding job is dissasembling the Model 82's bolt. It involves removing the extractor and ejector from the bolt and removing from the bolt carrier its accelerator, accelerator rod, cocking lever, and sear.

Stripping the lower receiver is less involved but entails removing the buffer, buffer spring, safety, and trigger assembly. The disassembly procedures are simple but there are many tricks of the trade that keep you from damaging parts, or even damaging your fingers. Completing the armorers course is mandatory before trying to completely disassemble your own rifle.

The armorers portion of the class demystified the Barrett Model 82. Understanding how it is built helped me better understand its inner workings. Two big realizations came from my first day of training:

1. The Barrett Model 82 is easy to clean, maintain and repair. Because the Barrett is a big gun, the parts are big, making it easy to disassemble and reassemble—far easier than an AR15 whose springs, pins, and other parts are much smaller.
2. These guns are very sturdy and well built. It is amazing to see the thickness and heft of each and every piece that makes up the rifle. Once you hold each piece in your hand, you realize that it's not just a sales gimmick when they say that Barretts are "bigger and better".

DAY TWO: RANGE PREPARATION

We covered disassembly of the M95 and M99 in the morning of Day 2. With these bolt guns, disassembly is much faster than with the semi-auto. The M95, like the M82A1 semi-auto, has an upper and lower receiver held in place by two pins. Once separated, simply removing the bolt is all that is needed to clean the rifle. The M99 disassembles even faster, as the barrel is permanently attached to the one-piece frame. The buttstock, bolt, and trigger assembly are held in place by one lock pin under the frame and two lock pins under the rear of the butt stock.

Having completed the armorers training, the shooting curriculum started. While we anxiously awaited the day on the range, we absorbed the day's PowerPoint lessons describing the fundamentals of long-range shooting. Jon outlined and explained only basic principles. Many of these principles are suitable for entire classes by themselves.

Broken down into its three main components, the lower receiver, upper receiver, and bolt carrier group. Barrett's simple design is similar to the AR family of rifles.

We began with internal and external ballistics. Then we reviewed how gravity, air density, wind, and bullet shape affect trajectory. Jon also covered how temperature, altitude, and humidity affected a projectile's flight path. I had a lot of questions and Jon answered then all.

Jon's next discussion was on wind estimation. He covered how to read wind flags and how to read vegetation movement. He also covered the modern way, which is the use of technology. We examined a handheld weather station which records wind and other atmospheric measurements. It was all you could ever need.

I soon realized that there is a lot of art to this science. With so many factors to take into account, the only way to learn the effects of atmosphere and weather is by shooting your rifle extensively, recording the details, and comparing the results. A shooting data book is invaluable in this pursuit.

Jon covered the fundamentals of marksmanship. The skills needed for long range shooting are the same as any other type of shooting. These include a steady position, proper body position and hand placement, good cheek weld, proper sight alignment and sight picture, breath control, trigger control, and follow through. Every element is important because longer ranges magnify improper techniques. Consistency in your proper technique will give you consistency in your hits.

Personally, one of the most important lessons was minute-of-angle (MOA) and how MOA corresponds to scope adjustments. We learned the concept of what MOA is and how to calculate MOA based on target range. We learned how to translate measurement in inches to MOA, and finally how to make our scope adjustments using the target turrets.

Jon continued with a discussion of optics and how a scope's magnification, clarity, and adjustment limits are especially critical in long-range shooting. The scope discussion concluded with a demonstration of proper scope mounting which I found especially valuable.

Day 2 concluded with a discussion of three methods of range estimation, estimation being the key word.

The first method Jon described was the appearance method. This method involves judging distance by unaided eyesight. An example of this would be comparing an unknown target distance to the perceived size of a football field or other familiar distance.

Roy Jones proudly displays his winning 31.25 inch group from 1000 yards.

The next method Jon described was the mil-dot reticle method. This method compares the known size of a target against the width of the target in the scope reticle.

The final method Jon discussed was the use of an electronic rangefinder. While the high-tech way is the fastest and most accurate, it is essential to understand how to estimate range manually in case the electronic rangefinder breaks, its battery dies, or it is lost.

We all gained confidence by completing a few estimation exercises in class and then took our knowledge to the range. We set our sights on specific objects and manually calculated the distances using the appearance and mil-dot methods—or I should say we tried to manually calculate the distance. Many of us lost what confidence we gained in the classroom, realizing that this is a skill best learned by practice.

DAY THREE: READY ON THE FIRING LINE

The long-anticipated shoot day arrives. We started Day 3 at the range at 7 a.m. for a full day of shooting, and I do mean a full day—we didn't leave until 7:30 in the evening. After assembling the rifles and making sure the scopes and mounts were tight, Jon went through safety issues and procedures for the day. We were to start at the 200-yard line and incrementally move to the 600-, 800-, and finally the 1000-yard position. The final stage was to be a 5-shot competition at 1000 yards. The total shot count was 100 rounds.

The class was divided into two groups. One group shot while the other set and cleared targets. The groups reversed roles after the first shooting group had completed all the yardages.

