

## ***The Dummies Guide To Rifle Accuracy.***

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As a hunting guide, the biggest problem I am faced with (besides locating game) is in-accurate rifles. Before each hunt I advise clients that long shots of around 300 yards are very common on our hunting blocks. I then ask each client to check their rifles carefully to ensure that the rifle is both accurate and zeroed appropriately for the ranges we will encounter.

Unfortunately we are finding that eighty percent of the rifles brought here for hunting aren't capable of even basic accuracy. Think about that, for every ten rifles you are seeing on the gun store walls, two, at most, will be accurate and these, in my experience have been more of a fluke than good management. I remember many years ago, a gunsmith said to me, you will never see an accurate rifle on a gun store wall as nobody will sell a good rifle, so true.

Of the in-accurate rifles that come here, some have been brand new high end several thousand dollar jobs, others have been basic production sporting rifles. Some clients have had to give up after their rifle shot all over the target at the range and use one of our back up rifles for their hunt. The worst case to date occurred like this- The client used our back up rifle as his was not grouping, the back up rifle was damaged during the hunt. The next client arrived and had an equally bad rifle but my low recoiling back up rifle was damaged. I had plenty of other rifles but as all produced high recoil, we had to cancel the hunt.

### **So what is an accurate rifle and how do I know whether it is me or the rifle if there is a problem?**

#### **Definition of an accurate hunting rifle.**

First we need to define the accurate hunting rifle. This is fairly simple, if your shooting calls for 300 yard shots, you will need a rifle capable of grouping 1" (one inch) or less at 100 yards. If you only get perhaps one 300 yard shot per year, you still need the same accuracy as that shot may be the only one you get on your selected game until next year.

Bush hunters don't really need a high level of accuracy. As an example, the Winchester lever action model 94 rifle has fairly crude open sights that don't allow much in the way of precision shooting beyond 150 yards. The Winchester model 94 angle eject (A.E) rifle can be fitted with a scope but hunters will usually opt for a low power scope, again more

useful at closer ranges. Another limiting factor is the trajectory of the .30-30 bullet. That said, there are some very accurate M94 rifles in circulation, straight out of the box.

Another, older theory on the accurate rifle goes like this- A hunting rifle should be accurate enough to hit game vital zones out to as far as the shooter can aim using the rifles sighting system. In plain terms, using a modern variable power scope set on 9x magnification, most (if not all) people can place the crosshairs on target with reasonable precision out to 300 yards, it therefore goes that the rifle needs to be able to place the bullet accurately at 300 yards which means that in such a rifle, a grouping of 1" or less at 100 yards is necessary for this to take place.

### **Definition of the in-accurate rifle.**

If your rifle produces groups of around 1.5" at 100 yards, it is unsuitable for 300 yard shooting. This small level of in-accuracy is enough to create misses or brisket wounds with vertical deviation and will result in gut shots with horizontal deviation.

If your rifle produces groups of 2-3" at 100 yards (common with factory sporting rifles), it is un-ethical to shoot at game at ranges of 200 yards and beyond.

It pays to remember that the results you have gathered on the range have less human error than in the field. A 1.5" group at 100 yards when shot off sandbags becomes a 2" group when using a day bag as a rest in rougher field conditions.

### **Is it me? Am I a bad shot?**

We have been lucky enough to observe peoples shooting habits and gather a few stats. Generally speaking, if a highly accurate rifle (sub inch group capable at 100 yards) is given to a "green" teenage boy with his ears painted on dreaming of a belt fed M60, he will usually shoot groups of 1.5" on average. A more astute teen will shoot groups of about 1". An adult, inexperienced but attentive will shoot a first group of around 1" with consecutive groups closing down into the three quarters of an inch region.

