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Citizens Association for Responsible Gun Ownership = CARGO

[www.cargogunclub.org](http://www.cargogunclub.org)

=====

Hello Fellow CARGO Members,

**The next meeting will be held at Napoli's on Thursday, March 21<sup>st</sup>.**

We will meet at Napoli's in Wylie.

Napoli's

701 N Highway 78 # A

Wylie, TX 75098

For the dinner portion of the meeting, we will be in the meeting room between 5:45 and 7:00 for food and fellowship. The meeting will begin at 7:00 PM and run until about 9:00.

**Under the new Texas Open Carry Law, you could be committing an offense if you remove your pistol from its holster while open carrying. While at Napoli's DO NOT remove your pistol from its holster unless it is an emergency.**

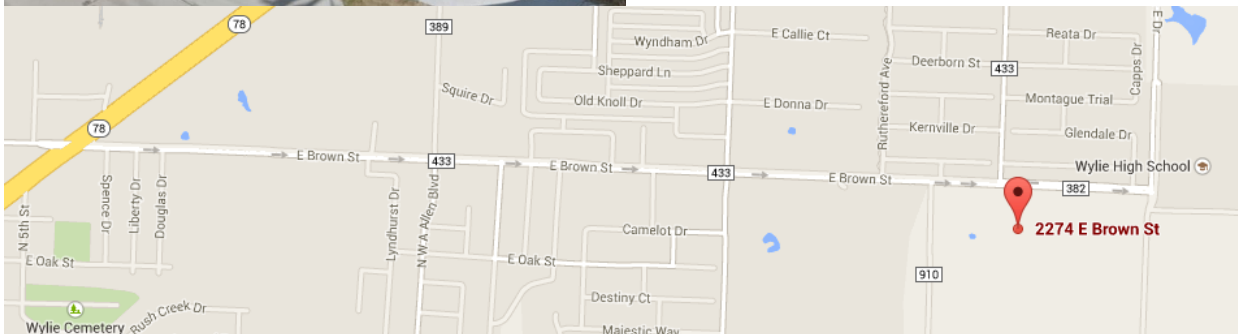
Member Don Bridges has volunteered his shop for the meeting. **There are a very limited number of chairs at the shop, so please bring a camp chair for the meeting.** We will meet there from 7:00 (ish) until 9:00 (ish)

The address is:

2274 EAST Brown Street in Wylie

While heading east on Brown Street, it is 1/2-mile past stop sign that's at the intersection of Brown Street and Kreymer Lane on the right-hand side.

The shop is behind a small white house with a picket fence around the front yard.



## **Guest speaker for the month:**

Jason Smith has agreed to speak at our March 21st CARGO meeting. He will relate to us the past and present situation of firearms ownership in his former home of South Africa. Mr. Smith successfully completed the arduous process of becoming a naturalized American citizen.

Keith Stephens is running for City Council and has asked to speak to the club about his re-election.

## **Gun topics for this month:**

Topic for the meeting is “last three firearms.” Many debates on the internet and over coffee have included the question, if you could only keep / carry / take with you three guns, which ones would they be and why.

I would also like to add your last two knives.

**So, please bring your last three guns and two knives.**

This is hopefully a topic that you all can bring examples to share.

If you have any suggestions for future speakers or topics please send your feedback to [CARGO@att.net](mailto:CARGO@att.net).

When was the last time you visited our web site? Please take some time to go to the CARGO website at [www.cargogunclub.org](http://www.cargogunclub.org)

# Gun Control Bill Would Restrict Vets' 2nd Amendment Rights, Lawmaker Says



Members of the Ira L. Carter Post 318 of the Veterans of Foreign Wars participate in the traditional 21-gun salute near conclusion of the annual Memorial Day Waterside Ceremony, Sunday, May 28, 2017, at Percival Landing in Olympia, Wash. (Steve Bloom/The Olympian via AP)

1 Mar 2019

Military.com | By [Richard Sisk](#)

Before the [Florida VA hospital shooting Wednesday night](#), Rep. Phil Roe, R-Tennessee, went to the House floor to argue that a gun control bill to expand background checks would restrict the 2nd Amendment rights of veterans with mental health problems.

On Wednesday at a joint hearing of the House and Senate Veterans Affairs Committees, and later on the House floor, Roe, the former chairman and now ranking member of the House Veterans Affairs Committee, said a clause in the House gun control bill could affect more than a million veterans.

The bill to expand background checks on gun purchases and transfers passed by a vote of 240-190 but is unlikely to gain traction in the Republican-controlled Senate. President Donald Trump has already said that he will veto the bill if it reaches his desk.

On the House floor, Roe said that the bill includes a "little understood" clause that would make it illegal for anyone to possess firearms who has been "adjudicated with mental illness, severe developmental disability, or severe emotional instability." It would also be illegal to sell firearms to such an individual.

"To put this in perspective, there are over 1.6 million disabled veterans with a service-connected adjudication by VA of mental illness, including one million veterans with [PTSD](#)," he said.

All could potentially end up on the FBI's NICS list (National Instant Criminal Background Check System), Roe added. He said he offered an amendment in the Rules Committee to exempt veterans, but it was ruled out of order.

"I am concerned that the expanded definition proposed in H.R. 1112 would infringe on the 2nd Amendment rights of over a million veterans, solely because they receive benefits from VA that they have rightly earned through their service to our country," Roe said.

The discussion comes the same week a shooting at a VA medical center in Florida made national headlines. At the West Palm Beach VA Medical Center in Riviera Beach, Florida, Wednesday evening, a gunman identified by the FBI as Larry Ray Bon, 59, of Michigan, allegedly fired off at least six shots, wounding a doctor in the neck before being subdued.

On Thursday, a statement issued by the Republican side of the House Veterans Affairs Committee on behalf of Roe, a physician and [Army](#) veteran, said, "Dr. Roe is aware of what occurred at the Palm Beach Medical center and his thoughts are with all those impacted."

Bon, a double amputee, is believed to be an Army veteran and was at the hospital for mental health treatment, the FBI said. It was not immediately known how he obtained the handgun.

Several previous gun control bills that would have restricted the sale or ownership of firearms to those with mental health issues have been offered, but all have failed.

-- *Richard Sisk can be reached at [Richard.Sisk@Military.com](mailto:Richard.Sisk@Military.com).*

## Ann Landers

SYNDICATED COLUMNIST



**Dear Ann:** I am an inner city English teacher, and my students are reading George Orwell's *1984*. I am having a difficult time explaining

communism, socialism and fascism without giving a full-blown, time-consuming history lesson. I recall you printed a humorous column some time ago explaining these concepts. Will you please print it again? I'm sure it will kick-start a lively class discussion. — A

**Teacher in Mississippi**

**Dear Mississippi Teacher:**

Thank you for asking. It's an "oldie," but a "goldie." Here it is:

**Socialism:** You have two cows.

Give one cow to your neighbor.

**Communism:** You have two cows. Give both cows to the government, and they might give you some of the milk.

**Fascism:** You have two cows. You give all of the milk to the government, and the government sells it.

**Nazism:** You have two cows. The government shoots you and takes both cows.

**Anarchism:** You have two cows. Keep both of the cows, shoot the government agent and steal another cow.

**Capitalism:** You have two cows. Sell one cow and buy a bull.

**Surrealism:** You have two giraffes. The government makes you take harmonica lessons.

I think that this can be expanded:

**Socialism:** You have two cows. The government registers all guns for the safety of the children, collects all guns then shows up in trucks with guns and takes your farm and your cows and redistributes the land and cows to everyone as they have need.

**Communism:** You have two cows. The government registers all guns for the safety of the children, collects all guns then shows up in trucks with guns and takes your farm and your cows and they run the farm and make you work on the farm. After standing in line for days, they might give you some milk.

**Fascism:** You have two cows. The government registers all guns for the safety of the children, collects all guns then shows up in trucks with guns and takes your milk and anything else they desire and sells it.

**Nazism:** You have two cows. The government registers all guns for the safety of the children, collects all guns then shows up in trucks with guns and shoots you then takes your farm and your cows.

**Anarchism:** You have two cows. Keep both of the cows, shoot the government agents and steal another cow.

**Capitalism:** You have two cows. Sell one cow and buy a bull.

**Surrealism:** You have two giraffes. The government makes you take harmonica lessons.

## **Which Is The Right Choice?: AR-15 Vs. AK-47**

By Tiger McKee - July 26, 2018

Like day and night, the AR-15 and AK-47 were designed for different purposes. Which one is right for you?

The major differences between AR-15 and AK-47:

- AK-47s shoots 7.62x39mm.
- AR-15s were originally chambered 5.56x45mm.
- AKs have a maximum effective range of about 300 yards.
- ARs have a maximum effective range of about 800 yards and beyond.
- The Russian gun operates with a long-stroke piston.
- The American rifle utilizes a variation of the gas impingement system.
- ARs are more modular than AKs.

Debating on whether the AR or the AK is “better” is like arguing whether a Ford Mustang is superior to a John Deere tractor. Both have four wheels, engines and transmissions, but they were designed for completely different applications. The AR and AK do exactly what they were designed to do, and they both do it well.



The AR was a rifle, firing the intermediate cartridge. Only later was it produced as a carbine with a 16-inch barrel. The AK was designed for the 7.62×39 cartridge, and is a large submachine gun.

WWII was the catalyst for both weapons. There was no more trench warfare — the Germans had launched the “Blitzkrieg,” or “lightning war.” This principle relied on tanks, artillery and aircraft, and plenty of ground troops to smash through the enemy, overwhelming their defenses. During the first half of WWII, the Germans were almost unstoppable. Post war, the winners began studying, testing and designing weapons and tactics based on this new paradigm.

The time of the “intermediate” cartridge had arrived. During the war, battle rifles ruled the field. These rifles fired full-size cartridges — the 7.62x54R Mosin Nagant or the American .30-06 M1 — with an effective range of 800 yards or so. Studies from WWII showed fights occurred at much shorter distances, and more rounds fired increased the chances of winning. Full-auto fire used by Germans during the war was the path to victory. The intermediate cartridge, the German Sturmgewher, was smaller and fired from a shorter, lightweight platform and was controllable during full-auto fire. The smaller round also allowed soldiers to carry the ammunition necessary to sustain a high rate of fire.

What’s interesting is that the Soviets, known for their heavy-handed bureaucracy, moved quickly through development and fielding of the AK-47. Design began in 1945, and the

AK-47 was issued to troops in 1949. The United States, known for its innovation, took a longer route. Due to political pressure, financing or stubbornness, the United States adopted the [.308](#) caliber M14 in the mid 1950s. The M14 is still a heavy battle rifle, and the .308's recoil was too much to control on full auto. It didn't perform well against the automatic fire of the AK in Vietnam, and it was replaced by the fully automatic AR-15, known now as the M16, in the mid '60s.

## Design Differences

The [AK-47](#), which was attributed to Kalashnikov but designed by a team, is a simple, rugged and reliable large submachine gun. Although it's simple, don't let that fool you: As Soviet weapon designer Georgy Shapgin said, "Complexity is easy. Simplicity is difficult." In fact, Kalashnikov's original designs were too complex, and the team made hundreds of modifications before the final design.



The AR is a little more complicated than the AK. Here you can see the bolt groups, with the AK components on top, which are not made to be taken apart. The AR allows you to change out things like the extractor or spring without special tools or knowledge.

The AK is easy to manufacture and cheap to produce. The original design used stamped and welded receivers, with furniture made from birch wood laminate, which is cheap and

durable. It was built with loose tolerances, making the AK a “self-cleaning” carbine because its fired dirt and debris were blown out of the AK.

The AR/M16 is almost a direct contrast to the AK. Although Stoner borrowed from others, just as Kalashnikov, the ultimate product was unique. It’s more complex in design and manufacture. The AR-15/M16, originally only offered as a rifle, utilized aluminum, plastic and a unique gas impingement system that made recoil extremely controllable. In design and application, the AR-15/M16 is for professional soldiers.

Due to the AR’s modular design — it’s easy to swap out parts — the civilian market contributed heavily to the development of aftermarket parts. This included free-floating handguards, a variety of barrel/caliber options and improved trigger assemblies, just to name a few. The introduction of the flat-top upper receiver in the early ‘90s was a major factor. Instead of a carry handle, the upper has Picatinny rail on top to attach various sights. The military incorporated many of these features into specialized rifles and carbines.

It took longer for accessories for the AK to come to market. One factor was the lack of availability. AKs didn’t really become popular and available in the United States until the 1990s. Plus, the AK is not as modular as the AR. Today, there are plenty of aftermarket parts for the AK, and radical customizations are available. It’s almost at the point where it’s sometimes difficult to rapidly distinguish between an accessorized AR and an AK.

## **Function Differences**

The AK’s simplicity makes it easy to “learn.” A large number of Soviet troops were uneducated, couldn’t read or write and spoke various languages. You don’t need a technical manual to learn how to operate and maintain the AK: It field strips down into six main parts, which makes it easy to maintain. Critical components with tight tolerances are not made to be disassembled unless absolutely necessary. In fact, it’s so simple it became the standard weapon for child soldiers, small boys forced into combat during the African civil wars of the late 20th and early 21st centuries.



