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INSIDE THE ARCHIVE

REMINGTON MODEL 10

#LETS GO SHOOTING • SIGHTING IN FIXED- SIGHT REVOLVERS • A TALE OF TWO COLTS • DOUG KOENIG ON GUNSMITHI...

ORIGINAL METHODS. MODERN ACCESS.

ARCHIVE EDITION 185

DIGITAL ARCHIVE EDITION

Preserved for the bench.

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FROM THE ARCHIVE

#Lets Go Shooting

BY AMERICAN GUNSMITH EDITORS MAY 2019

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Shooting ranges serve a critical role in the continued growth of gun ownership and shooting sports participation. The National Shooting Sports Foundation urges everyone to join us this August for National Shooting Sports Month.

Here are some ways to get involved:

- Host an event or a series of events that are geared towards attracting different audiences.
- List your event(s) on the National Shooting Sports Month website.
- Help spread the word about the event(s) you're planning by utilizing the resources within the promotional toolkit.
- Display the National Shooting Sports Month logo on your website, in your promotions and on social media.
- Encourage active customers/members to invite family and friends to go target shooting.

Visit ShootingSportsMonth.org to sign on today. The promotional picture here is from a recent shotgun event, however, any type of shooting event is welcome.

The NSSF provides a list of different actions that shooters and ranges can take leading up to and during August to celebrate the month.

This year, they are looking to generate more than 2,000 events so anything you can do to help engage your shooting, range, and gunsmithing contacts to encourage their local ranges to get on board and head to the range this August would be great. Any event that can reach abroad audience of shooters, new and experienced, can lead to further First Shots events as well. Everyone is encouraged to add events, promotions, and other shooting activities they have planned to the website.

By doing so, the NSSF will out a promotional package consisting of shirts, hats, and other promotional materials to raise awareness around the month. Visit ShootingSportsMonth.org to sign on today.

MAINTENANCE & REPAIR

Remington Model 10

Marketed as the Remington Repeating Shotgun, the Model 10 is a classic, battle-tested pump action.

BY MARK R. HOLLENSEN MAY 2019

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Original caption: Top: Remington Arms Company Model 10 first listed in their catalog as the "Remington Repeating Shotgun" from the left side. The shotgun was offered in 12 gauge only with a six-shot magazine. The button shown in the center of the receiver is the action bar release. matched. From what I could tell, the action had never been opened up.

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I received a phone call recently from a potential customer, claiming that he had this old shotgun that belonged to his grandfather (his favorite rabbit gun he reported) and that he was in the process of cleaning it up and possibly going to brown the metal.

He went on to say that he had taken the shotgun to two gun shops and was told in both cases that the gun was junk and, "Good luck finding anyone to work on it!" I asked him what the shotgun was and he quickly told me it was a Remington Model 10 pump shotgun in 12 gauge. I had done a little work on one of these in the past, so I asked him what he wanted done to it.

He stated that he mainly wanted the shotgun disassembled so that it could be cleaned and then left disassembled as he wanted to try his luck at browning the metal. After which, he would want my services again to re-assemble it. This seemed pretty straightforward to me and since he claimed it was in top working order, my interest peaked as many of these are typically broken or have parts missing. So, when I told him I would take it on, you can just imagine his delight. He was so very thankful!

Once I had the shotgun in my hands, I quickly found that it truly was still fully operational, albeit a tad sluggish from years of sitting after rusting and collecting household dust. The barrel was not dented; however, it was severely pitted in the bore from black powder use and the lack of cleaning for many years.

But overall, the shotgun was complete, the serial numbers on the barrel, trigger guard, and action all

I decided to do some much needed research on it and was able to find some takedown information and other historical background regarding the old Remington. A Remington Owner's Manual was located in my library and it mostly covers the safe use, care and cleaning, and also a listing of all Model 10 shotguns Remington had produced with their offered value when purchased new.

Besides the Owner's Manual, I found some specific disassembly information with photographs contained within five books in my own personal library. In four of the five manuals, the disassembly steps, historical write up, disassembly drawings, and pho-

tographs were all exactly the same (reprinted). The best resource I found (and possess), however, is The Encyclopedia of Modern Firearms, Parts and Assembly, Volume 1 by F. R. "Bob" Brownell copyrighted in 1959.

This manual has a number of pages covering the Model 10 (among many other firearms) with functioning information, disassembly, how the parts interact with one another, and troubleshooting, along with many great photographs. I had purchased this encyclopedia from Brownells while in Gunsmith School and I have never been disappointed that I did. The cost of this book can and will most likely be recovered after just one repair on an old or obsolete firearm. This is one book that every gunsmith should own.

Model 10 History The Remington Model 10 shotgun had its place in history as a firearm produced many years ago and at that

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This also shows the final locked position of the lever when the action has been re-assembled to the barrel/ magazine tube assembly. Although the mechanism is substantially different, the operation of it is similar to that of the Winchester Model 12 takedown pin. time was considered to be a wellmade shotgun.

Back in 1908 to 1909, the Remington Arms Company produced and introduced anew pump shotgun (later to be known as the Remington Model 10) that was listed in catalogs as the "Remington Repeating Shotgun." This shotgun was a John Pederson (1881-1951) design, and history tells us there were drawings and patents for it as far back as 1903.

Around 1911, the Remington Arms Company became Remington-UMC (Union Metallic Cartridge Company) following a merger and it was then that the Remington Repeating Shotgun became known as the Remington Model 10. As far as serial number dating goes, it was around 1919 (post WWI) that the first serial number of the Remington Model 10 was purportedly found in Remington paper records. That serial number was approximately 172,xxx.

The shotgun on my bench bears the serial number of 196,386, so it was definitely produced after 1920. I have not located any materials that describe serial numbers by date or year as of this writing. In addition to the Model 10, Remington also produced a Model 10-A Trench Shotgun during World War 1, which was reportedly a modified Model 10 with a shortened barrel (23"), the addition of a sling swivel, a wooden heat shield placed over the barrel, and an adaptor lug/mount for the Model 1917 bayonet.

There were approximately 3,500 of these trench guns produced by Remington according to old historical records, with a serial number production range of between 128,xxx to 166,xxx. There were also reportedly some Model 10- As with 20" barrels and others between 26-30" for specific uses. The shotgun on my bench sports a 28" modified barrel and has never been cut down or shortened. According to Remington, Model 10 production stopped around 1929.

According to history, all Model 10 shotguns produced came in 12 gauge only and approximately 275,500 were manufactured. Of interest to me is that these shotguns

were/are "hammerless" (essentially a striker fire type of action), something not common among firearms manufacturers back in that time period.

The various types of these shotguns are listed in the original Owner's Manual, such as the Number 1 "Standard Grade"; the Number 2 "Special Grade"; the Number 3, "Trap Special Grade"; the Number 5 "Expert Grade"; the Number 6 "Premier Grade"; the Number O "Riot Grade"; and a solid matted rib could be had on certain barrels for an additional cost. The Owner's Manual also includes a schematic and parts list, however, the parts list numbering does not match those published in the manuals I reviewed.

