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INSIDE THE ARCHIVE

WORKSHOP AIDS ON A BUDGET

SHOOTER'S BIBLE GUIDE TO TACTICAL FIREARMS • DETAIL CLEANING SHORTCUT • CHIAPPA RIMFIRES • SCOPING HEN...

ORIGINAL METHODS. MODERN ACCESS.

ARCHIVE EDITION 145

DIGITAL ARCHIVE EDITION

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IN THIS ISSUE

Contents

A complete guide to the searchable editorial work preserved from January 2016.

2 Shooter's Bible Guide To Tactical Firearms

AMERICAN GUNSMITH EDITORS • ORIGINAL PAGES 2

3 Detail Cleaning Shortcut

CHICK BLOOD • ORIGINAL PAGES 3-5

6 Chiappa Rimfires

DAVID W. MANNEY • ORIGINAL PAGES 6-9

10 Scoping Henry Lever Action Rifles

NORMAN E. JOHNSON • ORIGINAL PAGES 10-13

14 Glock Custom Barrels

ROBERT K. CAMPBELL • ORIGINAL PAGES 14-17

18 Workshop Aids On A Budget

DICK MAHEU • ORIGINAL PAGES 18-22

23 Reader Forum

AMERICAN GUNSMITH EDITORS • ORIGINAL PAGES 23-24

RIFLES

Shooter's Bible Guide To Tactical Firearms

BY AMERICAN GUNSMITH EDITORS JANUARY 2016

ORIGINAL PP. 2

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Long-range shooting enjoyed a tremendous boost during the Industrial Revolution when the means to mass produce consistently-made rifled firearms became reality. Previously limited to select specialists, rifles were commonly issued by the mid- 1800s. The problem then became how to exploit this new ballistic potential. A similar issue arose by the mid-1900s when militaries wanted to create formalized programs for sniping. The solution to both was found in organized competitive shooting.

There is a fascination in shooting at distance and the ability to place bullets in the same place at distance is a goal to which all shooters should aspire. In recent years the interest in tactical precision rifles has increased, with many factory and custom rifle makers producing readily-available rifles that can easily outperform the ability of many shooters. Performance that was once the province of expensive, custom-only or match-grade equipment has become more common.

Robert Sadowski provides a good overview on all aspects related to precision shooting in the Shooter's Bible Guide To Tactical Firearms. Billed as a comprehensive guide to precision rifles and long-range shooting gear, Sadowski helps new and experienced shooters in making smart equipment purchases that range from rifles and optics to ammunition and gear. The shooting school section provides instructions for those with no formal training.

For experienced shooters, having current information on hand in one place can be an invaluable resource. And no Shooter's Bible guidebook is complete without a detailed products section showcasing rifles from across the market. Other topics covered include the author's top ten long-range rifles, precision rifle maintenance, anatomy of a rifle scope, a brief history of sniping and long range hunting, shooting technique, positions, and drills, and more.

MAINTENANCE & REPAIR

Detail Cleaning Shortcut

An old gunsmith's secret for detail cleaning any firearm quick.

BY CHICK BLOOD JANUARY 2016

ORIGINAL PP. 3-5

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Perhaps you're not impressed with the idea of a quick detail cleaning procedure. Not if you own a sonic parts cleaner with a combination circulation/filtration/agitation system sitting on your bench. Not all gunsmiths can afford such luxury. One old gunsmith who couldn't passed along this means of avoiding the expense. The needed components are inexpensive and readily available.

A rubber squeeze syringe is the central piece of equipment in preparation to remove any handgun, rifle or shotgun firing mechanism crud without initial detailed disassembly. Securing a squeeze bulb for this operation will call for a visit to your neighborhood pharmacy. I caution you against using the household poultry baster as a substitute. The reaction of the resident kitchen master to that happening is too terrible to speak of here. A short commentary about detail cleaning a gun.

I'm among the majority believing the only perfect means of going about it is to begin by breaking the piece down into all its components. All of them. These can be placed in a compartmentalized tray or on a series

of clean paper towels. One by one, they will be inspected for obvious signs of wear or damage, scrubbed with good solvent and a brush, reinspected, and set aside to dry if no need for replacement is apparent or suspected.