On the left is the .223 Rem./5.56 NATO. In the middle is the 7.62×39, with the newer 5.45×39 round for the AK-74. Each round does exactly what it's designed to. Which one you need depends on what you're doing.

The AR is more complicated than the AK, but its ergonomics are much better. For example, it has a charging handle and a bolt catch. When the bolt is locked to the rear, such as during an empty reload, you use the bolt catch as a release as opposed to cycling the charging handle. This is much more efficient than cycling the charging handle — with the AK the charging handle is used for everything. Once you know the right techniques, it's easy for a right- or left-handed shooter to operate the AR efficiently.

## **Reliability Differences**

Nobody questions the AK's reliability. It has functioned well in every kind of environment and under all conditions. The gas piston design is perfect: You can bury an AK in the dirt, come back a year later, crack the bolt open with your foot on the charging handle, dump some motor oil in it and bang away. AKs work.

Initially, the AR experienced some growing pains due to specs changed in the design and the components used in the ammunition. Since then, it's definitely earned the title of "America's Rifle," and it's the longest serving standard-issue rifle of America's armed forces. Most people think the AR's gas impingement functions too dirty for reliability.

They will run dirty — we have one with more than 20,000 rounds through it without a cleaning. The key, however, is lubrication. Keep your AR “wet” and it will run reliably. At some point you may need to replace an extractor or ejector spring or the gas rings on the bolt, but this is an easy task.

## **Accuracy Differences**

The AK-47 fires a 7.62×39 round (the AK-74, an updated version of the classic, fires the 5.45×39 caliber). Due to its loose tolerances, the AK isn't known for surgical accuracy. It will group 6 inches or so at 100 yards, with a maximum effective range of about 300 yards. For the AK's design and purpose, this was deemed good enough. Today, there are accurized versions of the AK, but to me this goes against the grain of its design.

The AR is built to tighter tolerances than the AK, making it extremely accurate. The first Colt H-Bar I bought in the 1980s shoots 1-inch groups at 100 yards exactly as it came from the factory. With the proper barrel/twist rate and the right ammo, the AR is capable of getting accurate hits out to 800 yards and beyond.

## **Which One?**

So, which one is best for you? I recommend at least one of each! Both the AK and the AR are reliable, easy to shoot and fun, and they perform exactly as designed. I prefer to stick with the original concepts — my ARs are gas impingement and fire .223 Rem./5.56 NATO. My AKs are 7.62×39 with no modifications.

But, if you so desire, you can have an AR with the AK's gas piston design, one that fires 7.62×39 ammo or an AK that shoots .223/5.56 ammo. Regardless of which direction you go, remember that it's up to you to learn how to use it safely and efficiently, and to have the knowledge and parts to maintain it, ensuring reliable service for years to come.

***Editor's Note:** This article originally appeared in the June 2018 issue of [Gun Digest the Magazine](#).*

<https://www.military.com/kitup/2019/02/21/pentagon-says-design-fixes-improve-reliability-new-army-service-pistol.html>

## Pentagon Says Design Fixes Improve Reliability in New Army Service Pistol



The M17 replaces the M9 pistol, the standard Army sidearm since 1986. (Photo: U.S. Army/Sgt. Samantha Stoffregen)

21 Feb 2019

Military.com | By [Matthew Cox](#)

Sig Sauer made a series of design tweaks to the [Army](#) Modular Handgun System last year that have improved the new pistol's reliability when firing 9mm ball ammunition, according to the newest annual report from the Pentagon's weapon's tester.

Both the XM17 and XM18 performed well firing jacketed hollow point ammunition but [failed to meet some of the MHS reliability requirements](#) with standard ball ammunition during the initial production verification tests, or PVT-T, the report said.

"The MHS experienced a large number of stoppages in early developmental testing with ball ammunition," according to the Fiscal 2018 Annual Report from the Defense Department's Director, Operational Test and Evaluation, released Jan. 31. "To improve the reliability with ball ammunition without degrading any of the other attributes of the weapon, the vendor made adjustments to the magazine spring, magazine follower, slide geometry, and the internal components."

Data from the Army Evaluation Center's analysis of PVT-2 reliability testing show that the changes made to pistol and magazine have led to improvements in MHS reliability with ball ammunition, the report states.

Both the XM17 and XM18 exceed the requirement of an average of 5,000 rounds between failures. The XM18, using both ball and jacketed hollow point ammunition, or JHP, exceeds the requirement of an average of 2,000 rounds between stoppages, according to the report.

The XM17 showed marked improvement during the second round of product verification testing but did not perform as well as the XM18. When using ball ammunition, it achieved an average of 1,566 rounds between stoppages, compared to the PVT-1 results of an average of 431 rounds between stoppages. When using JHP ammunition, the XM17 achieved an average of 1,880 rounds between stoppages, a decline when compared to the average of 2,709 rounds between stoppages it achieved in PVT-1, the report states.

The report states that XM17 demonstrated a 93-94 percent probability of "completing one 99-round mission without a single stoppage."

Just over a year has passed since the Army started fielding the MHS and, so far, the service has received 27,000 of the new striker-fired pistols that will replace the Cold War-era [M9s](#) in its inventory.

"At the end of next week, we will be over 30,000" Modular Handgun Systems delivered to the Army, Sig Sauer spokesman Joel Harris told Military.com on Wednesday evening. The company [won the MHS contract in 2017](#).

The service, including Army Special Operations Command, intends to purchase approximately 233,429 MHS pistols, according to the DOT&E report.

Weapons officials recently fielded the new XM17 and XM18 the U.S. Army Military Police School (USAMPS) at [Fort Leonard Wood](#), Missouri.

"The [[Beretta M9s](#)] we currently have are breaking more often, which causes readiness issues," Mark Farley, deputy commandant, said in a recent Army press release.

One of the most popular features on the MHS is its modular grips, which come in small, medium and large for different hand sizes, Farley said.

"The Military Police Corps is about 16 percent female soldiers, so this is a big deal when you're talking about soldier lethality and accuracy," Farley said in the release. "For all soldiers to be able to hold that weapon with a proper grip and use the right fundamentals of firing -- it's very important in order for them to be able to engage the target and thereafter. One size does not fit all."

Another popular feature of the MHS is its consistent trigger pull, said John Scarbrough, an instructor at USAMPS.

"Your first shot is the same as your 17th shot," he said in the release, adding that trigger pull in conjunction with the modular grips should improve accuracy among students.

"Those are the two biggest things that I think will help out whomever is shooting them," Scarbrough said in the release. "We have had students before who had to use two fingers to pull the trigger due to strength because of their hand position, or they're holding the gun in an awkward position so it's not managing recoil."

*-- Matthew Cox can be reached at [matthew.cox@military.com](mailto:matthew.cox@military.com).*

## Performance AR: Build a Mk12 Mod 0

By Patrick Sweeney - August 2, 2018

The Mk12 Mod 0 is a heavily customized AR-15 for mid-range sniper use. Here's how to build your own.

What you need to build a Mk12 Mod 0:

- With parts from PRI, A.R.M.S., Knight's Armament and Leupold you can build a Mk12 Mod 0.
- The Mk12 is a heavy AR-15, super-accurate and ideal for long-range shooting.
- If building isn't your thing, complete Mk12 uppers can be had from PRI, Bravo Company and Brownell's.



After the original Mk 12, the government used Knight's Armament handguards for the Mod 1 version of the Mk 12. If that's the one you want, then go forth and find Knight's hardware to build yours.

The genesis of the Mk 12 was the desire in some quarters for an accurate but not heavy (these things are relative) sniper rifle. The Navy had just adopted the Mk 11, which was the Knight's M110, a rifle chambered in .308, aka 7.62 NATO.

But, not every job calls for a .308, and not every mission can take the weight. A loaded M110 has a “book” weight of 15.3 pounds. As if.



You want a tight fit of the barrel extension in the upper receiver if you wish to wring all the accuracy out of your barrel.

In addition to the optics and the loaded magazine, the already-bipodded rifle gets more gear. Add a [sling](#). Add a laser targeting designator. Add a suppressor. The rifle is soon up to or even over 20 pounds, and that is before the end-user starts stuffing loaded magazines into his tac vest.

All that gear will add to the full-up weight of a [5.56](#) rifle, but it will at least start at a lighter weight, and offer more shots per added pound of payload to the tac vest.

It would seem obvious that rifles are tools used to shoot one's enemies. And in order to do that, they must be accurate.

Ads by Revcontent

**If You Have Ear Ringing Do This Immediately (Ends Tinnitus)**

Ear Clear

**Doctor: Do This Immediately to Get Rid of Toenail Fungus**

Life Naturals

**32 Embarrassing Photos That You Should See**

Routinejournal



The PRI Mk 12 Gen II handguard uses a proprietary nut and handguard locking assembly.

**Building a Mk12 Mod 0**

This is involved, partly because so much of it is not like your normal AR-15 assembly, and partly because the desired end result is an accurate, reliable rifle, and if you cut corners you won't get that.

Start with a ready-to go lower, because that is not unusual. Ideally, you'd use a retro-style A1 lower, but since the Mk 12 was meant to go on whatever was available, you can get away with using an A2 and few will complain. (Oh, someone will, but ignore him.)

The first thing you have to do is source a barrel. After all, the Mk12 is meant to be a really accurate rifle, so building one that won't shoot well is kind of pointless. I opted to go with a BCM Mk12 barrel, because I have had good luck with BCM gear and in fitting and using their parts.



The muzzle brake is also the suppressor thread part, and you need to get the brake aligned so the openings are to the sides.

The barrel is a bull barrel, stainless steel, and with a 1/8 twist. To gain the most accuracy from it, it should be properly bedded into the upper receiver. You can do fine just bolting it in, but to wring the last few bits of accuracy out of it, go with the full-on barrel installation as described in the barrel chapter.

Next up, the PRI handguard.

The PRI handguard uses a proprietary barrel nut, so you'll have to plan ahead and do a bit of juggling.

The nut also includes a rear locking cap. Put the cap on, then the barrel nut, and tighten the barrel nut. You'll have to align the barrel nut for a perfect gas tube clearance, and then use the alignment studs on the rear of the handguard tube, inserting them into the front of the barrel nut.



The PRI handguard assembly comes with an extra rail, the ARMS rail, which adds extra stiffness to the upper by bridging the receiver and handguard.

Now, Gen I of the PRI handguard uses a larger-diameter nut than the handguard tube. The Gen II has a locking nut that is the same size as the tube, but the process is the same. You have to get the nuts precisely aligned, for gas tube clearance and to align the top rail and receiver with the handguard rail.

This is where you want to be careful and precise. The handguard aligns on the barrel nut. The handguard also has to allow for the top rail to be bolted across the handguard rail and the upper receiver rail.

If the handguard tube is the least bit mis-aligned, you will find the two rails and the top connector won't play well with each other. If you try to get it "close enough," you'll have a situation where the tightened-down top rail is stressing the handguard, receiver or both.

Keep adjusting and checking until there is no disagreement and the two rails (handguard and receiver) are in agreement that they are straight and will smoothly be clamped by the top rail. Use a strap wrench to tighten the barrel nut cap. Then install the top rail and clamp it down securely. If you want, you can use blue Loctite or paint-in the nuts once tightened.



The Leupold 3.5-10 scope goes on top, in ARMS 22 medium-height rings. The rings are quick-detach, not that you'll be taking the scope off and putting it back on much. You do it because that's the way the military built it.

The top rail uses five screws. Three of them go across the top, through the slots of the receiver rail. Two others go down from the top of the top rail and screw into the rail of the handguard.

Install the rear sight and paint it in as well. Now we're ready to get to the test-fire stage, once we get the gas block/front sight on.

Once you have the barrel nut in the right place, slide on the gas block/front sight assembly, align the gas tube and tighten the clamping screws. Don't Loctite them yet. Next up, range trip. Use common, inexpensive ammo, and if you are in favor of this process, use the opportunity to break in the barrel. Me, I don't care.

Ideally, you do this at the gun club, with the range to yourself, and on a nice, sunny, dry day. Make sure your rear sight is at the exact center of its adjustment range. Load one round, use the iron sights, and aim at an obvious mark on the hill. Fire. Where did it hit? It most likely was not on-center.

If it hit left, your front sight is too-far right. And vice-versa. Loosen the screws, tip the sight a small amount in the correct direction and tighten the screws. Now take a moment to make sure your gas tube is still properly aligned. Fire again. Repeat this boring, detail-oriented process until your iron sights are hitting dead-center. Your front sight is now aligned and centered, and life is good.



Here's the upper receiver, ready to install on the lower of your choice. The originals were meant to be put onto M16 lowers, but they proved so useful and so popular that they ended up on top of pretty much any lower that got the job done.

Back to the shop, to finish the rest of the build. Once there, loosen one of the two front sight screws, but do not remove it. Hose it and its recess in the sight assembly with wicking Loctite. Tighten and leave it alone. The next day, do the same to the other screw.

Next up, fitting the muzzle brake and suppressor mount. The suppressor alignment collar slides over the barrel, down to the step in front of the gas block/front sight assembly.

There is a small setscrew to hold it in place. In talking about this with my contact, I asked if they did anything more than tighten it. “We used a bit of Loctite to hold the setscrew in place. It held, even without the barrel being dimpled, as you suggested.”