The shotgun on my bench has a 2 9/16" chamber. I have run across some chatter among Model 10 owners about this shotgun pertaining to chamber length offerings but there is no definitive source of information that lists this shotgun being offered with a 2 3/4" chamber, at least that I could locate. It is, therefore, imperative that you check the cham-

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This is not necessary unless you are replacing the barrel. Note the solder where someone has repaired a crack or two in the thinnest part of the collar. ber length of your Model 10 (or any old shotgun) before ever introducing alive round to fire it. And, don't make the mistake of using a small steel ruler to measure the chamber. You must use chamber gauges.

I say this because if you were to give ten people a chamber to measure with a small steel ruler (or anything other than a chamber gauge) you will come up with 10 different measurements. Just because you can "feel" the ruler rubbing up against the start of the forcing cone does not mean that is an accurate measurement.

And just because you can chamber a 2 3/4" shell does not mean "since it fits, it will work." Firing a 2 3/4" shell in a short chamber will exponentially increase pressures in a barrel that was never made to endure them. This is due to the fact that when fired, the crimped area of the hull opens outward, and when restricted, will force pressures far beyond those intended for this shotgun. These shotguns were designed and produced to handle black powder shells, which has much lower pressures when fired.

Therefore, my recommendation here is that you never fire any live ammunition from these old guns. And you should never tell a customer or potential customer that it might "be OK a couple of times" with light loads. Folks, you just do not know for sure if the advice will result in a blown barrel and injury to the shooter. It just isn't worth it. In the case of the shotgun on my bench, the deep pitting in the bore makes it especially risky to fire any shotshell through it.

And so, the customer was informed of just that.

Disassembly/Reassembly Having covered the background information on this old Remington, let's proceed with taking it apart. Before you begin, make sure that you have the correct screwdrivers or screwdriver bits for the job and plan on being very patient with the take down operation. This is not a job to be rushed. Getting started, first work the action to be certain there is no ammunition in the chamber or magazine tube.

Open the action and visually inspect the breech and magazine tube follower. Once you are certain it is not loaded, close the action and pull the trigger to take pressure off the firing pin. Begin by pushing the magazine lever from the left side (smaller end) so that it opens up and outward to the right side. Grasp the lever and turn it a quarter turn so that the lever is below the barrel. This unlocks the threads on the magazine tube from the receiver.

Now grasp the magazine lever and align the slot with the barrel band/lug and wiggle it forward while pulling towards the muzzle of the barrel so that the magazine lever clears the barrel band/lug. Once clear, finish pulling the magazine tube and action bar far enough forward so that they clear the face of the receiver. Once clear, turn the barrel, action bar, and forend stock along with the magazine tube assembly clockwise a quarter turn.

Separate the barrel, forend, and magazine tube assembly off the face of the receiver. Those of you that work with the Winchester Model 12 will see distinct similarities here. The barrel has an adjusting bushing like

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Go slow and be mindful as to how the two parts intersect when reinstalling them. the Model 12 so that you can tighten the assembly if it works loose over time. I'll cover that later. With the barrel, forend, action bar, and magazine tube separated from the receiver, continue disassembly of that unit. Begin by locating the magazine lever detent attached to the magazine lever. Use a small screwdriver bit or just pull sharply on the lever to release the detent from the magazine tube plug.

Once the detent is released, the magazine lever and plug assembly can be pulled rearward to clear the barrel lug/band. Once clear, pull down at an angle on the magazine tube and it must go back into the receiver in this same position and not be forced into place. Be careful here during removal. then forward towards the muzzle to separate the magazine tube and forend/action bar from the barrel.

Once separated, return the magazine lever to the closed position within the magazine plug by depressing the magazine detent and in-

serting it back into the plug. What you want to do here is essentially return the magazine lever to the fully closed position. This is necessary so that you can pull the magazine tube out of the forend/action bar rearward.

You will need to turn the magazine tube as you withdraw it from the rear of the action bar so that you align the tabs mounted on the magazine tube with the slot openings on the action bar. This will release the magazine tube from the forend assembly.

With the magazine tube removed, remove the forend nut from the forend wood with a spanner wrench (a Winchester Model 12 spanner wrench works great here.) Unloosen the forend nut and remove it completely as this will now allow you to gently turn and withdraw the action bar from the forend wood. Remove the bar carefully so as not to crack or break the forend wood.

Turning attention back to the magazine tube, remove the magazine tube lever and magazine tube plug (combined assembly) by taking out the two magazine plug set screws

that hold the assembly in the magazine tube. Note here that the magazine plug is under coil spring pressure, so when removing the second plug set screw, hang on to the magazine plug so it does not come flying out. The plug assembly will come out together along with the magazine tube spring and magazine tube follower.

To disassemble the magazine tube lever from the plug, begin by drifting the magazine lever pin out and this will separate the lever from the plug. To remove the magazine lever detent and magazine lever detent spring from the magazine lever, drift the small magazine lever detent pin out and this will release the detent and detent spring. Back to the barrel.

You can remove the barrel lug/ band by removing the set screw that secures it to the bottom of the barrel, but it won't be necessary to remove it for refinishing. To remove the barrel collar from the barrel (located at the breech end) unscrew it counter-clockwise from the back of the barrel. The threads on the

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Look familiar? It resembles and functions like that found on the Winchester Model 12 and is used to tighten up the barrel assembly to receiver fit. The safety is somewhat clumsy to use but does its job. It essentially blocks the trigger from moving when applied in the safe position. Collar are the same as those used to secure the barrel to the receiver. Typically, you wouldn't remove the collar unless you are replacing the barrel completely. The sight bead can be removed with a small bead vise if needed.

This completes the disassembly of the barrel, magazine tube, forend, and action bar assembly that has been separated from the receiver. Reassembly is done in reverse with no specialized reassembly tips needed here. Moving on to the receiver, you'll want to take a break and prepare yourself mentally knowing that patience will be required here. To begin disassembly, first remove the trigger guard check screw from the right side of the receiver. Then, remove the trigger guard screw completely.

Next, remove the tang screw check screw located on top of the tang where it meets the rear of the receiver, then remove the tang screw completely. Grasp the buttstock near the base of the grip area with one hand and use the other hand to pull the receiver forward and off. Do not twist, just pull them apart. The trigger guard will slide out of the receiver along a track and will be secured to the buttstock.

And the reason you should grasp the buttstock further back is now evident—the front of the buttstock is hollow where the trigger

guard was inletted. This is why so many of these shotguns had broken stocks. You'll notice that the trigger and safety stay with the trigger guard. To disassemble fully, first remove the butt plate screws and the butt plate. Using along hollow-ground screwdriver, remove the buttstock bolt and stock bolt washer. This allows the buttstock to pull off the trigger guard assembly.

From here, remove the trigger by drifting out the trigger pin from right to left. This will also release the trigger spring so keep an eye on it when removing the trigger. It is a small coil spring. Remove the safety slide by drifting the safety slide pin out from left to right. Again, keep a watchful eye for the safety slide ball and safety slide spring as they are released when removing the safety slide from the trigger guard.