From this we can determine that most people are capable of shooting accurately with almost no experience if they are 1) given an accurate rifle and 2) set up appropriately. The most important factor I would like the reader to take from this is that he or she should set themselves expectations. You do not need to be a competitive bench rest shooter to shoot accurately. As long as you have a good rifle, good ammunition and a few basic shooting habits, you can shoot sub inch groups at 100 yards.

## **How to sight in.**

Whether you use a club range or step out 100 paces, it doesn't matter as long as you can get this sort of distance rather than the less ethical 25 to 50 yards over the car bonnet. For a target, the simplest method is to use white photocopy paper with a black dot on it. Black 1" dots can be bought from stationary supplies, these are sold as labels (like red dot special labels). For those who do not have good eyesight, black cartridge paper with a white 1" dot label is better. A white dot on black appears bigger to the human eye than it actually is, a natural optical illusion that aids accuracy greatly.

When setting up a position to shoot, lying down is the easiest for the beginner. A purpose made bench is an excellent aid but unless it is built solid and heavy along with a pre conceived idea of shooting positions, it can easily become a hindrance. For rifle rests, sand bags are the ultimate. These can be made by simply cutting out the legs of old jeans, filling them with sand and tying them off with insulation tape- no drama. Sand bags should be placed under the fore end of the rifle and under the but stock, just behind the pistol grip.

Now- REMEMBER THIS- The purpose of your range work is to study how the rifle shoots, NOT how you shoot. In order to do this, you need to be comfortable and the rifle and sand bags need to be jiggled around to suit you. If you find your self jiggling around trying to get the crosshairs on target, stop, you have got it all wrong. The rifle should be resting firmly and should be easy to aim and keep settled on target.

Trigger control is a major factor in accuracy. A heavy creepy trigger can open groups right up and is the number one contributor to flinching. A good crisp trigger should have around 2lb pull. To some, this seems very light when first used and less experienced hunters will have fears of the trigger going off before they are ready to shoot. The key here is to learn how to use the trigger properly. The only way a 2lb trigger can be dangerous is if the rifle is used in an irresponsible manner.

**HAVING YOUR FINGER ON THE TRIGGER BEFORE THE ACTUAL MOMENT OF SHOOTING IS VERY DANGEROUS.**

Here are some guide lines for trigger control:

#When either sighting in at a range or walking with a rifle in anticipation of seeing game DO NOT have your finger on the trigger. Your finger can lie gently along the trigger guard and still allow for a very quick shot.

#While preparing to take a lying down shot DO NOT have your finger on the trigger.

#When you see your target whether paper or game, it is still inappropriate to put a finger on the trigger.

#Once you have the crosshairs resting on the bull of your target or on the vitals of the animal THEN you can rest your finger lightly on the trigger.

Resting the mid tip of the index finger on the side of the trigger gives an excellent feel. One then needs only to bring the finger around slightly and take up tension. As the tension is taken up, the trigger goes off and yes, it should go off almost before you are ready. This action disables your brain from being able to anticipate the recoil thereby preventing the shooter from “pulling” the shot off target.

Some gun writers will talk about a heavy trigger being acceptable, especially on a medium bore magnum such as the .375 H&H. The truth is, the higher the recoil, the more need there is for a light crisp trigger to counteract flinch. If you shoot a 460 Weatherby, you need a light trigger more so than someone who uses a .223 Remington. It makes no difference whether you are a laborer with calloused fingers or an office worker, adopt a light crisp trigger and learn how to use it accordingly.

To conclude trigger control, if you are about to sight in and you notice the trigger is immensely heavy and creepy, don't even bother trying to sight in, it is a waste of time and ammo. The rifle needs to have its trigger either adjusted or modified. An experienced rifleman will know that even if he can get such a rifle shooting on target, the degree of horizontal dispersion in the field will cause misses at ranges beyond 250 yards.

Having become acquainted with your trigger, another thing you will need to consider when sighting in is the sling. If you intend to hunt with a sling, you will need to sight in with a sling. Also, if you wish to use a magnum powered cartridge, you should use a sling when sighting in.