I don’t want to argue with real-world success, but I’d feel a lot better if the collar was more secure than that. But that’s for the end of this process.

With the collar in place, use the setscrew to keep it there and not rattle around or spin. Screw the muzzle brake on, and get it more than hand-tight. Don’t worry if it isn’t timed properly, not yet.

Now, spin off the knurled collar you see on the muzzle brake. That covers the threads for the suppressor.



Of course, you check alignment during assembly. You don’t want to Loctite or Rocksett parts in place that don’t line up. And you use a Geissele tool to check alignment.

Spin the suppressor on, bring it down to seat on the collar, and then use your Geissele alignment rod to check alignment. It should be just fine, everyone involved in this has

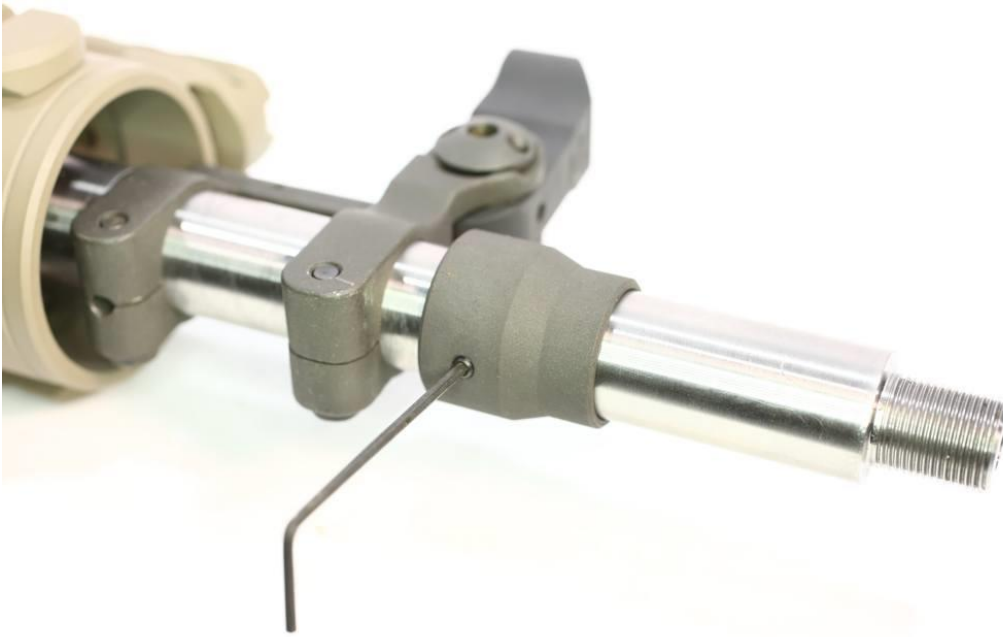
worked hard to keep things correct. If not, you will have to adjust the fit until your suppressor is aligned and central on the bore axis.

The suppressor, if a proper Mk 12 one, is now being made by Allen Engineering, and Ron Allen, the owner, was the guy who made them for the company who was making them for the government. The model is now called the AEM5, and it is a reflex suppressor.

Instead of all of it being forward of the muzzle except for the mounting hardware, a reflex suppressor fits over the barrel. This provides a greater volume for the same overall length, and the first chamber, the expansion chamber, is also much greater in volume. The design also offers greater support for alignment. The two bearing areas, the threads up front and the collar in the rear, keep the suppressor aligned even when banged around.

Reflex suppressors have the disadvantage of being limited to barrels no larger in diameter than the inside of the suppressor overlap tube. But, you get more volume and more quiet without an extra foot of tube on the end of the barrel.

Once you know the suppressor is aligned, you're ready to wrap this part up. Tighten the setscrew enough to mark the barrel. Take it off, dimple the barrel, re-install, and check suppressor fit again. Still good? Pull it off, degrease everything, hose in the Loctite, slide the collar back on and tighten the setscrew.

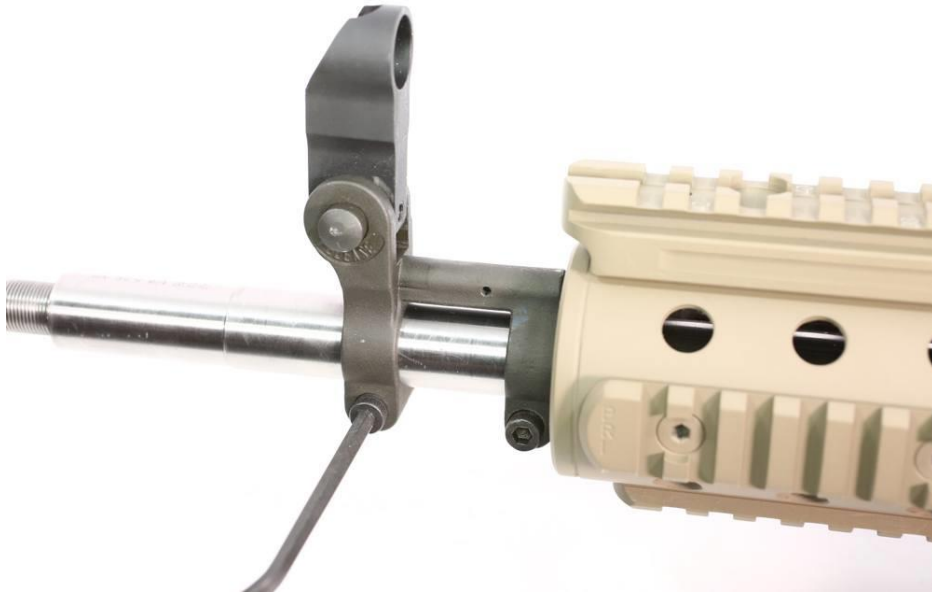


The suppressor alignment collar rests on the shoulder turned into the barrel and is held in place with a simple screw. Ideally, once everything is checked, you'll go back, dimple the barrel at the locking screw location and Loctite the collar on. Now loosen the muzzle brake and hand-turn it until it is as close to the stop shoulder as possible and correctly aligned. This is with the venting directly to each side.

Use a feeler gauge to measure the gap. Assemble a stack of flat washers of that thickness to fill the gap. Hand-screw the muzzle brake on and check. If it stops at about 10 o'clock short, good. If it hand-tightens all the way up to twelve, re-do your washer stack a bit thicker. This is one of those cut-and-try processes; it can't be reduced to a chart of "if this much, use that washer."

Once you have the washer stack the proper thickness, remove all of the brake and washers, degrease the threads, brake, and washer, and re-assemble (once dry) with Rocksett.

Torque up to top dead center. Leave the upper alone for a day. You have Loctite and Rocksett curing, leave them be. Check the assembly in an hour or less, and if you see any of the goo leaking out, wipe up the excess.



The front sight is also the gas block, held in place by two clamping screws. Get them snug, but remember: you'll be loosening them to get the iron sights zeroed, so you don't want to Loctite them in place until after that step.

## Optics for Your Mk12

Once the locking stuff has cured, you are ready to install the optics.

The scope for the Mk 12 is/was the Leupold Mk4, either the 3.5-10×40 M3 or the Mark 4 2.5-8×36. The Mk4 is no longer being commercially made, but you can, if you must have the absolute correct optics, have one made by the custom shop for you. Rather than do that, I opted for a more modern Leupold, the 3.5×10.

When the Mk 12 was being developed there were choices for scope mounts. However, since the top rail, rear sight and other gear came from A.R.M.S., then the scope rings did as well. These are 30mm, throw-lever, individual rings and bases, mounted where the operator finds most comfortable and useful, and allows for the use of other gear.

Put your scope where it works for you, and do not get too wrapped up in poring over photos trying to find the exact set of slots in the top rail "used by SEALs."



The last bolt is down through the top of the top rail, and secures it to the handguard along a different axis than the other locking bolts. If you do your part, this is not going to move.

The big advantage of the Mod 0 over the Mod 1 is the continuous top rail. You can mount the scope or other optics anywhere along the rail, and not have to deal with the gap between receiver and handguard that the Mod 1 presents.

## **Zeroing the Mk12**

Where you zero it to depends on where you will be using it. If you are going to run through a 3-gun or multi-gun match with your Mk 12, well, good for you.

Zero for the distances that will work best in the match, and remember, most match organizers will put you in Open or Tactical Division if you run it with the suppressor on it. You'll be running and gunning against the guys and gals with super-tuned competition rifles. Have fun.



The top rail bolts to the upper receiver by means of through bolts that pass along the notches in the upper receiver rail.

If you will use your Mk 12 as a varmint rifle and hose prairie dogs, then again, zero at the distance most effective for your uses.

If you want to zero it “at the distance operators used,” well, I’ve got some news for you: there’s the “book solution” and then there is the real-world solution.

Once an operator got to where he was going to be using his rifle, he figured out what worked best, adjusted, kept notes, and worked with it.

It’s your rifle, not the government’s, do what works for you.

## **Mk12 Use & Abuse**

The Mk 12 got used a lot in Iraq and Afghanistan. As a precise bullet-delivery tool out to moderate ranges it was just the ticket. One example would be a team going into a village,

not a large one, and putting a fire team with Mk 12 gunner on overwatch, on a hill on the outside. (Better yet, two of them, at a ninety-degree angle to each other, so you get as much coverage as possible.)



The ARMS 40 is designed to ride on the rear of the upper receiver and clear the back end of the added top rail that you will be bolting in place.

Having used magnified optics on the computer pop-up course out to 300 meters, a 10X scope makes a shot like that pretty much like plinking. Stretching it to 400 or 500 meters is a matter of knowing the drop and calling the wind, something in which a Mk 12 operator would have been well-schooled.

Beyond 500 meters, you really need a bigger caliber than the 5.56, as loss in velocity starts to become a real problem. The best ammo for use in this would be the M262 Mod 0 or Mod 1. That 77-grain bullet, by 500 yards, is going less than 1,700 fps and takes three-quarters of a second to get there.



The ARMS 40 rear sight is the correct one for your Mk 12 build.

But you can easily hit a 5" circle at that distance, once you know the drop, which can be pretty steep by then and still, a hit is a hit. With a 300-yard zero, your drop at 500 is 26.5 inches, and that's a bunch to keep track of.

If you are a movie buff and a gun buff, then the movie *Lone Survivor* has Mk 12s used in it. It could also give you ideas about how to paint your Mk 12 once it is done, and what other added accessories might be correct.

## **A Last Note**

If you really want a Mk 12 but find that building one is going beyond your abilities (heresy, in a book like this, but what are you gonna do?) you can always buy one. Yes, PRI and Bravo Company offer complete uppers. Well, complete except for the optics and mounts. And you can hit up Brownells for uppers or complete rifles. The price will be steep, but it saves time, and you have a ready-to-go, guaranteed rifle.

*Editor's Note: This excerpt is from [Gunsmithing the AR-15: Building the Performance AR](#), available now at [GunDigestStore.com](#).*

# Soldier Gets Back Battered Helmet That Saved His Life During Insider Attack



Staff Sgt. Steven McQueen, and his wife Aaron, with a plaque featuring a portion of the Enhanced Combat Helmet that saved his life during an insider attack in Afghanistan last year. (Military.com/Matthew Cox)

4 Mar 2019

Military.com | By [Matthew Cox](#)

Staff Sgt. Steven McQueen still can't believe how quickly he got to his feet after a bullet from an enemy rifle struck him in the back of his helmet during an insider attack in Afghanistan last year.

Two gunmen opened fire on McQueen and fellow soldiers from the 1st Security Force Assistance Brigade from a distance of 20 feet during the Sept. 3 shooting.

"I was surprised that I was able to react [as] quickly as I did because I knew what had happened instantly; I knew I was shot," McQueen, 30, told reporters at [Fort Belvoir](#), Virginia, on Monday.

The bullet tore a large hole in the ballistic material, but the Enhanced Combat Helmet (ECH) stopped the round as it was designed to do.



Staff Sgt. Steven McQueen shows a closer view of the hole the enemy rifle round made when it tore into the Enhanced Combat Helmet. (Military.com/Matthew Cox)  
Officials from Program Executive Office Soldier returned that life-saving helmet to McQueen in a special Personal Protective Equipment Return ceremony Monday.

"There is nothing that I have experienced in my life that can relate it to," McQueen said, describing the sensation of being shot in the head. "If I had to guess, I would say if you stood there and let a horse kick you in the back of the head. ... It was a lot of force."

The two men were posing as Afghan police. One was armed with an AK47, the other manned a PKM machine gun chambered for the more-powerful 7.62x54mm Russian round, McQueen said.

"The plan was the fully automatic machine gun was going to open up on us, and the AK was going to pick us off one by one," he said. "It just so happened that the terrain we were operating in -- there was a chokepoint that we were walking through and it was a perfect opportunity, really, to attack us."

During the ceremony, Brig. Gen. Anthony Potts, head of PEO Soldier, the [Army](#) command responsible for developing and fielding protective equipment, related a story his dad used to tell him.

"My dad used to have this saying. He would say, 'Son, Superman is not brave,'" Potts said. "I think what my dad was telling me was Superman was invincible. He couldn't be hurt. Well, the reality is our U.S. servicemen and women can be hurt."