This completes the buttstock, trigger guard, trigger, and safety disassembly and reassembly is simply reversed. Turning our attention back to the receiver, begin by using a small screwdriver (tip) to lift up on the carrier stop located on the left side of the receiver. It is held in place by the carrier so just lift it up with the screwdriver bit and it will pop out. Now is the tricky part.

The manuals all say to just depress the action bar lock button, and at the same time, pull upward on the rear of the bolt assembly so that it moves past the recoil shoulder. To be honest, I tried this over and over and found that the bolt would not release (move downward out from the recoil shoulder.) After many tries, a close inspection revealed

that the action bar lock was sprung outward and was preventing the bolt from moving downward enough to release it.

I used a small scribe to depress the action bar lock from inside the receiver (between the bolt and receiver wall) and the bolt then slid right down or away from the recoil shoulder. From here, carefully pull the bolt assembly and carrier rearwards until they both are extracted from the receiver. As you pull the two parts rearward, watch the relationship of the carrier and how it locks into the side of the bolt in a track.

With the bolt and carrier removed, access any missing or broken parts contained within the bolt. I did not strip this bolt down because there was no need to and any attempt to do so could weaken or break critical parts that are not yet broken. The customer's plan to brown the action and barrel did not necessitate disassembling the bolt assembly. I did remove the action bar lock button and action bar lock button spring by pressing inward on the button from outside of the receiver.

To break down the bolt further (when necessary), start by removing the sear spring after taking out the sear spring screw. The sear, firing pin, extractor, and extractor spring can now all be removed by drifting out the retaining pins that hold them in place. The action bar lock is removed by drifting out the action bar lock pin. The extractor spring is very thin, so be very careful re-

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2 Action Bar Lock 3 Action Bar Lock Button 10 Barrel Adjusting Bushing 14 Breech Block 18 Stock Bolt 20 Carrier 23 Carrier Stop 25 Cocking Head 27 Ejector Spring 28 Extractor moving it. Again, I would not ever disassemble this bolt assembly unless absolutely necessary to repair it. These guns were handmade to very tight tolerances. When reassembling the bolt and then replacing the bolt into the receiver, simply reassemble in reverse.

Just make certain to start the carrier into the receiver first and then interlock the tail of it with the cutout located on the right side of the bolt and slide them both in together at the same time. Never force this assembly into place. Back to the receiver.

Notice that there is a barrel adjusting bushing, Remington Model 10 (Specifications subject to change without notice) 30 Extractor Spring 31 Firing Pin 32 Firing Pin Bushing 34 Forend 35 Action Bar 37 Forend Nut 38 Guard 39 Mainspring 40 Magazine Lever 43 Barrel Lug 44 Magazine Lever Detent 47 Magazine Tube 50 Magazine Plug 51 Magazine Follower 53 Receiver 55 Safety Slide 59 Sear 61 Sear Spring 64 Trigger 69 Action Bar Lock Shoe barrel adjusting bushing lock, and barrel adjusting bushing lock screw at the face of the receiver.

This design is identical to the Winchester Model 12 bushing assembly and enables the owner to tighten the barrel/magazine tube assembly to the receiver if it becomes loose through use. Unscrew the barrel adjusting bushing lock screw and lift up on the barrel adjusting bushing lock.

Move the barrel adjusting bushing counterclockwise one notch at a time, then reassemble and test fit the barrel fit to the receiver until you get a tight connection (no felt bump between the two when reassembled.) You should not have to force the fit of the barrel to the receiver when adjusted properly. That completes the

disassembly and reassembly of this shotgun. This is one shotgun disassembly that takes a whole lot more to write about than to reassemble it.

With the shotgun disassembled as far down as I have specified, it should only take about 15-20 minutes to reassemble it fully. As far as issues with this model shotgun, I have heard that the carrier causes the most problems; being frail, it breaks easily. And over time, it can lose timing and no longer feed shotshells into the chamber. Since the carrier is so fragile, it can easily break; especially if/when the action is worked harshly or sharply.

These carriers are now extinct, so if you have a gun still in operating condition, be gentle with it. If you get a Model 10 in with broken forend wood, you can still get original replacements for it along with aftermarket forend wood. Parts for this old bottom eject Remington continue to dry up or are already extinct. And as mentioned previously, no one should shoot these old guns because they just cannot tolerate the higher pressures of today's modern smokeless powder.

I talked with my customer about not shooting it and he agreed, it was not worth the chance—both for ruining a working shotgun with such sentimental value and the great risk of injury, especially after I showed him photos of the pitted bore. And so I will await the return of this shotgun from the browning job my customer plans to do on it. I bet she will look beautiful when done and he'll also have a fine working specimen. I feel very fortunate to have had a chance to work with this old shotgun.

It has survived a time long gone and nearly forgotten. I suspect this gun will be handed down through the family for many more years. I can hardly call this shotgun "junk." AG

PISTOLS

Sighting In Fixed- Sight Revolvers

Fixed sights are not readily adjustable but within a gunsmith's ability Here's how to do it.

BY ROBERT K. CAMPBELL MAY 2019

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For much of the first decade of my shooting life I used fixed-sight revolvers. I still use many, including single action revolvers. The first handguns I used were often inexpensive revolvers such as Arminius, Rossi, H&R, and Iver Johnson. I appreciated them and took care of these revolvers but there was only so much accuracy to be coaxed from these humble firearms. Later on I was able to obtain much better quality handguns.

Some of these better handguns were the early import versions of the Uberti single actions and the occasional Smith & Wesson or Colt revolver. With these fixed-sight revolvers I often used Kentucky windage to account for the different point of aim and point of impact relationships as an expedient. I would hold to

the right an inch or two with one handgun and a couple of inches under for another handgun.

This isn't ideal even if you own only one handgun but when the piece fired low it wasn't possible to account for the divergence in both point of aim and point of impact. The author also believes in using plenty of padding and protection for the firearm. In order to hit what I was aiming at and later to help others do the same I learned procedures for regulating fixed-sight handguns. I learned how to regulate the point of impact many years ago and while it isn't trivial, it isn't that difficult either.

Before going forward, it is important to understand that a handgun will fire to a different point of impact with different weight and

velocity loads, so the revolver may only be zeroed for a single loading. If you or your customers think that revolvers will fire to the point of aim with a variety of loads, all will be disappointed. As an example, a .38 Special will fire to a different point of impact with 125 grain and 158 grain bullets. Even windage can be different.

The same goes for the .45 Colt with 165 and 255 grain bullets. In the past, sight regulation was often poor but it depended on the make and caliber. I test fire a lot of modern revolvers, including those with fixed sights. I would say that most modern fixed-sight revolvers are better regulated than those made in the past. Practical experience and an understanding of sight

SIGHTING IN FIXED-SIGHT REVOLVERS CONTINUED

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regulation, bullet weight, and bullet velocity is important. Generations of revolvers are sighted differently, as an example. The vintage Smith & Wesson revolvers I grew up shooting were regulated for 158 grain loads. By the 1970s most service-grade fixed-sight .38 Special revolvers were regulated to fire to the point of aim with 125 grain JHP loads. The early guns usually fired low with lighter bullets and the modern guns fired high with heavier bullets.