O.K, its time to shoot so let's go over a check list while you are lying down with the rifle on the sandbags and a round in the magazine.

1. Make sure your barrel is not touching the sand bags with each and every shot
2. If you are using a sling, make sure it is under a little tension as it passes under your elbow
3. spread your legs and keep your inner ankles flat on the ground
4. Feel, check your feel. You need to have a firm but not tight feel of the fore end (I call it a pinch) and the same on the pistol grip, even if it is just between your little fingers and lower palm, its all about control. On the magnums you will need a heavier grip and should take time to experiment with this.
5. Time, take your time before you let off the shot. If you lose the moment, cock your head to one side and have a break. There are no first prizes for being a fast shot.

From a clean copper free barrel, the first shot will often be way off from where you want it to go so the first shot of the day is always regarded as a fouling shot. This shot puts a layer of copper onto the inside of the barrel and the next shot will most likely gain about 50fps in velocity. After about 60 rounds, the problem re-occurs, this time due to too much copper or copper fouling as it is termed. So what we are really wanting during testing is a barrel that is fouled but not absolutely filthy!

If you have a copper fouling problem, your rifle will produce flyers. These appear as random bullet holes about 3" off target. To remove copper, you will need to use an ammonia based solvent. Strictly speaking, if the solvent doesn't smell like it could kill you, it is too weak. Never ever put your nose straight over a bottle of solvent, to get an idea of its strength, simply open the lid and gauge the strength of the fumes at an arms length.

After the shot you will have an immediate inkling of how you felt it went. My advice is this- if you thought it was a good shot then it was. If you thought it was a bad shot, it was. Don't ever second guess yourself. If you thought it was a good shot and you then find the shot is miles off-BLAME THE RIFLE.

To measure your groups, use a ruler or vernier caliper. Of the shots that comprise the widest part of the grouping, measure from center of bullet hole to center of bullet hole to establish the group size.

If you are undecided about your shot, then think about this. Let's say you are a bit flinchy. You are aiming for the middle of the 1" square but the crosshairs waver from side to side or up and down. As the shot goes off, you weren't sure whether the crosshairs were in the middle of the dot or on the edge. Well, to put this in perspective, you were wavering around by only .5 of an inch so if the rifle shoots 3" off to the left, it is still the rifle that is to blame.

Whether you shoot 3 shot groups or 5 shot groups is a personal thing. If shooting 3 shot groups, the chances of a fluke tight group are very high. For this reason, if you shoot 3 shot groups, you need to shoot at least two groups to be sure.

To conclude, if your rifle is accurate, you can proceed to zeroing it. In most instances this will mean sighting the rifle to strike 2.5 to 3" high at one hundred yards so that the bullet will hit dead on at 220 to 250 yards and be 3-5" low at 300 yards. Please bear in mind that exact sight settings will depend on caliber but the above example fairly well covers the larger range of sporting cartridges in use. If your rifle is not accurate- read on.

## **The in-accurate rifle.**

So far, we have been able to establish several key factors about accuracy. These include:

At least 80% of factory rifles are completely in-accurate and unethical game killing tools.

An in-experienced shooter can shoot groups of 1" with consecutive groups shrinking down below this size.

If it felt like a good shot, then it was.

At this point I will assume that you have shot a group that is over 1" in diameter and you have made an informed opinion that the rifle is to blame. Some of you will have persisted with a heavy trigger just to see how the rifle shot and taking great care, still shot a poor grouping. From this point, we will look at mechanical problem solving. The three variables include the rifle, the ammunition used and the scope.

## **Ammunition**

To clear up ammunition issues, factory ammunition usually shoots very well and is a good starting point in problem solving, especially for less experienced hand loaders. This is because the new brass forms in a complementary manner to the rifle chamber and factory loaded projectiles are seated with good concentricity to the bore. Brands such as Federal will usually shoot around .75" in a rifle capable of sub inch groups at 100 yards.