Potts said the job of PEO soldier is to do "everything we can ... to make them invincible."

"We always hope that there is not an incident where you have to prove out that it really does work. And when those times do come -- Staff Sgt. McQueen experienced one of those times -- we want the equipment to work exactly the way we designed it to work," he said.

"So not only is this a homecoming and a return for Staff Sgt. McQueen. ... What it does for us as a community, for the people at PEO Soldier, is it validates the work that they do on a daily basis," Potts said.

The helmet that McQueen wore was originally developed by the [Marine Corps](#) to provide improved protection from rifle rounds. The Army adopted it and began fielding it to soldiers in 2014.

"What this helmet stopped was a rifle round; that is what that helmet was designed to [do]," said Lt. Col. Ginger Whitehead, product manager for Soldier Protective Equipment. "There is no doubt that Staff Sgt. McQueen would not have survived the impact had he not been wearing that helmet."

PEO Soldier officials have begun an expanded effort to return protective equipment that has stopped enemy small-arms fire or other battlefield threats to the soldiers who wore it, Potts said.

A new process that came out in the fiscal 2019 National Defense Authorization Act allows the Army to return protective equipment involved in a life-saving incident to soldiers who have separated from the service, something that has not been possible in the past, he said.

"Prior to the 2019 NDAA, we really couldn't provide equipment to a separated service member, and now we will have that opportunity here in the near future ... and I think that is going to be a big thing for our community," Potts said.

McQueen, sitting next to his wife Aaron, said the experience has changed his view of equipment that he didn't like wearing in the past.

"So, before this incident ... I thought the helmet was cumbersome and that it was overkill," he said, joking he would have preferred a ball cap. "I was sorely mistaken. This helmet works, and I am a living testimony to it. And from now on, all of my soldiers will wear it. If we are in a hostile environment, they won't take it off. Period."

*– Matthew Cox can be reached at [matthew.cox@military.com](mailto:matthew.cox@military.com).*

## **Easy Rifle Upgrade With Boyd's Gunstocks**

By Richard A. Mann - March 4, 2019

**Got an old friend that needs a facelift? Boyd's Gunstocks builds upgraded replacement stocks for more than 1,200 different firearms.**

How Boyd's Gunstocks upgrades a rifle:

- Use top-grade hardwoods, dried to exacting specifications.
- Sealed with chemical-resistant finishes for durability in all weather conditions.
- Replacement stocks for 1,200 different firearms.
- Prices start below \$100 dollars.
- Options range from standard walnut stocks to full-adjustable laminates.

Tools have handles, and a lot of tool handles are made of wood. Back in the day, the replacement handle business was big business: I helped my grandfather re-handle many a hammer, hoe and axe. Today most folks just buy a new tool when the wood handle on the old one breaks. Rifles are tools too, and their handles — wood stocks — get worn. Fortunately, and mostly because of Boyd's Gunstocks, shooters who break or wear out a rifle handle don't have to buy a new rifle.



Boyd's Gunstocks has been offering replacement stocks for more than 35 years. By using the latest manufacturing machinery and techniques, the engineers at Boyd's Gunstocks can deliver very high-quality rifle stocks for not very much money. The stocks they manufacture are designed to perfectly fit the gun. They only use top-grade hardwoods, every stock is dried to exacting specifications and then they're sealed with chemical-resistant finishes for long lasting durability in all weather conditions. Currently, Boyd's stocks offers replacement for 1,200 different firearms, with prices ranging from less than \$100 to four times that — and average delivery time runs an impressive 10-14 days.

I've been a rifle guy since my father took me on my first squirrel hunt, where I shot a box of 410 shotshells and didn't hit anything but trees and leaves. On our next trip I carried a .22 rifle and have never looked back. I use my rifles hard and the wooden handles get worn. I also like used rifles and am continually scavenging for older models to take hunting or shooting.



The buttstock of the Boyd's At One stock offers an easily adjustable length-of-pull and comb. Both are paramount when it comes to getting right behind a precision rifle.

But, I'm like most other hunters and shooters: I prefer my firearms to look good, and sometimes even unique. This makes me and a lot of other folks the perfect customer for Boyd's Gunstocks. Here are two examples that illustrate the versatility and quality Boyd's delivers.

### **Custom Lever-Action Stocks**

My love affair with lever guns started early and has progressed to an obsession — an expensive obsession. One of my favorites is the Marlin 336 chambered for the .35 Remington. A friend in Florida found me a great deal on a used Model 336 in this chambering, and I had him send it to my custom gunsmith, Jerry Dove, at Dove's Custom Guns.



Dove Custom Guns fit the Boyd's stock to this customized Marlin. They also shortened the length of pull and added a contoured butt pad.

When it arrived, I told Jerry I wanted him to turn it into a very compact takedown rifle. We discussed the details and decided the rifle would need a new handle in place of the plain grain walnut it was born with. I went directly to the Boyd's website and used their dropdown menu to locate my rifle.

The options were quickly displayed, and I was able to choose between a pistol grip or straight buttstock, and between a banded or non-banded forend. I was also shocked to see that they offered 16 different patterns, including plain walnut, a variety of colored laminates — and even XX walnut. I selected the pepper laminate because I thought it would pair well with the matte black Cerakote finish we'd chosen for the metal. The stock and forend cost me \$148.



A takedown lever-action rifle, like this one built by Dove's Custom Guns, is not inexpensive. But prices can be kept reasonable with an affordable replacement stock from Boyd's.

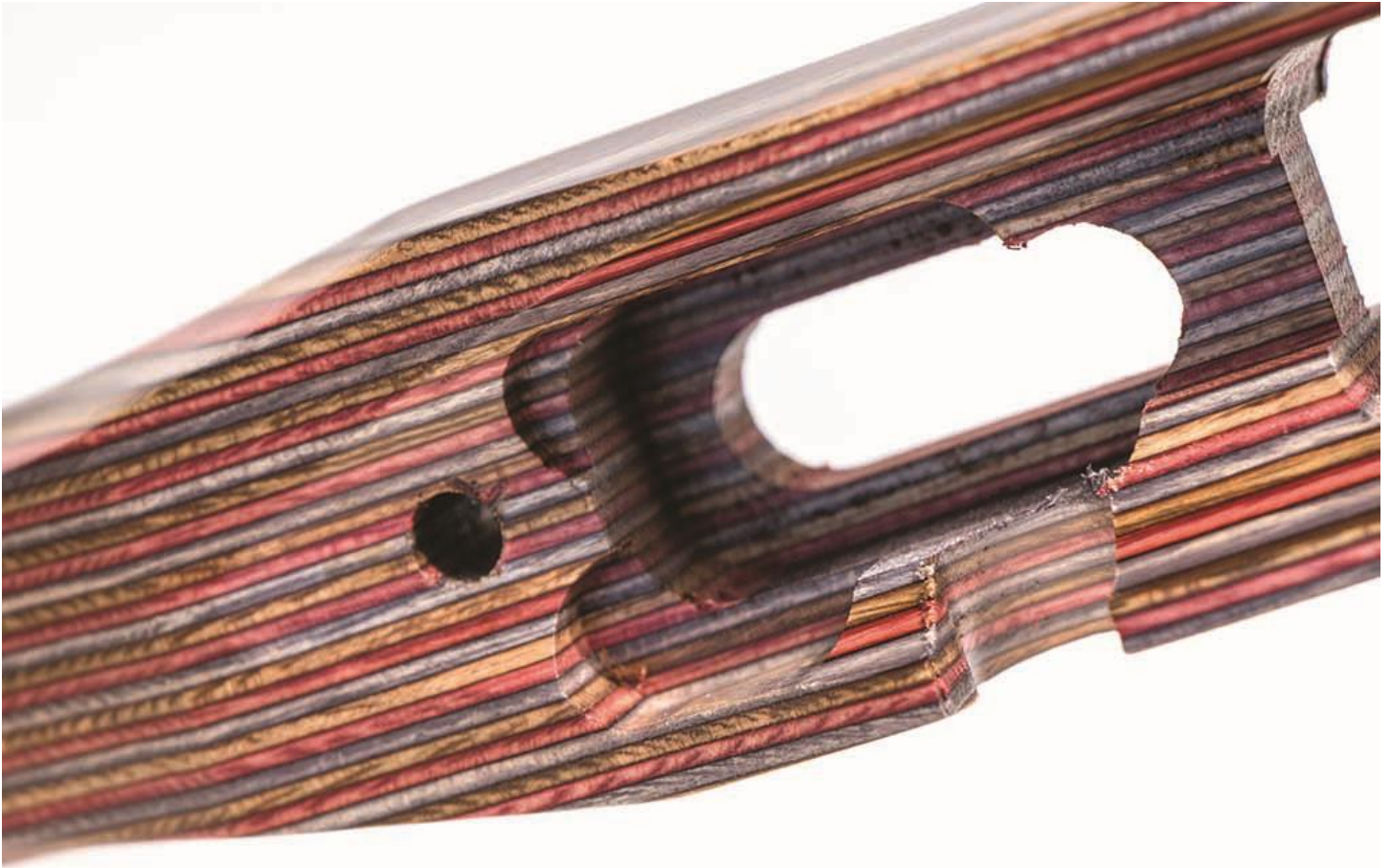
It took about a week for the stock to arrive, and in that time Jerry smoothed the action and trigger, converted the gun to a takedown and Cerakoted all the steel. The stock required minimal fitting for that precision fit Jerry demands, and I also had him shorten the length of pull and add a contoured butt-pad. When all this was done, he added some clear-coat and handed me a gorgeous and distinctive-looking lever gun.

You can refurbish your Model 336 with the same or a similar stock. It'll take a bit of tweaking to get the fit just right, but if you can put a new handle on a hammer, you should not have any problems.

## **Boyd's Stocks For Bolt-Actions**

One of the newest offerings from Boyd's is what they call their "At One" stock. This is a wicked, space-age-looking stock that combines some metal and polymer components, which make it very compatible with about any shooter. Made from laminated hardwoods,

the At One stock weighs about 3 pounds and has a length of pull that's adjustable from 12.5 to 14 inches. The comb can also be raised more than a half-inch — and a half-inch, over-molded rubber recoil pad is standard. It's also available in 11 color patterns, including a cool camo-style Forest pattern and a radical, bright green, Zombie Hunter version.



The Boyd's At One stock is inletted to perfectly fit the barreled action of your rifle. You order the stock for the exact variation of your specific model.

Other cool features include three single-point push-button sling attachment points, replaceable polymer grip and forend sections, and dual traditional sling swivel studs on the underside of the forend for bipod attachment. It's essentially a laundry list of all the popular elements most precision shooters desire in a rifle stock.

I discovered this option at Boyd's Gunstocks while shopping for a new handle for my Marlin 336, and I was intrigued by its features and affordable price. With all the new interest in long-range shooting, lots of folks are looking to swap out their traditional rifle stock for something better configured for the long-range game. To see just how this very

affordable — \$189 — stock might perform, I ordered one for a Remington Model 700 Mountain Rifle that was lying around not getting used.



Like with the modularity of the forend, on the Boyd's At One stock you can also order different grip panels. Installation was easy. In fact, the barreled action just dropped in. A slight tap on the floor plate with a rubber mallet was required, but this resulted in a tight and nice-looking fit. The barrel channel was a perfect match for the thinly tapered barrel; there was plenty — but not too much — room around the barrel to prevent any contact. When you select the Boyd's At One rifle stock you wish to order, you also select the exact model rifle it will be used for. This is how Boyd's Gunstocks makes sure the barrel channel is properly relieved to fit your rifle.

The re-stocked rifle shot just as well with the new Boyd's At One stock as it did with its original handle. I'm confident that with a little bedding work it would shoot even better. You can purchase a professional bedding kit direct from Boyd's for \$14.95. You can also choose from a wide multitude of screw-on At One stock accessories that include many different patterns and colors.

## Rifle Renovation With Boyd's Gunstocks

It's true that most modern rifle stocks are not made from wood. Polymers and plastics, Kevlar and graphite — as well as fiberglass — are the most popular rifle handles of the new millennium. But wood has a long established track record as not only a reliable material for rifle stocks, but one that looks good. With the At One stock, Boyd's has taken the modularization and adjustability of the modern synthetic and even chassis-style stock, and married it with laminated wood, to offer an affordable and attractive alternative. And, it's available for retrofit on many different firearms.



One distinguishing aspect of the At One stock is the modularity of the forend. You can order different forends that attach by two screws to best suit your needs.

Precision-style aftermarket rifle stocks is a growing industry, and some can be very expensive, with some models costing four times what this Boyd's stock sales for. Similarly, if you're retrofitting an old classic, a custom stock maker will ask for a hefty down payment. Before it's over, it will seem like he wants your first born and a night on the town with your wife. Like with my lever-action project, Boyd's stocks can greatly

reduce the cost of revitalizing a rifle. They even have a variety of checkering patterns to choose from, which allows a bit of true customization and uniqueness to your gun.

Just the other day I was visiting my friend, who runs a local pawnshop. On the rack he had a Marlin 336 in 30-30 Winchester. The metal was in great shape and the bore was pristine, but it looked like the previous owner had used the stock for a fence post. The other customers were ignoring that rifle because it looked so rough, but I walked out of there with it and only spent \$146. With another \$148 to Boyd's, I'll have me a great-looking lever gun that cost less than \$350.