Polishing may be called for, such as with pivot pins, ejector rods, the inside surfaces of firing pin assembly tunnels, and the side surfaces other parts that see frequent action, hammers and triggers being notable among the latter. After the polishing has been done and all remnant The age of the items shown reflects their mutually long service lives. The obvious exception is the newly purchased gallon of paint thinner.

Unseen but whose use is all important is a rubber squeeze syringe, wood blocks, and cloth stored within the pan. of the polishing compound flushed away, the part still has to dry. A hair dryer is recommended. A paint remover heat gun is not. Afterwards, the part should be very lightly lubricated by wiping it down with a high quality, pre-treated gun cloth. However, long experience has proven what follows to be true of entirely too many gun owners.

If the weapon is a hunting rifle or shotgun it was probably stashed in a closet immediately after returning from afield last year. There it has sat congealing the unburned powder, hastily applied lubricants (if any) and assorted granules of dirt into a solid, action-slowing mass. Until today. Today is the day before the hunting whistle blows tomorrow to get the season started this year.

In comes the gun from last year asking for a detail cleaning and you, the gunsmith, are near overload with guns promised to be finished. Also tomorrow. Worse, the scattergun is brought in with a target pistol. If both guns have to be done in time for a scheduled pick-up it's best to start with the target gun. Just as likely as the hunting scattergun, it has been stashed since it last was fired. That could have been months ago. Maybe it had its barrel swabbed before reentering the gun box. Maybe.

NOW, LIKE THE SHOTGUN, IT AWAITS YOUR AT-

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Any trimmed down bronze bore brush can be added as more aggressive than those pictured. Attention in its assigned storage space with action untouched. There's another problem. Your reputation. Over the years you've become known for doing good work and delivering it on time at a fair price. As a result, there's a pretty fair assemblage of guns locked up in your secure area that came into the shop before the newly arrived pistol and shotgun.

All have deadlines, not as critical as the new duo, but deadlines nevertheless. Delivery dates have been assured. Missing any wouldn't be best business. You run a mental check of the coming day's schedule and how to best serve of all customers concerned. The next match looms 35 miles away with first relay at 8:30 AM sharp. That's OK. You can begin clean up of both weapons as soon as they get dropped off. That would happen about five minutes before you close up.

Said owner will pick up both about 7:00 AM, box the pistol, secure the shotgun in the car for transport, make the first relay, fire the match, box the pistol again, and be able to enter awaiting duck blind before the season starting horn sounds. Piece of cake? No way. But this particular gun owner happens to be a frequent and good customer; a keeper for sure. Plan Of Action So, what's the plan of action?

What you can see in the basic setup is a covered aluminum pan (plastic also works), a gallon jug of hardware store variety mineral spirits (Varsol can be substituted for mineral spirits if necessary), a can of silicone lubricant, a pair of rubber gloves, a rubber squeeze bulb (inside the pictured pan), and some other low investment items you'll have purchased ahead of time because you're going to find out how well they perform. What you can't see inside the 16" x 16" pan are four 2" x 2" x 3/8" plywood squares.

Resting atop the squares is a 14-inch square piece of hardware cloth with 1/4" holes. What about the funnel? Make a cone filter for it from a paper towel, insert the filter, pour the dirtied fluid into the filtering funnel and back into its original container. You may have to filter the fluid more than one time to determine if it's clear of residue. No sense dumping dirty solvent into the leftover clean stuff. Keep it clean and the solvent is good as new next time it's needed.

Remove the grip panels from the field stripped pistol and the firing mechanism from the shotgun. Place them and the two pistol magazines on the hardware cloth. All components must be completely submerged in fluid. Put the cover on the pan to reduce evaporation. This setup takes ten minutes, probably less. You make it to your home-cooked dinner with time to spare for enjoying it.

It's still early evening when you return to the bench, uncover the pan, suck up a bulb full of fluid and expel it forcefully into the firing system of the pistol. Don't suck up the fluid from the extreme bottom of the pan. That's where the fouling you're flushing out will be settling. The wooden blocks supporting the hardware cloth and components will keep them above it all. Residue will pass through the 1/4" squares and all components will be spared sharing a dip in the dirt.