Since 110 and 125 grain .38 Special ammunition is among the most popular loads, the modern mode of sight regulation makes sense. Single action revolvers are less likely to fire to the point of aim, especially with older generation handguns. Single action re-

volvers may fire right, left, high, low, or any combination. The easiest problem to fix is when a revolver fires to the proper spot for windage but shoots low with the load of choice.

Possibly the majority of single action revolvers that are "off" are sighted in this manner. The Traditions line exhibits painstaking work and most of the time they are sighted for 158 grain .38s and 250 grain .45s in the respective .38 Special, .357 Magnum, and .45 Colt chamberings. If the revolver fires low, all that is needed is to lower the height of the front sight to raise the point of impact of the projectile. This seems simple enough but care must be taken as you slowly file the front sight.

Less is more and you should file just a little and then test the handgun for regulation. This procedure demands care. Among the things that are sometimes overlooked is the need to protect the finish of the handgun as you modify the front sight. To accomplish this This is a good brace for use when turning a barrel. modification in the proper manner, the barrel must be properly secured and carefully taped in order to protect the finish. The file will slip at some point.

The fact is, no matter how careful you are at some point you will slip on some firearm at some time so take care with each job and carefully tape the barrel. Remember

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that drastic changes come with just a little filing. Also be certain to use the load that will be fired in the handgun in use as you check your work. For testing, I fire from the O. H. Products (Bull Shooter Sighting In. com, Bullshooter Pistol Rest and use a solid bench rest firing position. However, this isn't likely the same as firing offhand so be very specific in taking notes as to how the revolver will be used. As a rule of thumb, the point of impact is higher from the standing position.

Now comes the hard part. If the revolver fires to the right or left we have a greater difficulty. Careful study and note taking is needed before we begin. If the handgun shoots left, the front sight must be moved in the opposite direction that you would move the rear sight. For a handgun that shoots left, the barrel is moved left. The barrel is tightened or loosened depending on the needs of the shooter. I shoot a target and then hang it on the wall bulletin board as I proceed.

This keeps things straight and well organized. Far The author did not throw away this leather wallet as it will be used for protecting the finish of a revolver. Here is how it is done. Mark the barrel and frame with a reference point. I usually mark under the barrel. Note, make any needed adjustments for windage before elevation changes. Elevation is affected as well when you turn the barrel. With a single action revolver I remove the ejector rod and carefully place the padded frame in a vise.

I also use a specially padded tool in moving the barrel. I use custom cut-out wooden blocks that are clamped on the barrel in a strongly-cranked and tight bench vise. The ejector rod housing has been removed. I have a friend that uses a heavy AR action bar to move the frame, however, I use a one-to-two-inch diameter stick. My son fashioned a Norwegian walking stick I call "Heimdall" and I often use it. It is hell for stout and keeps me walking. It is a useful tool!

Another trick: Powdered rosin may be used in the blocks to keep the barrel from slipping. A rosin bag from a music store will work fine. With the grooved top strap and standard front sight, many of the modern single action revolvers do not fire to the point of aim but getting them regulated isn't that great a problem. However, the problem of a single action revolver firing high is the most difficult problem faced as far as sight regulation.

With most revolvers the front sight blade would have to be replaced and this is an expensive proposition. However, there is some hope in simply learning to use the front sight properly. The shooter may simply allow only about half of the front sight blade to rise into the rear groove. With the longest barrels even a third is just fine for most shooting. This is a trick that I learned some time ago and just may save a lot of expense in fabricating a front sight along with much welding and re-finishing. AG

PEOPLE & COMPANIES

A Tale of Two Colts

decide on ideal specs for your builds.

BY ROBERT KOLESAR MAY 2019

ORIGINAL PP. 12-16

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A new Colt .45 Auto is always a welcome addition to the stable. Late last year my semiannual desire for another 1911 returned with a vengeance; a quick check of the safe revealed a critical gap in the Colt lineup. No worries, though. The annual SHOT Show would be coming soon in January; Colt would be there with lots of pistols to see and think about. I was leaning towards another full-sized Government Model .45 with a few extras.

I own several competition-tuned 1911s and a couple of collector-grade Colts but nothing that could be considered a modern, defensive .45. It was time to add another shooter that wasn't just a paper-punching machine. I wanted a Government Model that would be a serious carry gun as well as a fun gun to shoot. Now, the easiest approach would be to buy a basic Colt Series 70 and send it off to a good gunsmith to do the hard work of building it to my specifications; nothing wrong with that.

The downside would be the wait (as much as a year or more) and of course, the added investment beyond the initial cost of the pistol. Good pistolsmithing is expensive; the upgrades I liked would easily cost a thousand dollars or more, depending on who 45 (top) with Bob's 1931 Colt. Both are superb 1911s but the Colt/Clapp is far superior in durability, accuracy and shootability. Far 45 with an El Paso Leather "Austin" holster. Good for its day but there are better, more durable pistols now.

It's still the same superb 1911 that Colt has built for over one hundred years, with a few upgrades that make it a much more comfortable and enjoyable pistol to shoot. And it looks great, too! I did the work. Rather than go that route or do the work myself, I was hoping that Colt would have a .45 that would solve my problem without placing an order with the custom shop. Something beyond just a basic sights and grip upgrade but not a full-blown custom.

The Government Model Wiley Clapp Edition moved to the top of my "gotta have" list after stopping by the Colt booth and seeing one at SHOT. Colt's Wiley Clapp Series Colt has been building the Wiley Clapp series for TALO Distributors in both full-size, Commander and Officer's versions for several years now. The Clapp line has steadily expanded, with lightweight (alloy) frames, 9mm and stainless options now offered. Colt sells every one of these Wiley Clapp Edition pistols they produce.

It's a great pistol, with many features not offered in a factory-stock 1911 handgun. Not a custom shop pistol, but close. Designed for Colt and TALO by gun writer Wiley Clapp, Colt's advertising calls it "everything you need and nothing you don't." I'd have to agree with that, because there

A TALE OF TWO COLTS CONTINUED

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isn't much on this pistol I'd want to change. Before we take a look at the Colt/Clapp Government and its features, let's look at what isn't needed (at least, for me). Good sights are critical but I like mine to be plain black. I've found that plastic, multi-color or three-dot painted sights are worthless for precise shooting. Contrasting, colored sights don't help with rapid target acquisition or better sight focus. Manufacturers think that's what shooters want though, so most pistols get them.

Plain black sights, with a wide rear notch, seem to work best in most Checkering also matches up well with the checkering on the front strap. 45 Government Model pistol, wearing a slim set of plain black VZgrips in G10. A great combo for carry or range work. situations. An exception would be tritium sights if you're working or shooting in low light. Colt has put excellent Novak sights on the Clapp Government, with a very wide, plain black rear notch and a brass bead front.

Focusing on the front bead, especially for newer shooters, is a time-tested idea that works. Ed Mc Givern, one of the great pistol shots of the last century, was a big proponent of a brass or gold bead front. I can live with the brass bead. It's easier to pick up in most lighting conditions and doesn't fade out like colored sights. Both front and rear sights are drift-adjustable for windage. If you don't like the sight as-is, different options are available and easily installed by Novak. Just send them the slide.