Grandpa knew what he was doing all along. The handle wears out long before the tool, and with a little sandpaper, a file and some bedding compound, new handles are affordable to come by, and easy to install. Well, at least the ones from Boyd's are.

For more information on Boyd's Gunstocks, please visit [www.boydsgunstocks.com](http://www.boydsgunstocks.com).

For more information on Dove's Custom Guns, please visit [www.doveguns.com](http://www.doveguns.com).

***Editor's Notes:** This article originally appeared in the 2018 Shooting Is Fun issue of [Gun Digest the Magazine](#).*

## Ammo Brief: The Versatile .243 Winchester

By Gun Digest Editors - December 26, 2018

Developed to handle everything from varmints to medium game, the .243 Winchester remains a flexible and accurate 6mm option.

### What You Need To Know About The .243 Winchester:

- The .308 Winchester provides the parent case.
- Next to .30-06, probably chambered in more rifles than any other cartridge.
- With mono-metal bullets, appropriate for big game.



The .243 Winchester was introduced by Winchester in 1955 for its Model 70 bolt-action and Model 88 lever-action rifles. The .243 Win. was quickly adopted by Savage for its Model 99 lever- and Model 110 bolt-action rifles. All the British and European manufacturers soon began chambering bolt-action rifles for this round. In fact, even Remington, which developed its own 6mm, had to recognize the popularity of the .243 and start chambering its rifles for it.

The .243 (6mm) Winchester is nothing more than the .308 Win. case necked down. Original development and publicity was due largely to the efforts of one gun writer, the late Warren Page, who, along with other wildcatters, worked out a similar version before

Winchester. The .243 Win. is probably chambered in more different rifles than any other cartridge, except possibly the .30-06 Springfield, which is no surprise. The .243 Winchester represents a successful effort to develop a light deer rifle cartridge that could hold its own with the high-velocity .22s for long-range use on small targets — and still be adequate for larger animals. The .243 Win. does this job well. It eliminates the need to own two different rifles for anything from small game and pests up to and including deer and antelope.

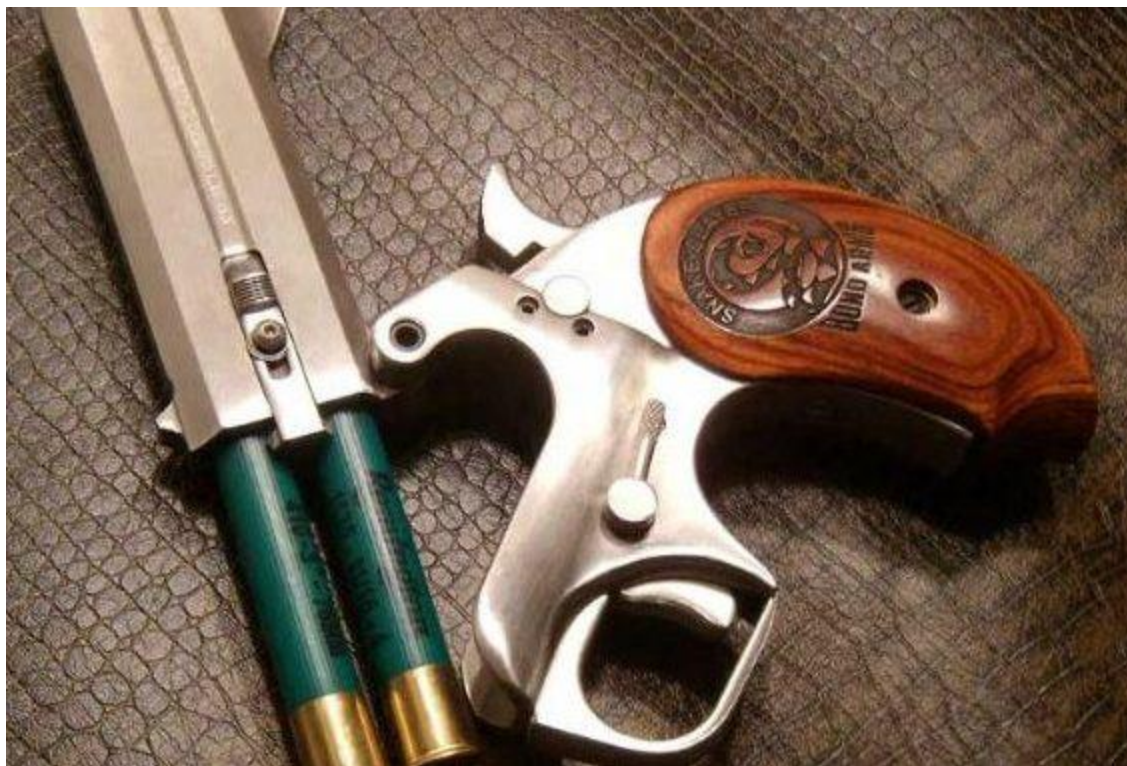
The 80-grain bullet is intended primarily for varmint and small game, and the 100-grain bullet is ideal for deer-size animals. The .257 Roberts and the .250-3000 Savage are supposed to cover the same range and certainly do. All major domestic and overseas manufacturers of commercial ammunition offer this caliber. Its popularity as a deer caliber has prevailed over its varmint capabilities. (Editor's note: The .243 Win. has garnered a reputation among ballisticians for erratic performance. Handloaders should keep this firmly in mind.) In a 2000 press release, Remington announced the availability of electronic ignition .243 Winchester ammunition for use in its new (and now defunct) EtronX rifle. The initial loading uses a 90-grain Nosler Ballistic Tip bullet. Owing to the unique primer, this ammunition will not work in a conventional rifle (just as conventional ammunition will not work in the EtronX rifle). Except for the primer, this ammunition uses conventional components.

Update: The recent introduction of all-copper, mono-metal bullets, such as the Barnes Triple-Shock and Tipped Triple-Shock, the Hornady GMX and the Lapua Naturalis, allow the .243 Winchester, as well as other 6mm cartridges that produce the same or higher velocities, to be very effective on big game while using a faster and lighter bullet. Additionally, Frank Barnes mentioned the erratic performance handloaders could expect when working with the .243 Winchester; while this has become an ever-persistent warning with this cartridge, many handloaders have been building the .243 Winchester for 20-plus years and find it as easy to work with as any other cartridge.

Bullet (grains/type)	Powder	Grains	Velocity (fps)	Energy (ft-lbs)	Source
55 Nos BT	H4895	44.5	4,058	2,010	Hodgdon
75 HP	IMR 4064	40	3,300	1,814	Hornady, Speer
80 SP	IMR 4320	38	3,000	1,599	Speer, Hornady
85 SP	H-380	38.5	3,100	1,814	Sierra
90 SP	IMR 4831	44	3,000	1,799	Speer, Sierra
95 SP	IMR 3031	35	2,900	1,775	Nosler
100 SP	IMR 4350	42	2,900	1,868	Sierra, Hornady
80 SP	FL	-	3,550	1,993	Factory Load
85 SP	FL	-	3,320	2,080	Factory Load
100 SP	FL	-	2,960	1,945	Factory Load
100 SP	FL	-	3,100	2,133	Factory Load

## Snake Shooters: Top 5 Small Game Handguns

The Patriot Caller



Prev1 of 7Next

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Is it necessary to own a different firearm for each species of game that you may need to dispatch? Of course not. That's way over the top and excessive.

But who really collects guns out of necessity anyway? Guns are awesome and more guns is better than less guns. Enough said...

So, we need to address the fundamentals first. Let's consider the definition of a good "snake shooter." A snake shooter needs to be extremely easy to carry, effective at close range, and very safe.

Chances are that you will be operating this firearm in a moment of intense excitement. Thus, safety is a primary concern.

### Compactness

By necessity, a snake shooter needs to be compact, which pretty much rules out long guns. A snake shooter won't be of any use if you leave it back at camp.

Sure, a shotgun will tear a snake in two. A 357 will certainly do the trick. However, if it's too large to carry with you at all times, then it's not a good snake shooter.

### Effectiveness

In the heat of the moment, a snake is a much smaller target than you are capable of accurately hitting (even if it's the biggest rattler you've ever seen). That means that a spread pattern is ideal.

**RELATED:** [11 Shocking Snake Videos You Have to See to Believe](#)

You don't want to empty a revolver just to kill a snake... and find out you missed with all 6 rounds.

### **Safety**

Because a good snake shooter should be extremely packable and portable, it's also essential that it has safety features built-in.

This is a gun that may be carried in a place that's fairly accessible (backpacks, pockets, or holster), not in a case. Thus, revolvers and single action firearms score bonus points.

## **Bond Arms Snake Slayer**

True to its name, this is more or less the ultimate snake shooter straight out of the box, so to speak. So what truly sets it apart?

To begin with, it's a highly compact derringer-style handgun, 6.5" from end to end. At 1.5-pounds, you might even call it "pocket-sized."

The second thing that makes this such a great snake gun is that it comes chambered for .45ACP/.410 from the factory. That means it has the ability to accept a true three-inch .410 shotgun shell, with buckshot even (if that's what you desire).

With buckshot, this gun can dispatch small game, such as varmints, just as easily as it can handle a cottonmouth. The hefty crossbolt safety also you to feel free and confident to carry this gun around wherever you go.

## **S&W Governor**

Look, we're not going to sugarcoat it, Smith & Wesson's "Governor" is pretty much a direct copy of Taurus' popular "Judge" (also on this list).

The only major difference is that one is made by one of the most trusted name in firearms history, the other is made by Taurus. Like the Snake Slayer, the Governor can accept .410 shotgun shells (6 of them), albeit in a shorter 2.5" shell.

It can also accommodate a .45 Colt and .45 ACP, which is nice because the ACP is more readily available and comes in more variety than the Long Colt.

It goes without saying that, thanks to the .410 cartridge, the Governor can shred small game. Weighing in at 1.85 pounds, it's pretty comfortable to carry. But at 8.5" in overall length, you're probably going to want to carry it in a holster.

## **Taurus Judge**

As we've already discussed, you're not going to find too much difference between this revolver and the Governor, aside from the price. The Judge came first and heavily inspired the Governor.

The Judge is roughly the same weight (1.76 pounds) accepts the same size .410 cartridges (5 of them) that the Governor does, as well as the .45 Colt, but not the .45 ACP. As of this writing, there were 14 different configurations

of the Judge listed for sale on the Taurus website. In other words, there's plenty of variety to choose from if you want to go with this revolver.

Obviously, the S&W model has several advantages over the Judge — an extra round in the cylinder and the ability to accept the .45 ACP — at about twice the price.

Here's one more thing to consider about both the Judge and the Governor: Both are great "snake guns" but neither are great at anything else.

So, in case you were thinking that these hybrid revolvers were very multipurpose, they're not. They are great at close range, but don't compare well in accuracy and effectiveness with a shotgun or traditional sidearm.

## **Ruger LCP**

This gun was made famous, in some circles, when Texas governor Rick Perry used one to dispatch a coyote while he was out for a jog. Perry was apparently jogging with his daughter's dog and the coyote was getting a little too close.

But if you're not a Perry fan, don't hold that against the LCP. The key point of that little anecdote was that Perry was carrying the small pistol in his running shorts (apparently).

Weighing in at just over half a pound, this little gun makes a very nice carry weapon — one of the 3 pillars of a good snake gun.

When it comes to safety, the LCP doesn't have one. Instead it has a very long-pull trigger. So keep a round chambered at your own risk.

Then, of course, there's the question of effectiveness. The LCP has a capacity of 6+1 rounds, chambered .380 round that's more than capable of taming a rattlesnake. But as we've discussed, a snake is a small target and the LCP can't chamber a shotgun shell.

The solution to that problem is of course "snake shot" or "rat shot," except that no .380 shotshells are commercially available. Thus, you may want to go with the slightly larger, slightly heavier Ruger LC9 model.

This segues nicely into the next and final selection...

## **Your Favorite Handgun with Shotshells**

If you already own a favorite carry gun in .22lr, 9mm, .40 S&W, .44 Mag, .45 Colt, or .45 Auto, the cheapest option is simply to buy a box of CCI Shotshells.

Unlike a true shotgun shell, these miniaturized shotshells are kind of the same concept, only designed to fit into a rifle or handgun round. They have a lot less shot (tiny pellets) in each round and an entirely different application. That is, you're not going dove hunting with these rounds.

These shells have a spread pattern that is only effective up to about 12 feet, which is ideal for snakes, rats, etc. The advantage is that you can use a handgun that you already own and that you're already familiar with.

Whenever you're going to carry your weapon in snake country, simply load a few shotshells and "old faithful" is transformed into your snake gun.

## **Non-Firearm Snake Getters**

Lastly, we'd be remiss if we didn't mention that you're under no obligation to dispatch all venomous snakes you see with a firearm — if you choose to dispatch them at all.

Even the most ruthless venomous snake does not view a human as a meal. If given the chance, the snake will retreat almost without exception.