Repeat the flushing several times, then address the magazines the same number of times. Scrubbing the inside surface of the magazine bodies with a toothbrush between flushings will rid them of any built-up fouling that could interfere with the spring or follower. If a toothbrush is too large to worm its way into the pistol, use small diameter interdental brushes such as those available from Den Tek and other makers. One of them can perform amazing feats of residue removal in cleaning up any firing mechanism.

Pipe cleaners run a close second, but the small bristle nylon brushes can handle sterner stuff. The most aggressive cleaning tool can be fabricated from a phosphor bronze bristle tip normally attached to a cleaning rod. Detach the tip from the rod. Clip the bristles of the brush down to whisker length. Something equal to a three-day growth works just fine. Cut six inches off a cleaning rod threaded to accept the tip, reattach the altered

DETAIL CLEANING SHORTCUT CONTINUED

ORIGINAL PAGE 5

tip to the shortened rod and store the combination where it won't get lost. Cover the pan and go to bed. What about barreled actions? Admittedly, there is a limit to how much gun will fit into a 16" x 16" pan. There are a couple of ways around the limitation. One may exist at a local building supply dealer in the form of long (about 36 inches) open top, four-inch deep trays commonly applied in the wall-papering process. A more permanent solution might be contracting a custom pan from a sheet metal fabricator.

If that is the decision, he could build you a tank long and deep enough to accommodate the lengthiest black powder rifle. I personally took another course and made a deal with a local provider of rain gutters. They cut me a five foot length of seamless, extruded, pre-coated stock, permanently capped both ends, and delivered the finished product for 20 bucks. You're dang right I still have and use it.

The only alterations I made was cutting apiece of hardware cloth to almost span the gutter width. "Almost" was important to assure the cloth can't slip to the bottom of the gutter. I guaranteed zero slippage with up to three eight-inch long, one-inch wide, 3/4-inch thick hardwood blocks slid under the hardware cloth. The resulting rig will accommodate most barreled rifle and carbine actions. Always remove the action from the stock and forend before immersion.

Wood finishes can be irreparably ruined as a result of being drenched repeatedly with mineral spirits or Varsol. Wooden grip panels might survive but they'd make better fireplace kindling than serve further as grip panels after the dousing. Deliverance Day Overnight, all the fouling flushed from the subject components will have settled to the bottom of the pan. Transfer the components to clean paper towels to rest for three or four minutes, then blow dry each one with a hair dryer.

Do not ever use a high heat unit like those applied to scrape off blistered old paint. Those heat guns can get things so hot it'll take the temper clear out of springs and have a weakening effect on tempered barrels and receivers. Once you feel certain the interiors are bone dry, apply two or three quick squirts of the silicone lube into the pistol action and one or two squirts inside the firing mechanism by injecting it through the holes in the mechanism housing.

I prefer the silicone spray to an oil spray because it attracts, holds on to, and allows the build up of considerably less fouling compared to oil. The results of this procedure? Two differing guns deep cleaned overnight, one fired and won a second in a sanctioned match, the other downed two mallards for serving up at Thanksgiving dinner, plus one frequent and satisfied customer who steered a dozen more seeking great service to the same old gunsmith who told me his secret.

Make good use of this cleaning procedure with the understanding that this short cut will excavate 85 to 90 percent of the dirt that makes a trigger feel rough but it is no absolute substitute for a traditional, far more time-consuming detailed disassembly, individual part clean up, inspection, polishing, lubricating, reassembly, and test firing. It may not be perfect in totally clearing hardened deposits of fouling you were unable to affect with the small tools suggested here.

I can tell you when the heat is on and the pressure is building, this old gunsmith's plan of action can make any gun feel and act a whole lot cleaner while leaving a good reputation untouched. As a bonus input, though not a recommended practice, if a gun comes in that is a perfect stranger to you it can still be given what can pass as a detailed cleaning. But you have to be as good as an old gunsmith at doing it. AG

MAINTENANCE & REPAIR

Chiappa Rimfires

Chiappa Rimfires Take down and reassembly of two Chiappa .22 handguns.

BY DAVID W. MANNEY JANUARY 2016

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The Chiappa Group is the parent company of Chiappa Firearms, Armi Sport, Kimar, ACP, and Costa metal surface treatment. Here's maintenance details of two of their popular rimfire handguns. Chiappa's SSA 1873-22 is a Colt 1873 reproduction that shoots .22LR, .22L, .22S and/or .22MAG. Because of this, there are a few differences from the Colt version. It has a lot of cast aluminum parts and isn't as heavy as the original, but it does feel like a Colt 1873.