The Clapp pistol does not have a series 80 firing pin safety, full-length guide rod, an extended magazine well, a large ambidextrous safety, adjustable sights, extended slide stop or a built-up magazine release. Most of these items aren't needed if you carry a pistol daily. I prefer a standard 1911A1 grip safety but the beavertail on the Clapp Government is very comfortable.

Along aluminum trigger without an over-travel screw (which can work loose and cause a major malfunction), flat steel mainspring housing, and a GI-style thumb safety that's very positive are standard. Some people like a larger safety but a smaller GI safety has less of a chance of being swept off if you carry a 1911 for a living. It happens. One of the best features of the Clapp Government is the checkering. It's perfectly executed, assists in gripping but isn't too aggressive.

After a few rounds on a hot, humid day a good checkering job will keep the pistol firmly seated in your hand. The mainspring housing is also checkered and the edges are nicely blended into the frame. The slim-style Colt stocks match the front strap checkering and aid in grip purchase. They look pretty good, too. I had my old Army bud, former Army Marksmanship The checkering was very helpful in pistol control using 230 grain ball loads as well as hot +P commercial hollowpoints.

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Very nicely done and a great standard feature on a factory pistol. Far It's a great custom touch, too. Unit gunsmith Justin Mc Millan look over the Wiley Government with a critical eye. The only negative he found was the loose fit of the beavertail grip safety, which is typical for a Colt production gun. Front and rear lock-up was excellent; frame to slide fit was also good. Trigger broke at 4.2 pounds with slight creep after take-up and no hammer follow.

Justin adjusted the trigger, removing the creep and putting a slight roll to the break. After tapping the front sight a smidgen to the right, the new Colt was range-ready for testing. New Versus Old I have a 1931 Colt Government .45 that I thought would make for an interesting comparison with the new Wiley Colt. It is definitely "old school", manufactured just a Safety is a small GI type; much more practical on a duty-type weapon.

Beavertail is comfortable, albeit somewhat loosely fitted. few years after the 1911 was modified and renamed the M1911A1 in

1926. Colt quality was at its peak in the 1920s and 30s; fitting, polishing, and bluing that was the norm then would be almost impossible to duplicate today. This pre-war Colt is gorgeous and very collectible but the sights are tiny, the trigger heavy (almost 7 pounds) and it'll malfunction with anything but round-nosed ball ammo.

Slides weren't hardened in the 1920s and '30s (fully hardened slides didn't come out until the very end of WW II), so a large amount of shooting would greatly increase the chance of a cracked slide. Best to keep the round count low with the older guns or better yet, buy a newer 1911. A post-war Colt uses better steel with a hardened, forged slide and frame that will easily take a lifetime of shooting.

The features shooters now demand in sights, reliability, triggers and ergonomics make for a very practical shooting pistol. While it was fun stepping into the past and putting rounds downrange with the older Colt, there are better pistols to shoot and

carry. The Colt Wiley Clapp Edition than the '31 Government Model. The improvements made to this iconic pistol over a century make for an accurate, reliable, and comfortable shooting machine.

LAPD 1911s The .45 pistol and the Los Angeles Police Department go back many years. LAPD SWAT has been using Colt 1911s (each LAPD SWAT Officer is issued two pistols) since the early '70s. Specialized units like SIS (Special Investigation Section) have also carried .45s, including Glocks, double action S&Ws and Kimber 1911s. After the North Hollywood gun battle in 1997, the LAPD authorized .45 pistols for regular patrol. These had to be either S&W 3rd generation double actions or Glock 21s, though.

UNLIKE MOST BIG MUNICIPAL DEPARTMENTS THE LAPD HAS ALWAYS GIVEN THE AV-

A TALE OF TWO COLTS CONTINUED

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Bob had to tap his front sight a touch to the right for a perfect point of aim/ point of impact. Higher or lower sight blades can easily be fitted. An excellent rear sight for precise as well as fast shooting. cop wide latitude on approved carry firearms, with Beretta, S&Was well as Glock in 9mm, .40 and .45 calibers allowed (a few ancient street warriors still carry .38 revolvers). Several years ago the 1911 was added and approved for general use.

So far, the program has worked out well; the in-service five-day 1911 course taught at the academy is very popular and has almost a year waiting list. The LAPD requires that an officer using a 1911 on duty must pur- The Black Hills 230 grain match ball was used exclusively with the older Colt due to being a mild load that would feed in the eighty-six-year-old pistol. chase their own.

Before being accepted in the 1911 school, the officer must shoot a qualifying score of 365 or better (perfect score is a 400) on the

department Bonus Shoot with his or her issued duty weapon. It's a very fast, timed 40-shot qual course with multiple targets, scoring rings, magazine reloads and distances from 7 to 25 yards. All prospective 1911 pistols must be inspected by the department armory; no older GI guns are allowed. Barrels must be a minimum of 4", with modern, highly visible sights.

Only commercial Colts (both Series 70 and 80), Springfield, and Kimber 1911s are authorized; the Wiley Clapp Edition is an ideal option. After the five day school and initial qualification, officers shoot a monthly combat course with their new pistols. It's a difficult training regimen that requires dedication and commitment by the officer that wants to carry a 1911. Jeff Cooper would be pleased. VZ Grips I'm kind of a traditionalist. I don't like strange colors or textures on my pistol stocks.

Laughing skulls don't work, either. You can get that from VZ Grips (VZgrips.com, they'll make anything you want within rea-

son. But you can also order standard grips that feel great in your hand without any extra adornment. I went for the latter option, getting a set of black G10 double diamond checkered stocks that fit the frame perfectly and look great, too. Sometimes less is more.

After a couple of hundred rounds the thin-style grips (or stocks, as Colt lovers call them) still fit the frame snugly and haven't worked loose. There are too many options to describe here; best course of action is to spend an hour or so on their website trying to decide what you want. VZ uses Micarta and G10, both of which are extremely durable and can be machined to close tolerances.

Unlike wood, these stocks will stand up to most any kind of weather or abuse a duty pistol might be subjected to, without shrinking,

A TALE OF TWO COLTS CONTINUED

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Ammo is Federal HST .45 230 grain +P hollowpoints. Bob intended to shoot 10 rounds but quit after 5 due to the very nice group. About the best you can expect from an older gun but still OK. Point of aim was a six o'clock hold with all shots staying in the black, warping or cracking. I just might have to deviate slightly from my plainis-good mantra though and order another set, maybe in black cherry color. VZ will have the thickness, checkering, color and features you want.

They also makes grips for most other semi autos as well as revolvers. One of the best duty Larry was impressed with the build quality and practical accuracy of the Colt. The wide-notched rear sight on the Novak made picking up the brass front bead an easy task. stocks you can buy and they look awesome, too.

Shooting The Colts How to build a match-accurate 1911 was still largely an unknown in the 1930s, so my '31 Colt .45 would be considered "good enough" by the standards of that day with four-to-six inch groups at 25 yards. That's about the best I could muster, shooting from a sand-bagged rest. I didn't do

a lot of load testing with the oldtimer though; only ammo I shot in it was Black Hills 230 grain factory, a mild but accurate match ball load used for Civilian Marksmanship Program Service Pistol competition.