**RELATED: [11 Shocking Snake Videos You Have to See to Believe](#)**

However, if you find a venomous snake coiled up underneath your children's swing set, you probably won't feel comfortable letting it go. Nine out of ten times, a shovel or a hoe will be just as effective as a firearm, and a heck of a lot quieter.

## Decoding The AR-10 Lower Receiver

By Elwood Shelton - August 29, 2018

# Understanding the AR-10 lower receiver is key to getting the rifle you want.

What are the specifics on AR-10 lowers:

- Two main receiver patterns: DPMS and ArmaLite.
- DPMS has an elliptical rear cut on its lower, ArmaLite an angular cut.
- Patterns are not cross-compatible with the upper receiver.
- Series B ArmaLite receivers use magazines based off the M14's.
- DPMS and ArmaLite Series B receivers are compatible with industry standard "SR" magazines.
- Nearly all AR-15 triggers can function in an AR-10.
- AR-10-specific triggers generally have beefed up hammers.

AR-style rifles, certainly they're fun to shoot, but that's perhaps only half their story. The aspect that seems to capture shooters' fancy as much as accuracy, ease of use and ruggedness is their simplicity of upgrade. Want an in-your-face carbine, begging for close-quarters action? An AR can do that. How about a long-range system configured to clip a fly's wings well past the 500-yard mark? Again, look no further than Eugene Stoner's eminently talented brainchild.

Upgrading an AR is nearly a no-brainer, at least when talking the smaller AR-15. The civilian rifle has benefitted greatly from its cousins' – the M-16 – military service with a veritable cornucopia of upgrades for nearly every conceivable application. More importantly, the rifle has become standardized, in turn nearly every single aftermarket part is certain to work on your rifle, whether it wears a Colt, Smith & Wesson, CMMG or any other brand. Things get a bit trickier with the big brother of the black-rifle family – the AR-10.



Armalite makes a 7.62 rifle. The older version uses modified M14 magazines.

Scant military use has made building and shopping for the larger-caliber AR a bit more convoluted. Free to design as they please, manufacturers have done exactly this over the years, placing some constraints on how you go about upgrading or slapping one together. Not standardized, it takes additional consideration to get things to work properly with an AR-10; it's not exactly rocket science, but it positively isn't a pick-and-place affair like the AR-15. But once you grasp the fundamentals, you open the door to a whole new world of calibers – .308 Win., 6.5 Creedmoor, .270 Win., just to name a very few. Furthermore, you can expect a rifle every bit as flexible and adaptable as its little brother, just one is a bit fussier when it comes to parts.

The key making the most of an AR-10 is a good foundation of the rifle, the popular patterns and what parts work with what systems. And there's no better place to begin decoding these brutes than, well, they're foundations.

## **AR-10 Lower Receiver**

Aside from calibers, receivers (upper and lower) pretty much define the AR-10 and dictate how you move forward building, upgrading or maintaining your rifle. Even if you plan on buying one off the shelf and leaving it stock, you should give some thought to the heart of the rifle. Sooner or later you'll have to replace a component. When that time comes, your receiver choice could potentially make life easy or difficult.



Top: ArmaLite pattern lower receiver, note the angular rear cut. Bottom: Palmetto State Armory DPSM pattern lower with elliptical cut.

The great majority of AR-10s are one of two receiver patterns: DPMS or LR-308 and ArmaLite (by definition the AR-10). There are others patterns on the market, typically specialized designs that veer from these norms. But since these are generally highly proprietary, we'll stick with what you'll most likely encounter on store shelves and through AR parts dealers.

The differences between the patterns are fine, but particularly notable on the AR-10 lower receiver's geometry. The rear cut on a DPMS lower is elliptical, while ArmaLite's is angled. The means, for the most part, upper receivers only play nice with their own kind. A DPMS pattern upper won't work on an ArmaLite lower, but the inverse will. Not that this is an advisable configuration. You'll have a functional rifle, but one with large breaches between the receivers, begging to invite filth into internal components. Additionally, the gap is right around face level when the firearm is shot, not ideal if ever a case ruptured. There are some other notable differences between the patterns, mainly pertaining to parts, we'll get to that when we delve into AR-10 upper receivers in another post.

A not-so-obvious variance in the AR-10 lower receiver patterns is magazine compatibility. Time was DPMS had a definitive advantage in this facet, using modern magazines based on the original waffle-pattern. Produced by manufacturers such as Magpul and D&H Industries, these SR- or DPMS-pattern magazines were and are readily available and economical.



The SR or DPMS style magazines, such as the Magpul PMAG, are more commonly used.

Conversely, for a spell, ArmaLite turned out their own magazine stock (there were a few other manufacturers) based on the one used by the M14. This changed earlier this decade. ArmaLite introduced what it calls its Series A receivers (Series B is the traditional receiver design), which are compatible with industry-standard magazines based on the waffle pattern. At this point, the newer pattern dominates the company's catalog. Though, Series B AR-10s are readily available.

There are a number of manufacturers who are on each team, though the DPMS perhaps has more. For instance, Fulton Armory, Palmetto State Armory and CMMG all use Gen I DPMS designs. As far as ArmaLite, Knight's Armament and Rock River Arms are notable examples, beside, of course, ArmaLite.

## AR-10 Triggers, Buffer Tubes and Stocks

Following along to the internals and other aspects affiliated with the AR-10 lower receiver, things loosen up quite a bit, given there are a number of AR-15 parts that are compatible. But not all. Bolt catch, magazine catch, buffer, buffer spring and takedown pins are no-goes between the large and small ARs.

However, the platforms can share pistol grips, buffer tube, trigger guard, safety selector (and spring), magazine release button (and spring), trigger guard, buttstock, hammer and trigger. This last component – trigger – is especially nice, opening a veritable floodgate of top-shelf options.



Timney Trigger's Competition AR-10 drop-in unit. Note the beefier hammer.

Love Timney's AR-15 Competition Trigger in your 5.56 rifle? It's at home in your .308. Same goes for a Primary Arms model or TriggerTech or Velocity or what have you.

That said, most trigger makers do offer options specifically designed for the larger-caliber rifle. The difference, they're beefed up – especially their hammers. Some

examples are Jard's single and two-stage .308 triggers and Timney's .308 Drop-In, which have much more meat on their bones. Some shooters swear by them, citing greater durability and reliability. The point is debatable, given there are plenty of cross-purpose AR-15/10 triggers running in the larger-caliber rifle without a hitch.

## **Parting Shot**

Certainly not as clear-cut as shopping for or building an AR-15, decoding the AR-10 isn't an absolute mind bender either. Understanding the difference between the AR-10 lower receivers is a good starting point and lays a solid foundation to the parts of the platform that are a bit more intricate and nuanced – upper, handguard and barrel in particular. More than anything, it's a matter of understanding the rifle's compatibility with parts then shopping for them accordingly. It might seem a slog for a modular system, especially after getting spoiled by the Mil Spec AR-15. But learning the ins and outs of AR-10 pays off with a greater variety of caliber options and a rifle ready to go the extra mile.

## 5 Tips To Make Your Bolt-Action Rifle More Accurate

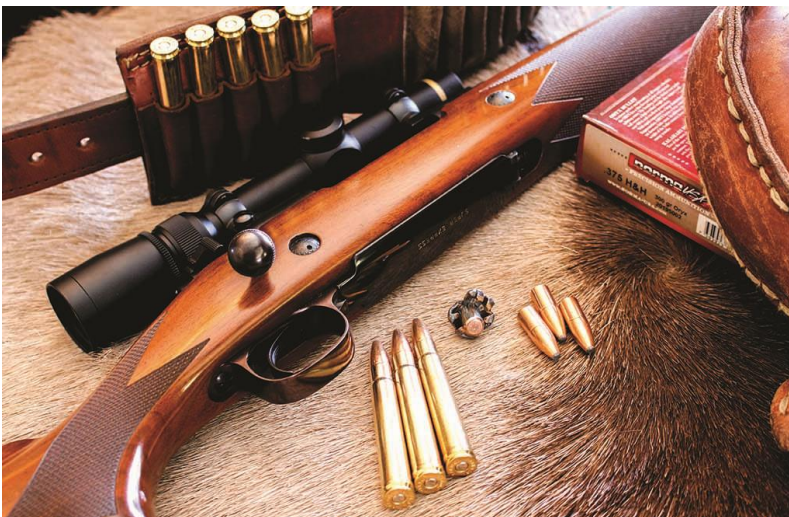
By Philip Massaro - February 14, 2019

Do you have a bolt gun that doesn't perform like it should? Here are five options to get your groups back in the bullseye.

How To Upgrade Your Bolt-Action Rifle:

- [Rifle Bedding](#)
- [Muzzle Crown](#)
- [Trigger Upgrade](#)
- [Stock Rigidity](#)
- [Rings And Bases](#)

It was my first big-bore rifle, and I was beyond excited to own it. It was a classic combination — a Winchester Model 70 in the undeniable .375 Holland & Holland Magnum — and when I headed to the range with several boxes of good ammunition, I was more excited than a kid on Christmas Eve.



Imagine my disappointment when I saw three-shot groups that measured between 2-3 inches at 100 yards.

I was immediately concerned that the recoil was too much for me — up to that point, the .308 Winchester was my main squeeze — so I asked Dad to shoot a few groups while I watched through the binocular to make sure the rifle was all good.

Dad's first shot touched the edge of the bullseye at 2 o'clock, the second struck 3 inches up and to the right, and the third was within a half-inch of the first. Puzzled, I waited to see the second group, and I then noticed a pattern: The second of the three shots was always the flyer, and shots No. 1 and No. 3 were within an inch of each other.

Dad insisted the rifle wasn't happy with the factory load ballistics, so we headed straight for the reloading bench. No matter the bullet weight, type, profile — no matter the primer or powder type or charge — I could not get the rifle to group within 2 inches.

I was near the end, and ready to proclaim the rifle as hopeless, when I made one last-ditch effort: I recalled an advertisement in the Safari Club magazine about a company in Texas who offered a problem-solving service.

On the phone with the good folks at Hill Country Rifles in New Braunfels, Texas, the gentleman on the other end cut me off halfway through the description of the problem and finished my sentence for me. It was like a weight had been lifted ... and the problem wasn't me after all.



The High Desert Outdoor Research anodized aluminum bottom about to be installed in the author's Tikka T3x Lite.

“The Model 70s of that particular era were notorious for having this issue,” he said without hesitation. “It’s a relatively simple fix.”

What I had was a bedding problem, though I may never have known it without that phone call. That was almost 20 years ago, and I’ve learned an awful lot about the subtleties of bolt-action rifle issues. So, I’d like to address the issues I’ve been exposed to, and relate some experiences I’ve had, perhaps to help you recognize some potential problems and save you some grief.

The mechanics of a bolt-action rifle are not all that complex. Among the myriad of forms of repeating rifles, the bolt-action is among the simplest. Yet, the simplicity and strength leads us to expect the finest accuracy from the design. Let’s explore which fixes can be done at home, and which will require the services of a good gunsmith.

## **No. 1: Rifle Bedding**

A rifle's bedding can make or break the way it shoots. If the connection between the action and the stock isn't solid, accuracy is most definitely going to suffer. A good gunsmith can see that your rifle's action is properly bedded, making contact with the stock where it should, to keep things where they were meant to be.

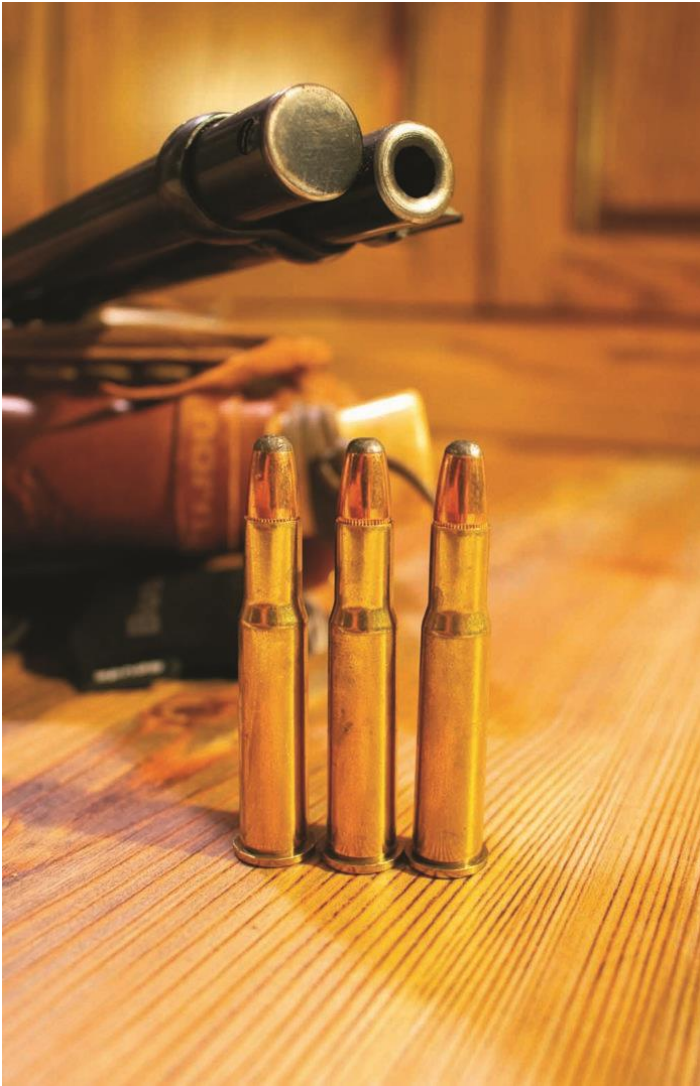
There are some at-home fixes, including epoxy kits that can fill and level the stock inlets, and I know many people who have solved a bedding problem at their own bench.