Hand loading adds another set of variables however a few myths can be cleared up here. The first is that a change in powder brand will dramatically alter groups, this is simply not true. If your rifle shoots 3" groups with H4831 powder at 60,000psi, your rifle will shoot 3" groups with H4350 at 60,000psi. Altering seating depth by a few thou (.2mm) back and forth will not dramatically alter accuracy either. Concentricity of projectiles to the bore is far more important. Powder charges should be worked up according to the manufacturer's specifications. Some rifles will produce good groups with mild changes, others producing best groups at maximum listed charges.

So, generally speaking, if you have made up a hand load in a responsible manner, chosen a bullet that is suitable for your barrel twist rate, worked up several batches of ammo based on load data, seated your bullets about 40 thou (1mm) off the lands, your load will have the potential to group around 1 inch or less. For competitive work, altering powder brands and seating depths helps squeeze out the utmost in accuracy but is irrelevant to this discussion.

## **The scope.**

Bases should be attached to the rifle with a light shim of Araldite resin to take up any gaps and minimize vibration. The screws of the bases and rings should have a dab of loctite thread locker on them. This will allow the user to tighten the screws up to a firm feel without any need to over tighten as the loctite and Araldite are very reliable. Clean up surplus araldite with cotton buds. Beware of young gun store staff who have a tendency to use no locking compounds and opt for brute force, this sometimes results in damaged threads.

Beware of aluminum rings as many brands are much weaker than steel rings. Also be very weary of rings that have windage adjustments on both rings, rather than just the rear rings. The problem with having both rings adjustable is that often, the shooter will unwittingly bend the scope if the rings aren't truly aligned and destroy the internal mechanism without even realizing it.

To align the scope for cant (tilt), line the vertical crosshair up with the tang or bore as your reference point. Nip up the scope rings lightly then go away for a few minutes before returning to check on alignment. This helps prevent confusion with optical illusions. Assuming the scope is mounted correctly and you have shot a very poor group, you will need to determine if the scope is a part of the problem. As a guide, if your groups are big but consistent in shape, the scope is not the problem. A damaged scope will usually produce quite random results. Such a scope will often put two shots here, two shots there as jumps from resting point to resting point within the internal mechanism.

One way to remove the scope as a variable (as well as ammo) is to try the following: Remove the barreled action from the stock, make up a stout rubber packer at least 120 thou thick (3mm) and about one quarter inch (or 1cm) square. Place the packer at the fore end of the stock so that when the barrel and stock come together, the tip of the barrel will be squarely sandwiched in place (pressure point bedding). If groups come down in size a tad, it is the rifle and not the scope and indicates a problem with either the bedding or a flaw in the barrel.

## **The rifle**

So, from here, we have established that human error was not an issue, the scope is fine and our ammunition was not an issue either. We can now look at group sizes again which will help tell us more about the rifle as the potential problem.

A grouping that is consistent in form but of a size of around 3" is indicative of poor bedding. (the most typical problem which needs to be rectified by a gunsmith or skilled hobbyist).

A grouping that "strings" vertically or horizontally is indicative of poor bedding.

A grouping that appears randomized, of a diameter of around 5 to 6" is indicative of a mechanical floor in the rifle metal work, particularly the barrel. The rifle needs to go to a gunsmith.

A grouping that closes up with pressure point bedding is an indication of either a flaw in the bedding or a problem within the barrel. The rifle needs to go to a gunsmith.

At this point you may choose not to read this article any further and take the rifle directly to a gunsmith. For those who would like to go further into problem identification, read on.



## **Bedding.**

The rifle is without a doubt, a tool of magnificent precision. To throw a small piece of metal out to great distances with accuracy is truly a remarkable achievement. In order to do this, the number one rule is that everything needs to be the same on each shot. The shooter needs to be in the same position for each shot, the ammunition load must be the same as the one before it while the rifle needs to produce the same results each and every time.