I kept the round count very low (30+ Colt Wiley Clapp Series 70 Government Model Specifications Caliber .45 ACP Capacity one 7+1, one 8+1 magazine included Barrel 5" Weight 38 ounces Sights Fixed Novak wide-notch rear, brass bead front Stocks "Finger-print" pattern checkered hardwood, slim tapered Finish Matte blue frame, polished slide flats Additional Pete Single 25 LPI checkered front strap and flat mainspring housing, long aluminum trigger, beavertail grip safety, GI-style small thumb safety, beveled magazine well Price \$1200.00 (approx.) rounds).

I only wanted to get two or three targets for comparison with the Clapp .45. Before shooting, the recoil spring was replaced with anew 16 pound government issue spring. Not a bad idea if you don't know the round count of your pistol. Springs are cheap; if you're not sure, put anew one in. All the serious shooting I did over a period of three months was

with the .45 Wiley Clapp. It was superbly accurate. Best load was some older Federal HST 230 grain +P I had that shot into one ragged hole.

Next-best was TZZ GI match ball that has a good track record of accuracy in most any .45 I've tried it in. Groups over a sand-bagged rest averaged just under 2" at 25 yards with the TZZ. I also shot one target for fun with the TZZ stuff at 50 yards and was rewarded with a nice, centered group of just over five inches. Not bad for a stock, unaccurized 1911 pistol.

No malfunctions were experienced after close to 600 rounds downrange, using eight different factory loads and three bullet weights (150, 185 and 230 grain). This pistol was highly accurate and totally reliable, out of the box. Replace the recoil spring on a regular basis and it'll stay that way during your lifetime. A couple of minor tweaks and it shot to point of aim with a creep-free trigger. I'll be buying this pistol from Colt.

It's what a modern 1911 Government should be, without a custom-tuned price or a one year wait. AG

METALWORKING

Doug Koenig on Gunsmithing

A skilled gunsmith can customize any gun for improved performance but it takes first hand, higher-level shooting experience to fully appreciate what those customizations need to be. Here's a champion shooter's view on the craft.

BY AMERICAN GUNSMITH STAFF MAY 2019

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Doug Koenig began shooting competitively in 1986 when he entered his first match at the age of 17. Since then, he has amassed more than 70 National and World shooting championships in a variety of action/practical disciplines. They include Steel Challenge, Sportsman's Team Challenge, NRA World Shooting Championship, USPSA, and Precision Rifle Series.

He is best known for his string of NRA Action Pistol wins at the Bianchi Cup as the first shooter to post a perfect 1920x, the highest score ever with an X count of 187, and the most overall tournament wins of 18 total. Koenig, captain of Team Ruger, is also sponsored by Bass Pro Shops/Cabelas, Leupold, Safariland, Hornady, H&M Metal Processing, National Shooting Sports Foundation, Starline Brass, Chamber-View, Otis, and Carbon Express.

He also hosts his own TV show, Doug Koenig's Championship Season on Pursuit Channel. Champion Gunsmithing Koenig has worked with several well-known and skilled gunsmiths through the years who maintain and modify all of his firearms. In addition, he is a 20-time Masters International Championship winner, 22-time Sportsman's Team Challenge Open Champion, and 3time World Speed Shooting Steel Challenge Champion. This ensures peace of mind that his guns are functioning at their peak performance level.

Koenig commented, "Initially, my guns were built by Behlert Precision and Evolution Gun Works (EGWguns.com) when I first began competing. Then EGW began focusing on making parts, so I partnered with George Huening of World Class Pistols for more than 20 years. When I was sponsored by Smith & Wesson, I'd mostly shoot their Performance Center guns and now

DOUG KOENIG ON GUNSMITHING CONTINUED

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I shoot Ruger Custom Shop guns but currently George maintains all my Open class work, especially my Bianchi Cup guns.” George Huening came from the Indy Car world, building for drivers such as Team Marlboro’s Emerson Fittipaldi. He later got into building custom guns and was introduced to Koenig by Rob Leatham.

With design input from Koenig, Huening built the guns Koenig used to win the 1990 IPSC World Championship and 1992 Bianchi Cup. “George Huening produced great work due to his meticulous detail and ability to work on a deadline learned as a machinist and mechanic on a high-level racing team,” said Koenig. “I regularly had a time limit because shooting is my job and George always came through.” Koenig also uses Randy Hollowbush at Handgunner Gun Shop in Tipton, PA for other general gunsmithing needs as he is known for his detail oriented work and all-around gun knowledge.

While the champ has used a number of gunsmiths over the years, Koenig does most of his ongoing maintenance and work himself.

Full builds are done by either a trusted gunsmith or the Ruger Custom Shop, largely for time management reasons. “I’ve been doing this for decades now and have learned from all my gunsmiths and by experimenting throughout my shooting career, step-by-step,” Koenig said. “Unlike auto racing or military-funded shooting teams, I’m on my own at a match and have to be able to make repairs or modifications as needed. I don’t currently own the machinery for machining but I know how to make parts fit for top performance.

For me, it’s a time management thing, rather like a mechanic that doesn’t bother with doing his own oil changes.

A practicing gunsmith can complete a given build in a few hours that would take me much longer as I’m not working as a full-time gunsmith.” Custom Shop Work Doug Koenig is big on encouraging all gunsmith students to undertake apprenticeship years by gaining additional experience and knowledge via shooting competitors in need of a reliable skilled craftsman/tradesman to care for their firearms. “I’ve been competing professionally for decades now and I’ve learned how guns need to function.

I can translate that to the Ruger Custom Shop or a gunsmith with an overall experience level from general gun knowledge up through competition that more casual gun owners simply don’t have.” A number of firearm companies are taking this to heart. Smith & Wesson’s Performance Center, Springfield Armory Custom, and now the Ruger Custom Shop have all enlisted the aid of top competition shooters for their input. Koenig regularly consults with the engineers and product managers at Ruger’s Custom Shop.

To improve their guns Ruger has a product planning meeting that rotates through their Prescott, AZ, Mayodan, NC, Southport, CT, Newport, NH, and Earth City, MO facilities each month. Either with an on-site visit or by conference call, the company seeks an experienced shooter’s input on product design built at that facility. This adds valuable input from a skilled shooter on performance issues that an average shooter may not notice.

Ruger is always striving to improve their guns and Doug was brought on to improve their entire line. A skilled gunsmith can build anything but may not be a great ‘race car driver’ compared to the active competitor with hundreds of thousands of rounds down range. This shooting experience also helps create an evolution in design. Koenig found that George Huen-

DOUG KOENIG ON GUNSMITHING CONTINUED

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ing's work with race car drivers was hugely helpful in becoming a better mechanic by taking input from race results. A skilled gunsmith can build anything but needs feedback to know what to improve. Without that critical feedback, some gunsmiths remain fixated on what they already do instead of what they can expand upon. As an example, Doug drew out the initial design for the barrel shroud that George built on his winning Bianchi Cup guns.