After spending the first half of the day working the targets, my group set up on the 200-yard line, aligned our rifles, got into our shooting positions and scouted our targets. This was the first time I actually got behind a Barrett in a shooting position. I didn't realize until after the day was done that I immediately felt comfortable with the rifle. Even though I had never shot a Barrett, or for that matter any gun that large, I felt relaxed with it. I attribute the ease to which I adapted to the Barrett to be related to the amount of time we spent taking it apart and learning how it worked. Admittedly, I was not completely at ease—I was still concerned about the recoil I was about to face. I had heard it was like a 12-gauge, but looking at the size of the cartridge, I really didn't believe it.

Pulling the trigger back the first time, there was some trepidation about the recoil and probably some trigger jerking. I know I closed my eyes reacting to the recoil, noise, and the hefty blast from the front end. With the long anticipated first shot finally downrange, my impression was that the recoil really wasn't bad—it was like a shove rather that a sharp hit. The muzzle brake, reciprocating barrel and bolt, huge buffer spring, and sheer heft of the gun did their jobs. The recoil actually was like a 12 gauge, perhaps even a bit softer.

Once we all completed the first string of three shots, the targets were lowered, marked, and raised so we could check our shot placement. We then visually estimated the distance that our group was from the bulls-eye, translated that to MOA, converted MOA to scope clicks and dialed in the required adjustment.

This is where the previous day's lessons on MOA and scope adjustments all came together. My group was about 10 inches high and 10 inches to the left of the bull. From class I knew that at 200 yards, one MOA translates to two inches. Since my group was off by 10 inches, my scope needed to be adjusted by five MOA. My scope's turrets had 1/4-inch MOA click stops, so I dialed in 20 clicks of adjustment to the right and 20 clicks down.

Once we all set our scopes, we fired another group of three shots. My next group was centered around the bull. Now that my scope was set, I needed to concentrate on the marksmanship skills Jon had reviewed the day before.

With each passing shot, I found the recoil and blast bothering me less. By the tenth shot or so, I felt pretty comfortable. With my fears behind me, I placed my full attention on target placement and trigger squeeze. Pulling the trigger back as smoothly as I could, I continually and minutely readjusted my point of aim until

the shot broke. It was easy to tell when I had a good group just by feeling how smoothly I pulled the trigger. A total of 20 shots were taken before we moved to the 600-yard line.

Once we set up our rifles, the group conferred and calculated the scope adjustments for the new distance using the data chart for the M33 ball ammunition that we were shooting. The chart's baseline reference, or entering argument, is 59 degrees and sea level. The chart stated that the difference between 200 and 600 yards was 12.5 MOA. We reduced that to about 10 MOA to account for Raton's 6,500-foot altitude and 75-degree weather. Dialing my scope up 40 clicks, I realized how well the previous day's lessons fit in.

We again fired a three-shot group, adjusted our scopes, and fired another three-shot group. After those two strings, we filled our magazines and fired a total of 25 rounds. We repeated the sequences at the 800-yard and then finally to the 1000-yard position.

Through my scope I expected to see a huge difference in target size as distances increased. While the target was certainly smaller, it was large enough to see even at the 800- and 1000-yard positions.

My groups fell between "very good" and, well, let's just say "not as good." I quickly realized that my shooting suffered when I tired. Lying in the sun for four hours with your necked crooked to a scope is tiring. When my fatigue demonstrated itself in my groups, I got off the shooting mat, stretched my neck, and drank some water. After settling back in, my groups returned to the respectable size I was looking for.

Having never shot a Barrett and having never shot past 200 yards before, I was quite surprised to see how well I shot—that is, when I shot well. I attribute my newly learned skills to Jon's lessons on marksmanship.

We finished the day's shoot with a 1000-yard smallest group contest. So that we all experienced the same conditions, we assembled on the firing line together and each of us fired a five round string. The prize of a Barrett ".50-caliber" folding knife went to Roy Jones, who shot an impressive 31.25-inch group with his M95 bolt rifle. Second place went to Dan Rinaldo who shot a 38.75-inch group. Dan's score was even more impressive because he was shooting an M82A1 semi-auto which is usually less accurate than a bolt action rifle. What makes his feat even more impressive is that this class was Dan's first time firing a Barrett! I took third place with a group about two inches larger than Dan's—an accomplishment that I could not have done without the lessons of this class.

We closed out the day and the class with the best shooter presentation for Roy. We all received armorer certificates and special Long Range Basics t-shirts. The shirt will be a cherished memento because it is available only to those who complete the class.

Barrett's Long Range Basics course was intensive and it was a blast, a big blast—please excuse the pun. I now know how to disassemble and reassemble the Barrett rifles, and I have a good understanding of how they function. I finally comprehend MOA calculations and scope adjustments, and I got the chance to put into practice my newly acquired marksmanship skills by shooting the mighty Barrett .50-cal. at an incomparable 1000 yards. Looking back, the course was a fantastic experience that gave me everything I was looking for, and more.

About the Author: *David Kenik is the Executive Director of the Police Officers Safety Association, an armed citizen, competitive shooter, and author of Armed Response: A Comprehensive Guide to Using Firearms for Self-Defense.*