With each and every shot, the rifle action and barrel move, oscillate and vibrate. The best way to picture the barrel is by using the analogy of a baseball pitcher. As the pitcher throws his ball, the slightest difference in his point of release will change the point of impact at the batter. The rifle barrel is just the same and “whips” with each shot. If the barrel is unable to whip the same way each time, the bullet will strike to a different point of impact.

The action also undergoes stress within the stock. As the shot goes off and produces recoil, the action is forced backwards and then returns forwards. If the action does not return the same point with each shot (this term called “battery”) then the rifle will be inaccurate.

To set up the best platform for accuracy potential, gunsmiths and custom rifle builders “bed” the rifle and free float the barrel. Bedding involves filling the gunstock with a strong as steel resin; the action is then set down into the resin which when dry, creates a mirror image of the action. The mirror image of the action is a precise bedding platform which allows the action to recoil and return to battery with each shot. This explanation is however oversimplified as several areas of the action need to be relieved to create stress free points.

Once the action is bedded, the barrel can be free floated. This involves removing all wood or plastic along the barrel channel so that the barrel has no contact points with the barrel to interrupt its natural whip. The only point of contact should be the bedding under the barrel “parallel” closest to the chamber. This helps ensure that the action does not have to hold all of the weight of the whole system.

To check whether your rifle is bedded properly, remove the barreled action from the stock. The bedding is instantly recognizable as a layer of resin that appears as a mirror imprint of the action.

In some case, certain brands of synthetic stock (plastic) will make it unquestionably impossible to obtain a rigid bedding platform. This is because as much as the resin is stout, the rest of the stock still moves and compresses under recoil. You can easily check if your synthetic stock is going to be a problem. To do this, disassemble the rifle.

Hold the stock, one hand on the pistol grip and the other on the fore end and try to twist the fore end. If the fore end twists very easily, it needs to be discarded and replaced with either an after market fiberglass stock or a custom crafted wood stock.

It is also important to remember that as the power of the cartridge is increased, so is recoil torque to the bedding platform. The .378 Weatherby based cartridges and Remington Ultra Magnums need a strong bedding platform to obtain lasting accuracy. As these cartridges are often used at long ranges, again, the hunter should expect nothing less than groups of 1" or less at 100 yards. As long as the bedding platform is sound, cartridges such as the .378 Weatherby and .375 Remington Ultra Magnum can and will shoot sub inch groups.

No doubt, many of you will want to know what the arms factories do with regard to bedding. Unfortunately, bedding is too costly a procedure for most factories to perform. Instead, on typical production sporting rifles, the rifle is assembled in such a way that the barrel is forced upwards at the tip of the fore end. This point of force is called pressure point bedding. Pressure point bedding will usually allow a rifle to shoot groups of between 1.5 to 3" at 100 yards. If the groups are consistent, there is a high probability that the rifle will be a tack driver if it is bedded properly.

On wood stocked rifles, pressure point bedding will eventually become a problem as moisture shifts the stock around. This method of bedding is also only suitable for three shot groups at best because as the barrel heats up, the fore end is able to push it higher and higher. If however a barrel is left to fully cool right down over a very long period of time between each shot, pressure point bedding can allow for some fairly good groups.

One marketing trend to be weary of is the so called Pillar bedding. During the true bedding process, steel pillars can be fitted to ensure that when the rifle action is screwed down onto the stock, the stock does not compress over time. This is of particular importance with wood stocks as these soak up oils and can become spongy over the years. A current factory practice, is to insert pillars (steel tubes) but with no bedding. On top of this, it is usually done to synthetic stocks which cannot soak up oils, go figure? The correct term should really be pillar mounted.

In truth, pillars can really be made out of any stout steel material. Full pillar bedding is a laborious, tedious task. In some cases, it is just as easy to insert a piece of stainless wire vertically through the stock wood as a pin to arrest stock compression.