The Ruger Custom Shop did the same thing with their Koenig Competition SR1911, which was their first pistol built. Slide-to-frame fit was of primary importance as Koenig's emphasis is on accuracy, demanding all of his competition pistols be capable of shooting around a one-inch group at 50 yards. The pistol is a stainless steel slide and frame with a Blacknitride+ finish by H&M Metal Processing (Blacknitride.com) fitted with a 1:16 twist 9mm barrel.

Koenig has found this ideal, because it is more versatile to shooters as it handles all common 9mm bullet weights and is especially accurate with lighter bullets compared to the original 1:10 twist intended for 150 grain ball ammo based on the original German specification. A fiber optic front sight and fully adjustable rear sight is ideal for a variety of action shooting disciplines.

Additional Koenig touches include the straight trigger he favors, a Techwell magwell/grip system, and Doug Koenig Shooting Sports 1911 Low Mass Hammer (Patent number Des. 362,709) and sear. This is a great set up for IDPA Custom Defensive Pistol, IPSC Classic, USPSA Single Stack, NRA Action Pistol Metallic Sight, Steel Challenge Limited/Single Stack, and Pro Am Shooting disciplines.

Lessons Learned Professional shooting demands finely-tuned equipment but human skill, for the gunsmith and competitor, remains the most important factor. The skill and experience earned by a champion shooter leads to important trends in firearm design and refinement. As a gunsmith, this kind of feedback can be invaluable. First-hand experience is helpful and anyone interested in firearms, especially gunsmiths, should be involved in at least one competition discipline at some level.

Beyond personal improvement and experience, this can also provide contacts with other knowledgeable shooters. Even without the full resources of a large firearm manufacture and world champion, all gunsmiths can improve and benefit their own work by taking Doug Koenig's and Ruger's example. AG

RIFLES

Hunting Tactical

Rifles can be improved by replacing the stock. Here's how I repurposed a Marlin 60 rifle.

BY ROBERT K. CAMPBELL MAY 2019

ORIGINAL PP. 20-22

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The Marlin 60 .22 caliber rimfire rifle is apart of Americana. Millions have been manufactured and the rifle is considered a workmanlike design that provides yeoman service for hunters and plinkers. As for production I would have underestimated the Marlin 60 as my research revealed over eleven million have been made.

As for performance, not long ago Gun Tests magazine (Gun-Tests.com) found a Marlin 795 (an updated version of the Model 60 with a detachable magazine) was the most accurate rifle tested among four modern rifles. This Marlin is an underrated design in many regards and it doesn't enjoy the same amount of aftermarket accessories as the Ruger 10/22 does but Hunting Tactical (HuntingTactical.com) has changed this. They offer a modern stock for the Marlin 60 and similar rifles such as the 795.

This stock offers surprising versatility, allowing for stock length adjustment with its AR-15 type stock and adjustment of the pistol grip. Even the Picatinny rail mount intended for lights is adjustable. Made of modern, high-impact plastic, this is an interesting option. The stock is a tad more complicated than some and bears an overview. The following procedure outlines the assembly procedure for the rifle. I obtained a good condition but worn Marlin 60 and proofed it.

Two hundred Winchester Wildcat cartridges later I knew it was worth the investment of anew stock. Hunting Tactical's stock is a little more complicated than some competing designs intended for the Ruger 10/22 due to the Marlin 22 rifle a modern appearance. 60 requiring different engineering. The assembly procedure isn't terribly complicated but requires close attention to the instructions and to detail. The tools required are simple enough and you should have them on hand.

A 5/16" Allen wrench is included with the stock kit. You will also need a flat head screwdriver. An AR-type multi tool, spanner wrench or pliers are good to have as well. I used a Caspian multi tool intended for 1911s. Be certain your pliers are controllable, it is easy to scratch the stock with a pair of pliers that are difficult to handle. The package contains screws, fasteners, and stock parts. There are two short screws, seven hex head nuts, three long screws, and a flat washer as well as the Allen wrench.

Also included area locking pin, small roll pin, lock ring, castle nut, lock lever, a pistol grip mount with right and left index, and an adjustable buttstock with a telescoping tube. The stock and components are well made and provided a good fit for the Marlin 60 used in the test. The stock is adjustable and a good point in favor of it is the Picatinny rail that makes mounting optics

or lasers easy. I assembled the stock assembly first. The buttstock and locking lever we laid on the bench.

First, remove the nut from the end of the locking pin. Watch the spring on the end of the pin. Hold the buttstock inverted and insert the locking pin into the hole on the top of the buttstock and into the tunnel/channel below the top of the stock. While it sounds simple enough I found that the buttstock needed to be rolled at an angle to drop the pin in. The pin is pushed through the buttstock so that the pin protrudes a bit from the bottom.

Maintain this angle on the lock pin as you place the locking lever over the pin. Next, the locking nut is threaded over the lock pin. This isn't difficult but most of the time we purchase AR-15 stocks assembled without having to go to this trouble to assemble the stock. It isn't any trouble provided you pay attention to detail and roll the stock to assemble the unit. Small nuts like these are easily cross threaded so be careful here.

The nut must go on far enough that the pin is lined up with the hole in the nut, as far it will go until you're able to observe the hole in the pin. Don't insert the small roll pin yet. The telescoping AR-15-type tube is assembled next. Those that have dealt with the AR-15 stock in the past—and that is most of us—will

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No trimming was needed. find this pretty simple. The castle nut is threaded all of the way onto the tube so that the notches in the nut face the rear of the tube. The notches in the castle nut are facing the other end from the threaded end. The lock ring is then lined up on the telescoping tube with the prong on the lock ring. There is a tab on the lock ring and it should face away from the castle nut. If you are using a single point sling, put the sling adapters on the stock.

Again, no cross threading as you thread on the swivel. The swivel is tightened as you line up the tab on the lock ring with the notch located on the swivel. As The pistol grip is adjustable. the tube is threaded on as much as possible, back it off until the tab on the lock ring is lined up. The swivel now tightens up as you line up both notches and

swivels. The castle nut is tightened using a spanner/AR tool. Next, three nuts go into the hexshaped pocket at the rear swivel end of the receiver.

Two are on one side and one on the other. When you are done these nuts just be flat flush and straight into the receiver. Loctite is a good bet to hold these screws in place. The slotted end of the swivel goes over the receiver and be certain that the receiver and swivel are aligned properly. Another nut goes on the left side of the swivel and along screw is added to the right side. Tighten the swivel but only hand tight. There must be some slack in order to allow a degree of movement.

If these items are not properly aligned there is a good chance the nut will be cross threaded. Easy and evenly is the rule. There are three positions for the stock. This makes ad-

justing the angle when aiming so much easier. You may wish to mount a scope, red dot, or make the rifle suitable for use by a youth. The adjustment is easy and makes for excellent all-around utility. The buttstock is slid over the telescoping tube. This is done by compressing the locking lever and allowing the stock to slide over the tube.