Aluminum-pillar bedding is a means of providing metal-to-metal contact between the bottom metal and the action, via two aluminum pillars (betcha never saw that coming) that will surround the action screws. They can be set in epoxy in a wood stock once it has been drilled, though I personally feel the drilling is best left to a competent gunsmith with the proper tools, especially if the stock not easily replaceable. Better still, a replacement stock with aluminum pillars already set in the stock can be purchased for your existing action.

There are also complete aluminum blocks that are set into the stocks, which are machined perfectly to match your action's profile. This increases the contact area, as well as the stock's rigidity, all the while keeping things from moving unnecessarily. Bedding issues are not difficult to fix, but they can make a tremendous difference in the accuracy of your rifle.

## **No. 2: Muzzle Crown**

A rifle's crown — that area where the rifling ends at the muzzle — plays an important role in a rifle's accuracy. It needs to be concentric, and it needs to be protected. A ding or burr on the crown will result in errant shot placement; most times the factory crown is just fine, but every once in a while you'll find one that is slightly imperfect.



The crown of the author's Winchester Model 94 .30-30 Winchester, with wear from 3 decades of being cleaned from the muzzle.

I have a .22-250 Remington that groups flat-based bullets very well, but it refuses to digest boat-tail bullets. The issue is an imperfect crown, and the gases are escaping unequally — albeit slightly — with a boat-tail bullet, opening the groups sizes significantly. A simple re-crowning will solve the problem, but it gave me quite an education.

A good, even chamfer is what will provide the finest results, and this is work that most definitely should be left to a good gunsmith. For years, we all carried our hunting rifles muzzle down, against the floorboard of the car or truck — this practice should be avoided because you run the risk of damaging the rifle's crown and affecting the accuracy.

Many of the older lever action rifles — which are usually cleaned from the muzzle end — will show wear to the crown after decades of a grimy cleaning rod wearing against the

muzzle. Should you suspect that your rifle's crown is damaged, regardless of how slightly, find a reputable gunsmith to inspect and possibly correct it.

### **No. 3: Trigger Upgrade**

A sloppy or heavy trigger can easily degrade accuracy, and I often wonder how many hidden tack-drivers are regulated to the back of the safe because of their trigger. When Ruger first introduced the Model 77 Mk II, my Dad bought me one for Christmas in .308 Winchester ... and I had more adventures with that rifle than I could've imagined. But, that trigger was the stuff of nightmares.



A Timney trigger is one of the author's favorite brands of replacement triggers; they're smooth, dependable and reliable. A good trigger can dramatically improve a rifle.

If I recall correctly, the non-adjustable trigger broke at just over 6 pounds, and you'd nearly pass out from lack of oxygen when developing a load at the bench. The rifle would, on a good day, give 1-inch groups (often larger), but once I decided to replace the factory trigger with a Timney trigger, and groups tightened up to a consistent ¾-inch.

Shooting the rifle went from being a chore to a pleasure, all with the simple swap of a trigger.

Timney is just one brand — though it's my favorite — of trigger that can be done at your home workshop. If you don't feel confident in the operation (most companies offer written and/or video tutorials, so you can decide beforehand), your gunsmith will happily replace and/or adjust your trigger.

Now, let me be clear: There's nothing wrong with doing trigger adjustments or replacements yourself, so long as you're well-versed in how the operation works. Should you feel the slightest bit hesitant, take it to a gunsmith — a truly accidental discharge from a mal-adjusted trigger is a scary proposition. Either way, if you enjoy your rifle and want to get the most out of it, a good crisp trigger — with little creep or overtravel — is most definitely the way to go.

#### **No. 4: Stock Rigidity**

I have a nice little Tikka T3x Lite in 7mm-08 Remington; it makes a great gun for hiking the steep parts of the Catskills and Adirondacks. The polymer stock is a well thought-out design, with solid contact between the bottom of the action and the molded recess in the polymer stock. However, in lieu of a metal trigger guard and magazine well, Tikka uses a light-weight polymer, which isn't rigid at all.



The rigid fiberglass stock of the author's Bansner Custom most definitely enhances accuracy. Wood is stunning, but aftermarket polymer and fiberglass stocks will withstand years of harsh environments.

The folks at High Desert Outdoor Research make a black anodized aluminum trigger guard, complete with magazine-release latch. The exchange is a simple procedure, totally worthy of the garage workbench or even kitchen table: Remove the bolt, and using the provided T-25 Torx bit, simply remove the front and rear action screws to remove the barreled action from the stock. The polymer trigger guard will then simply pop out of the stock and you can replace it with the High Desert aluminum model. There are some 0.010- and 0.020-inch washers included, and you might need them as shims to get the magazine to seat properly. The magazine should pop in with an audible snap and have the slightest amount of play at the muzzle end.

The change definitely made an improvement in my rifle, bringing factory loads that were printing 1¼-inch groups down to under an inch, and making the best factory load in this rifle — the 140-grain Nosler AccuBond from Federal Premium — shrink from 1 inch down to 5/8-inch at 100 yards. My rifle required 0.040-inches shimming on both the front

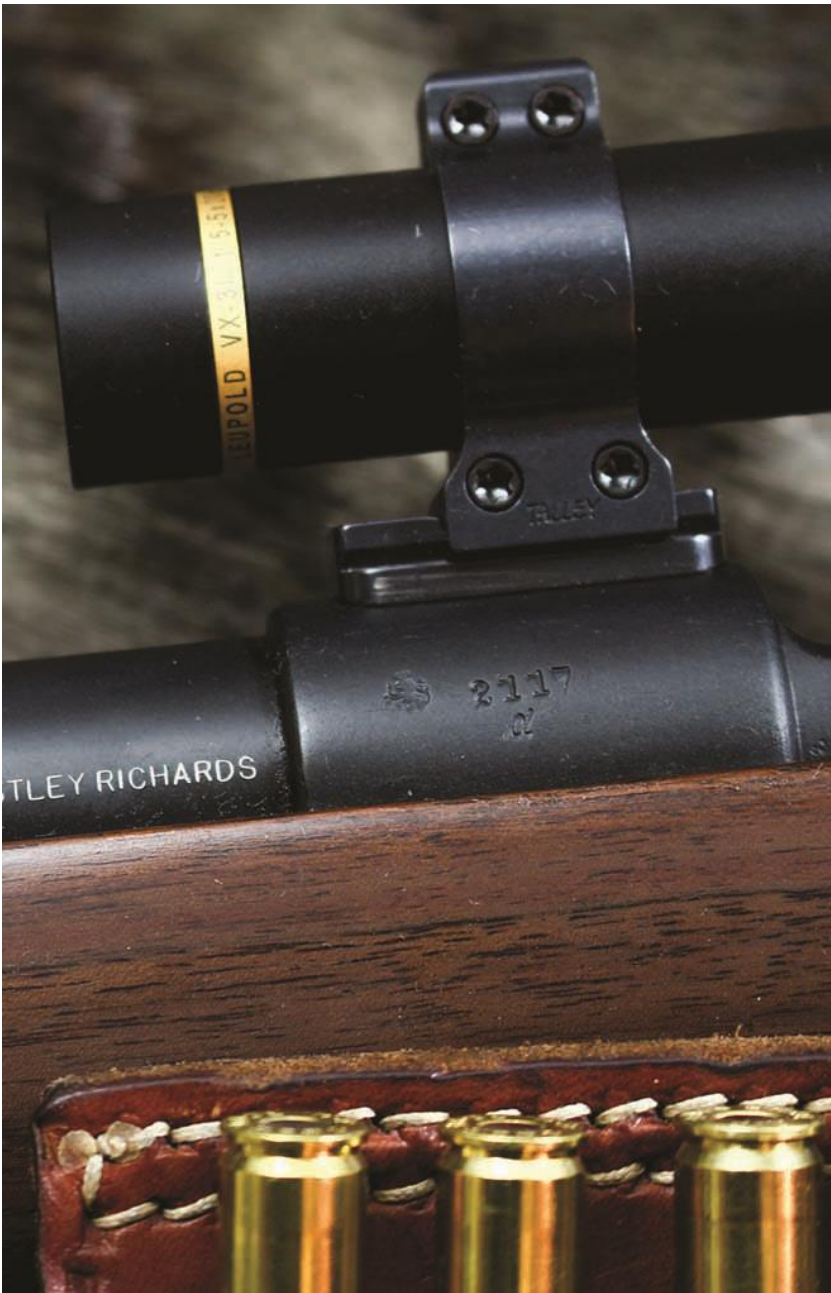
and rear action screw, and I found the magazine is easier to install and remove than it was when it came from the factory.

As a point of note, even though I completely took the action out of the stock and readjusted the action screws, the point of impact moved just about an inch, which goes to show how well the action/stock fit is on these rifles. But, across the board, the High Desert Outdoor Research bottom metal made a marked improvement in accuracy, and it was well worth it. The Tikka T3 line is accurate to begin with, and this simple switch made a good rifle even better.

Note: Sometimes, changing the stock altogether can really make a huge difference as well. A good, rigid polymer stock — I find the McMillan and Bansner stocks to be particularly handsome as well as useful — can remove some of the idiosyncrasies of some wooden stocks. They will certainly resist the plaguing headaches of swollen barrel channels affecting the bullet's flight when hunting in inclement weather. The fiberglass models are especially rigid, and though they certainly lack the charm and allure of a fine stick of walnut, they offer decades of service in the most hostile environments.

## **No. 5: Rings And Bases**

I've spent enough time with inexpensive and poorly constructed scope rings and bases to know they can drive a rifleman nearly insane. These days, I find myself making an unabashed switch to Talley rings and bases — on rifles from .22-250 Remington and .243 Winchester, up to the true big-bores such as the .404 Jeffery, .416 Rigby and .505 Gibbs — they perform flawlessly.



A good set of rings and bases, like the Talleys shown here, can greatly enhance the performance of a riflescope. The tolerances are tight, the manufacturing is consistent, and here's what I like best about them: They mount so well on the receiver that they allow the scope to operate in the center third of its adjustment range, and that's where scopes operate best. The detachable models — which I like so much for the dangerous game rifles, where access to iron sights is very important — return to zero within ½-MOA.

And, they've never let me down: I've had inferior models come loose at the worst possible points in time, like in the middle of a Cape buffalo hunt in Tanzania. There are some equally good brands — many hunters favor Warne rings as well — but I've come

to rely on Talley's products for all sorts of different rifles, without issue. There are less-costly alternatives, but they certainly don't represent the greater value to the shooter or hunter.

These five points above are some different ideas to think about before deeming a rifle unfit. Obviously, there are other possible issues — more serious, and requiring a good gunsmith to tear the rifle down to its basic elements — but with a minimal investment, the ideas presented might radically change the way your bolt-action rifle performs, for the better.

***Editor's Notes:** This article originally appeared in the 2018 Shooting Is Fun issue of [Gun Digest the Magazine](#).*

## How-To: Properly Mounting a Scope on a Rifle

By Steve Sieberts - August 31, 2017

**Mounting a scope on a rifle is one of those things that can seem fairly straightforward on the surface, but once you actually start doing it, it can go sideways very quickly.**

Steps to a precisely mount a scope:

- Cleaning the threads — so they are free of any oil, grease or residue — is key at the beginning of the process, ensuring the screws fit properly.
- Once the screw lengths are checked in the bases, the rings can be mounted, with a keen eye for alignment; there are nifty tools available that precisely line the rings up.
- Side-to-side or angular misalignment can be corrected with a lapping tool and lapping compound; the bottom ring should be worked until there's about 90-percent contact.
- Installing Mark 4 rings and bases, the rings should be torqued to 65 in.-lbs. to ensure a tight mount.

When mounting a scope, you must make sure it's securely mounted and installed on the rifle straight and level. It needs to be securely mounted because, obviously, you don't want it coming off the rifle while shooting. Catching a scope in your lap, when it's supposed to be on the rifle, is not conducive to good accuracy. Also, even slight looseness in the scope can cause huge shifts in the point of impact, especially when [shooting past 100 yards](#).



It may seem like you have the scope on tight, but looks can be deceiving — especially with sharp recoiling firearms. You must follow proper torque settings for each part of the mounting system to ensure rock-solid optics. Straight and level are critical because you want to have available the maximum click adjustments in all directions. If you mount a scope and have to use up almost all of your windage or elevation just to get the rifle zeroed, you'll have little to no adjustment left to account for point of impact variations in different ammunition. The scope reticle must be as mechanically centered as possible to give you the widest range of adjustment.

So for this article I'm going to focus on two types of mounting systems for a centerfire rifle, and the correct way to get the scope securely mounted so it can do its job when needed.