## **Mechanical flaws.**

Mechanical flaws involve problems in either the barrel or action. Problems that typically occur with barrels include poor heat treatment during stress relieving, muzzle burrs and chambers cut off center to the bore. These problems are very common and can occur not

only in budget brand rifles but also in expensive top end brands or custom built rifles with after market barrels. If a barrel has a burred muzzle, it merely needs to be re-crowned. If however the barrel suffers from poor stress relieving, it needs to be discarded and replaced.

If the chamber is not concentric, it will need to be shortened slightly at the chamber and re-cut or rebarreled depending on the individual situation. It is actually a lot to ask of a gunsmith to determine this as an exact problem and is far easier just to start over with a new barrel.

Problems with rifle actions include poor machining of the bedding surfaces and poor locking lug contact. These problems are not common and when they arise, can usually be rectified without undue fuss. The trigger, already mentioned, is another potential problem which creates human error. The trigger is usually rectified as a part of the bedding process and is not generally looked at as an accuracy problem on its own.

Some hunters have asked me if they can get a refund on a rifle with a flawed barrel. Unfortunately, you may have noticed that your rifle didn't come with a warranty when you purchased it, nor did you sign any such documentation. Basically, as soon as you walk out of that gun store door, you are on your own.

Some gun store owners have a great deal of loyalty towards their clients and are willing to try and help with accuracy issues. Nevertheless, there are also some who will try and put the problem back onto the ability of the shooter or his ammo, perhaps simply because they have high expectations of modern rifle engineering. Unfortunately, the more arms manufacturers can erode the confidence of shooters, the easier it is to sell product and keep customers trading and buying new product. It's a big problem, especially nowadays as people seem to take less time to explore their hobbies and more time is spent at work. By the same token, it's no conspiracy as consumers simply do not have high expectations within the sport of hunting.

## Open sighted rifles.

A great many hunters, especially younger hunters, use open sighted military rifles. The big question with these is what sort of accuracy one should expect with open sights as opposed to a scoped rifle. The truth is, anyone using open sights should set an expectation of accuracy almost as high as they would obtain with a scope. With care, it is not difficult to shoot 1" groups at 100 yards with a rifle of known accuracy, regardless of prior shooting experience. First however, we need to look at a few of the various types of open sighted rifle and I would like to suggest expected group sizes for shooters to work to.

M98 Mauser 8x57 good condition: 1" poor condition: 3"

M93 Mauser 7x57 good condition: 1" poor condition: 3"

M94-M96 Swedish Mauser 6.5x55 1" or less.

M94 Winchester Lever action rifle 30-30 1"

Marlin 336 Lever action rifle 1"

Lee Enfield No.1 Mk3 through to No.4 Mk 2: 3"

The Lee Enfield is more problematic than other arms as these were never highly accurate to begin with and many have been fiddled with since their retirement from service. Each SMLE must be studied on an individual basis, just as the factories did when selecting SMLE's for sniper service during war time. Sometimes an old No.1 Mk 3 will shoot 1 to 2" groups at 100 yards, other times, an ex police No.4 Mk 1 in original condition will do no better than 3". All I can suggest is that the shooter trusts that he or she can out shoot the SMLE.

With open sighted rifles it is equally important to sight in at 100 yards. The sights will need to be regulated to one bullet weight only. As an example, if your SMLE rifle sights are regulated to shoot 174 to 180 grain bullets dead on at 100 yards, a change to 150 grain ammunition will cause a shift in point of impact of, on average, 12". Put simply, find either ammo that matches your sights or match your sights to the ammo, then stick with that brand and bullet weight. Mauser actions are less prone to major shifts in point of impact with bullet weight changes. That said, the shooter still needs to choose one bullet weight for the open sighted Mauser.