Moving to the stock, install three hex nuts in the forward section. This allows placing the adjustable Picatinny rail on the stock as a forearm. This rail must be installed with the angled end facing rearward. Note, there are three holes in the receiver and only two in the forearm. The line up depends on how the user feels comfortable. Fine tune and adjust the stock for comfortable use. Now to place the action into the stock. Remove the original Model

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60 stock if you haven't already done so. This is simple enough as there is a single large nut on the M60 stock. There are also screws in the trigger guard but be careful as the trigger guard is easily cracked, especially when they have some age on them. Install the magazine port plug, which slides up inside, and the front will fit in the bottom of the stock.

Insert the trigger assembly into the stock and tighten the small screw in front with a flat head. However, there is a stock available as well for removable magazine versions. screwdriver. You will want to install the magazine port shroud as well, tightening the screw down. Be certain the trigger guard assembly is level and fully seated. Again, it is easy to

crack the trigger guard so be careful! There is a small washer inserted into the front hole between the trigger assembly and the stock.

Inserting this washer prevents cracking the trigger guard. The final step is pistol grip installation. Lay the rifle on the left side, placing the left side mount in place. This is the side with the threaded insert. A tab inside is lined up in the mount with the groove in the mounting rail. There are actually three adjustment points that will determine how close to the trigger you want the grip.

If you are setting up a youth model rifle there is certainly enough room for adjustment in this set up as well as for a large adult, a fea-

ture I really like. The teeth in the grip mate to the grooves in the mount and allows an adjustment of the angle of the grip. Place the right sight of the mount on top as you line up the tab and groove with these holes. The last long screw is used to tighten the grip.

Caution, I would not recommend holding this rifle or any other with this type of stock solely by the pistol grip as I think there is a chance the leverage could break it off. The Hunting Tactical stock offers plenty of adjustable, seems well made of good material, and offers an option for the many owners of the Marlin 60. AG Far Simply loosen this grip and the pistol grip may be adjusted for each individual user; a good feature.

READER FORUM

Reader Forum

BY AMERICAN GUNSMITH EDITORS MAY 2019

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Other minor fixes I've applied to my Flues is adding a recoil pad on the gun, though it wasn't my best work. That line adjacent to the stock is DAP Plastic Wood. I've included some photos showing where I installed screws to tighten things up. The screw shanks are thicker than the originals and I worked the heads to minimize their height. Finally, Permatex Ultra Black was applied to the edges of the forend iron and receiver to really snug things. It's not permanent, but it's made a good difference.

One day I'll take it apart but not before I have a good schematic or a model to base the procedure on. Author Mark Hollensen responds. Unfortunately, Ithaca Flues have differences not found on the Fulton or Sterling guns. The top lever cam is different and can also be very different within different Flues models. Much of the take down would depend upon which particular model you have.

There is no doubt that the takedown information in my article could be used as a go-by; just know that there are distinct differences that you will find when going into the shotgun. Unless the shotgun is broken, it may be wise to not open it up. That said, you might want to en-

list the services of a qualified shotgun gunsmith in your area. I would like to say that the go-by in my article will suffice, but that would be very short-sided on my part.

If you do proceed, I strongly recommend that you go slow, take in-depth notes and enlist the help of a good digital camera as you move along so that you can (at least) get it back together. More importantly, you need to be certain that you can replace any part lost or broken/damaged while opening up the shotgun, let alone any part(s) already broken or worn that you find inside that need to be replaced.

And, of course, make sure that you have or make the proper-sized screwdrivers or bits as you don't want to ruin the screws. One wrong screwdriver bit applied to a screw might tear the screw slot open, resulting in having to drill out that screw—something that you really don't want to have to do. The older shotguns utilized softer metals than those being manufactured today. Based on the year of your shotgun, I would be hesitant to fire it and the chambers need to be gauged to ensure they are not short.

Today's ammunition, even light target loads, can produce pressures that your gun was never made to handle. And if the chambers are short, you run the risk of blowing up the barrel(s). Mark Bozek

READER FORUM CONTINUED

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Hi Power Tuneups I am building a Hi Power and enjoyed "Tuning A Surplus FN Hi Power" by Robert Kolesar in the March 2019 issue. I have a complete slide plus extra magazines for a model PJK-9HP. The right side is marked "YG05895 K. B. I. Inc. Harrisburg, Pa." and the left side "FEG Mod. PJK9HP Made in Hungary". This slide has an external extractor, is polished blue, and looks like new. Where can I find the lower half/ frame to go with this slide?

Do you believe it is worth the time and effort to build a completed pistol using this slide? From author Robert Kolesar. Basically, you have some spare parts for an FEG. The frame (lower) is actually the firearm and would be difficult to acquire. My advice would be to sell your upper half (it should be easy to sell on various Hi Power forums) and start fresh with a complete pistol that's a genuine Browning. The FEG is a well-made copy of the Browning Hi Power, but it's still a copy.

Best not to get tied down trying to find a receiver to fit your slide and barrel. You might luck out by finding an FEG that has a trashed slide and/or barrel for low cost if you're willing to look. If you're not that lucky, selling your parts will definitely help in buying a nice Browning Hi Power. Machine Rest? In the article ".22 Nosler" (March 2019) author Joe Carlos mentions a machine rest that he uses for accuracy testing. Can you provide details on what machine rest he uses?

Brad Hider Shreve, OH Author Joe Carlos responds. I use a Stabilisator 3000A1 which was made in France. It is extremely high quality and was priced accordingly (well into five figures) when I purchased it. I believe the company has gone out of business some time ago. I do not know of any of these machine rests left in stock anywhere. Nor do I know of any other commercial machine rests. I have seen other machine rests but all of them were one-of-a-kind custom made.

Truing AR-15 Receivers I've enjoyed the series of articles from Joe Carlos on building matchgrade AR-15s but don't understand why he didn't start truing his receivers by using the right tool. Ideal ways would be to either true the end of the receiver up with a proper lapping tool such as on a lathe, or do it by hand. I would never attempt using a drill or drill press.

I'm sure there are some people that might lap their receiver incorrectly and get the headspace off but if you do it by hand, watch closely what you're doing, and take your time as you go, it works and will create good results. Jim Allison Author Joe Carlos responds. Bolt gun custom builders do square the fronts of their receivers and have been doing so for decades.

I started squaring the fronts of my AR receivers several years back after performing an exhaustive scientific study which lead me to the conclusion that doing so removes about an average of 14% from group sizes. During that study I found that using those tools that fit in a 3/8" hand drill actually do more harm than good. Using that tool, my run out got worse and groups got fatter! I advise that no one reading this reply attempt to square an AR receiver using one of those drill or drill press truing tools.

Gunsmiths squaring the fronts of bolt action receivers do so in a lathe and that is also the proper technique to apply to Stoner platform receivers. Glen Calvert To learn more about AR receiver squaring read "New AR-15 Products" in the June 2018 issue or "Straight Bullets" in the December 2018 issue. Squaring AR receiver front ends is a separate topic entirely from removing the slop between the fit of the barrel extension and the receiver. If done properly, both reduce group sizes.

IF I DIDN'T EXPLAIN THIS CLEARLY, FEEL FREE TO CONTACT ME DIRECTLY AT AG

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