### **Two-Piece Base and Rings**

The first application I'll talk about is the standard, steel two-piece base with scope rings

that utilize a dovetail mount. The dovetail ring fits into the base very snugly by rotating 90 degrees. Many manufacturers use this type of system because it's strong. I prefer two-piece steel bases over one-piece, because with the latter, if the receiver's mounting holes are not lined up with the screw holes machined into the base, tightening the base screws can induce stress into the scope mounting system. Granted, it won't be much, but any stress is to be avoided for maximum accuracy. With the two-piece base, if the front set of screw holes are not aligned with the rear, you can correct that offset somewhat.

To get started, make sure the receiver threads are cleaned of any oil, grease or residue. If rebarreling the rifle, and you have the barrel off the receiver, go ahead and chase out the scope base mounting threads with a good, sharp thread tap. Often the threads have been damaged by attempts from other people to install a scope. Cross threading is a fairly common occurrence with people who are unfamiliar with firearm tools and techniques.

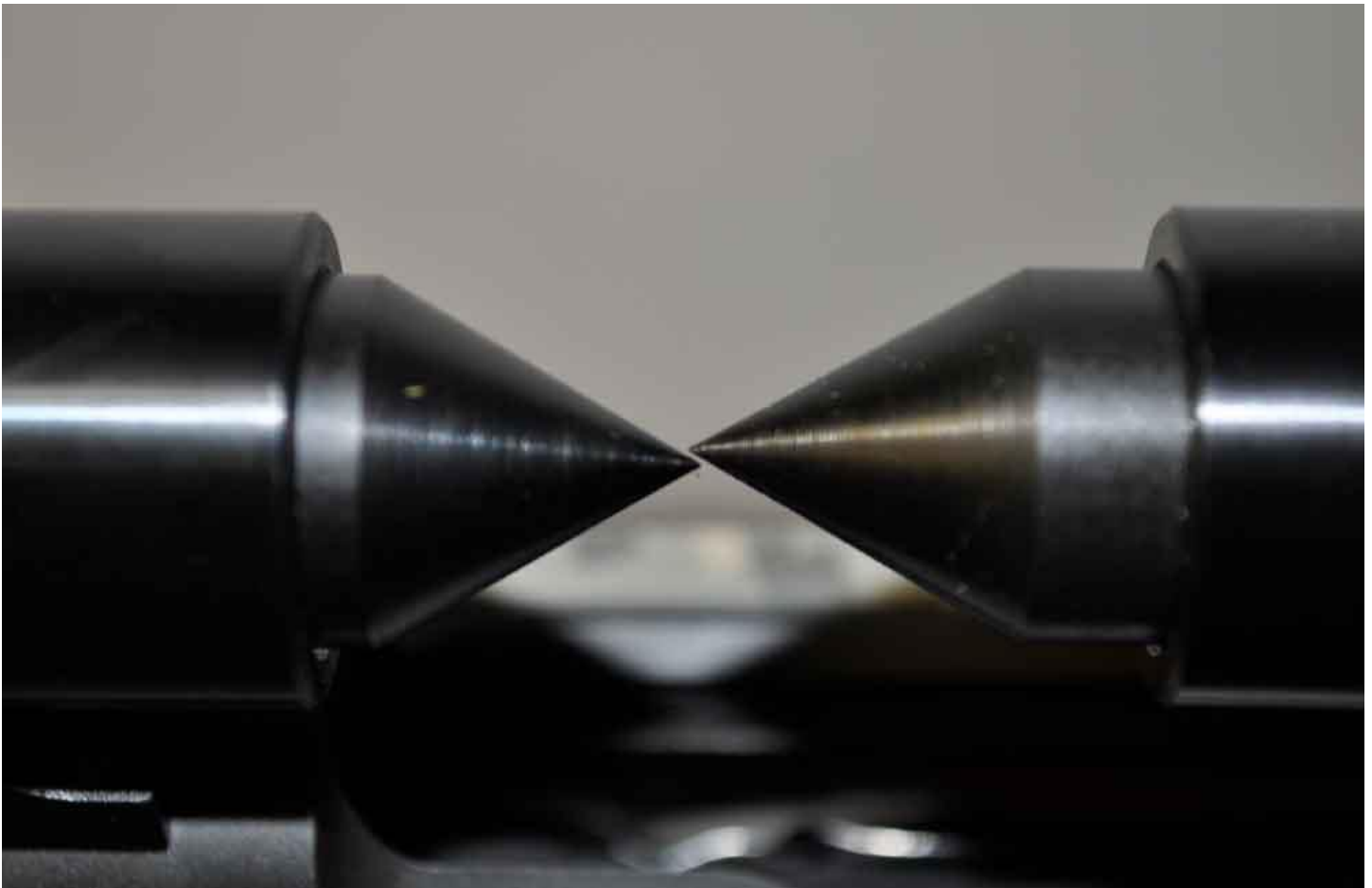


The dovetail system is very strong, but the front and rear ring need to be matched up and aligned for stress-free scope mounting.

If you are removing an old scope and can't get the original screws out, they may have been screwed on too tight, or the wrong thread locking compound was used, probably the latter. Loctite makes various grades of thread adhesive. Blue is for small/fine threads that you want to be removable, red is for threads that you want to be permanent. Green is for larger threads like 1911 compensators that you don't want to remove later. Always use blue Loctite for base screws, and never use any adhesive on the ring screws. If you can't get the base screws off and you suspect someone used the wrong adhesive, remove the scope, and take the barreled action out of the stock. Place a wet towel around the receiver and you can carefully apply heat to the screws with a propane torch to break the bond of the adhesive.

The next step is to degrease the screws and the threads in the receiver. One of the best degreasers I've found is Acetone, but it is highly flammable. Automotive brake cleaner works well, too, and has an additional benefit of being in aerosol form. Compressed air is very useful when mounting scopes, or anytime working on firearms around the home workshop. I have a small air compressor from Sears that I bought new for about \$120.00 that works very well around the shop.

Once the base screws are degreased, mount the front and rear bases without thread locker. Remove the front base screw and look down into the threads of the receiver and the tip of the screws to see if the screw has bottomed out on the barrel threads. If it has, shorten the screw on a bench grinder to make sure there is no contact between the front screws and the barrel extension. Don't use a file on the screws — they are too hard and you will end up damaging the file. Screw the bases down onto the receiver and attach the rings to the base.

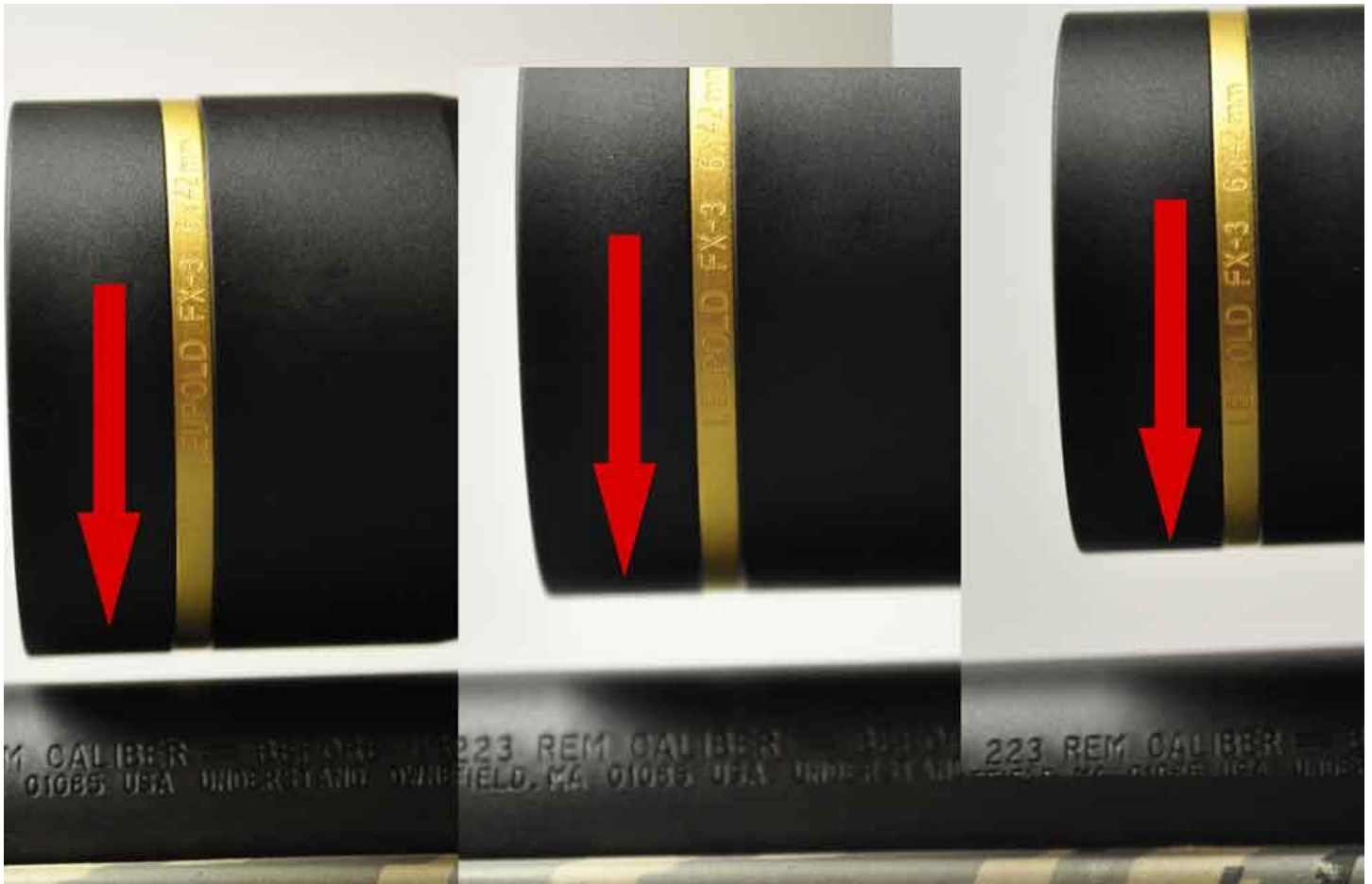


The front and rear scope rings need to be centered with each other. The alignment tool is very useful to see if the rings are misaligned.

With the Mark 4 mounting system explained later, always attach the rings with the large, keeper nuts to the left of the receiver, rather than on the right, as you don't want anything interfering with the proper ejection of cases. However, with the dovetail mounting system, attach the top half of the ring of the front set and rotate the ring into the dovetail with a 1-inch piece of wooden dowel rod; a hammer handle works as well. Leupold makes a handy ring wrench for this purpose. The dovetail system causes the most frequent misalignment issues with regards to the front and rear rings, although you also want to check misalignment with the Mark 4 mounting system. The rear ring is adjustable for windage and you want to get that as centered as possible.

When selecting the rings for your particular rifle, always try to get the correct height for your gun. Most [scope manufacturers](#) offer low, medium and high rings to accommodate various mounting situations. Choose the combination that mounts the rings at the lowest possible height.

With both rings mounted on the bases, check front to rear ring alignment. [Brownells](#) makes a nifty scope ring alignment tool for this task that checks for angular misalignment. With today's modern mounting systems, you will not likely have to shim the bases to get the rings aligned for elevation, but with side to side or angular misalignment you will need to correct with a lapping tool. Install the scope alignment tool onto the rings and lap them with the lapping compound and plenty of oil until you get about 90 percent contact with the bottom ring. When lapping the rings in, rotate the tool side to side as you run it front to back. Use a figure-eight motion. This will put even pressure all the way around the base of the ring. Check your work as you go, keep good contact. Eventually, you will remove the finish from the bottom of the ring and you will see what kind of contact you are getting.



The scope needs to be mounted as close as possible to the barrel, without touching.

Once you have the rings lapped in, remove them and the bases and clean all lapping compound and oil before reinstalling the bases. This time, apply blue Loctite on the base

screws only. I usually clean everything with a good solvent, then degrease using acetone or brake cleaner.

Mark the bottom rings so you don't get them mixed up. Put the mark on the left side of the rings for orientation — a single stake mark on the rear ring and double stake mark on the front ring. This ensures proper orientation after lapping in the rings. Install the bases. Tighten the base screws down using a torque wrench, the 6-48 screws to about 22 in.-lbs., the larger 8-40 screws torqued to 26 in.-lbs.

### **Leupold Mark 4 Mounts and Ring System**

The other type of system I'll cover is the Mark 4 mount and ring system from Leupold, which uses a Picatinny rail for the base. These all-steel ring and base systems are very tough.



The lapping tool, with a small amount of lapping compound, will make the rings round and concentric.

When installing the Mark 4 rings and bases, the large ½-inch keeper screws on the rings should be torqued to 65 in.-lbs. Install the rings and use the scope ring alignment tool to

line everything up. Make sure you have equal gap between the top and bottom rings, this maintain even pressure when you tighten the top ring screws. And it looks much more professional.

***Editor's Note:** This article is an excerpt from [Custom Gunsmithing for Self-Defense Firearms](#).*

Thank you,  
Paul Curtis  
President - CARGO  
[www.cargogunclub.org](http://www.cargogunclub.org)

"If you can read this, thank a teacher. For the fact that it is in English, thank a Veteran."

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