When it comes to sighting in an open sighted rifle, take your time. It sometimes helps if you gently rock the barrel around to bring the sights on and off the target a few times before you fire. If your sights are too shiny, take a match or candle and soot them up for a clearer picture. For a target, use a white paper square of about 4" as the bull, glued onto a black background. Once you have established group sizes, you will have an idea as to what sort of ranges the rifle can be used out to for clean ethical kills.

Hunting with open sighted rifles requires a lot more pre hunt practice than scoped rifle hunting. In earlier times, hunters were a lot closer to the land than today. Hunters of old knew their rifles inside and out as did soldier's and rifles were fired either weekly or every other week. Today, the hunter who only goes out a couple of times a year, shows far more respect to his or her quarry by using a scoped sporting rifle. For those who wish to use nostalgic arms, practice is the key. The open sighted rifle must either be used regularly or in a cramming session type manner in the lead up to a hunt.

If using the open sighted rifle at the range in a cramming session as part of the build up to a hunt, be sure to fire off plenty of ammunition. This kind of practice can be very successful. Not more than a few weeks ago I had a city lad come to our block armed with an SMLE .303. His first day hunting was a right off with many misses. The next day, instead of hunting, we spent a half day at the range and 80 rounds was fired, some for sighting in which resulted in some –very tight for a Lee- groups, the rest of the ammo was used for practice. On the third day, that teen was as deadly as any sniper of the Second World War. Nothing was safe inside 200 yards and I am sure he could have shot game cleanly at 300 yards but the opportunity did not present itself.

When this young man returns for a visit in a couple of month time, he will have to get his head around the fact that his shooting ability will have subsided (unlike scoped rifle use). To ensure success, we will need to go to the range before the hunt so he can get himself back in the zone. It will probably require a lot less ammo this time round.

## Last words.

Having an accurate rifle has nothing to do with being fussy, pedantic or getting into the realms of bench rest competition. I always tell shooters that come out to our range, there is no such thing as a person who is naturally a good shot. I have no doubt that there are a few people with a very natural talent, mostly women as I understand it to be. Regardless, good shooting is all about knowledge, understanding and a little practice. Rifle accuracy is in fact, all about respect for your quarry. People who know that their rifle is inaccurate but emphatically state that a fist sized group at 100 yards is ample for hunting out to all ranges should be treated with the same empathy that they show for their game- none. If you know better, do better.

In the field, a good hunter will always use a rifle rest where ever possible and only take free hand shots as an absolute last resort. Experienced hunters use a day bag as their rest, this also ensures that they are always hunting with their coat, food, drink and medical supplies which packed into the day bag, form the bulk for the rifle rest.

As far as buying a rifle goes, I treat all new rifles as unfinished product “in the rough”. If you think about the rifle as a kitset, you are on the right track to success. The manufacturer supplies you with a barreled action and a stock. To this you add a scope, rings and bases. To finish the job, the rifle needs to be tuned. Some rifles are more difficult to tune than others. At this time of writing, the most easily tuned production sporting rifles on gun store walls are the Remington M700’s, both wood and synthetic stocked followed by the Weatherby Vanguard (wood stocked).

As a last piece of advice, bedding jobs can sometimes go wrong, especially if performed in a slap dash manner. In some cases, the person who performed the operation may have used G-clamps to set the barreled action up in the resin. The result is that the action ends up being bent when screwed down. This is not an un-common problem. Sometimes, the best assurance is to use the services of a smith who is willing to try your rifle on the range to check his own workmanship and if necessary, re-do the job at his own expense. It’s also a good way to get the smith to check other variables such as a faulty barrel.

As for my own boo boos. For example, I once bedded a rifle of my own, disassembled the rifle and left it in the gun locker for several months before finally deciding to put it back together to give it a work out at the range. At the range, the rifle shot terribly and upon later inspection I found that by leaving the wooden stock separated from the rifle, I had allowed the stock to warp slightly. I had to re-bed the rifle all over again. Small mistakes make big differences when it comes to rifle bedding.

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