This is a good choice for those looking for a cheap cowboy action style of gun. I have changed some of the part names to make it easier to understand, then what Chiappa uses. Use safety glasses when disassembling this or any gun. Check to make sure it is unloaded. Pull the hammer back to the half

cock position. Open the loading gate and remove any rounds in the cylinder, using the extractor. Take down is the same as most single action revolvers. Push in the base pin catch and slide the base pin out to the front.

Push the cylinder out the right side, keeping an eye out for the bushing in the front of the cylinder. This is loose and will fall out. The bushing has a taper and should be reinstalled with the groove to the front. Unscrew the extractor screw and remove the ejector assembly. Remove the extractor spring 22LR/.22-MAG. and using hand pressure, unscrew the extractor rod from the extractor rod button. That extractor rod nut is loose on the rod; remove it with the rod out the back.

The button can now be removed from the extractor housing. Put the barrel in a padded vise. Using two screwdrivers, unscrew the cylinder rod nut from the cylinder screw. Remove the cylinder rod spring on the screw and remove the screw. Gently lower the hammer and remove the grips. There are five cross point screws holding the backstrap to the frame. Two in the back and three on the bottom. Remove these screws, holding the backstrap against the frame as there are springs inside that are pushing the two apart.

The pin and spring for the loading gate are on the bottom right side of the frame. The pin and spring for the pawl are on the back left side of the frame. These will come out as the backstrap is pulled away from the frame. The loading gate can now

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Chiappa 1873-22 (Specifications subject to change without notice) 1 Frame 2 Ejector Rod Tube 3 Ejector Rod Tube Screw 4 Ejector Button 5 Ejector Rod 6 Ejector Spring 7 Cylinder 8 Cylinder Base Pin 9 Cylinder Base Pin Screw 10 Cylinder Base Pin Nut 11 Cylinder Base Pin Spring 12 Hammer 13 Hammer Screw be pulled out the front. The mainspring is removed by using a pair of pliers and twisting the spring to release the tension and pulling out the side.

Remove the screw holding the trigger spring and remove from the frame.

On the left side of 14 Hammer Roller Pin 15 Hammer Roller 16 Loading Gate 17 Loading Gate Catch 23 Backstrap Screws (1 is shorter) 24 Mainspring 25 Loading Gate Catch Spring 26 Sear and Bolt Spring Screw 27 Sear and Bolt Spring 28 Trigger 29 Trigger and Bolt Screws 30 Bolt 31 Pawl 32 Pawl Pin Spring 33 Left Grip 34 Right Grip 35 Grip Screw Nut 36 Grip Screw 37 Medallion 38 Firing Pin Spring 39 Backstrap 40 Firing Pin 41 Firing Pin

Retaining Pin 42 Cylinder Bushing 43 Ejector Rod Nut 44 Pawl Pin the frame, remove the most forward screw.

This will release the cylinder stop. The middle screw will release the trigger. Remove both of these screws and remove the cylinder stop and trigger. Remove the large back screw and the hammer assembly will come out the bottom. The roller on the hammer should not be removed unless for repair. Drive the roll pin out that holds the firing pin in. The spring does not have much pressure, but keep a finger on the firing pin so you don't lose it. Reassembly Tips Reassembly is in reverse order.

When reinstalling the firing pin, make sure the roll pin goes under the cutout. It is easier to put in the cylinder stop before the trigger. The mainspring is started at the top of the slot. Using a finger, pull back on the spring and it will drop down into place. Holding the frame upside down, put the loading gate back in. Drop the gate pin and spring in place. Slip the hand pin and spring into the hole by the hammer. Take the backstrap and lower it into position.

Rotate front to back and make sure the gate spring and hand spring are not pinched. Lift up on the mainspring to ease installation. Start all screws before tightening. The screws holding the backstrap onto the frame and the trigger spring are self-tapping. Do not over tighten as these will strip very easily as the frame is made of aluminum. Check that the hand has spring pressure and the action cycles properly. If not, take backstrap off and check out why.

When reinstalling the extractor rod on the button, hand tighten it. The button is made of aluminum and will strip out easily. The cone shaped portion of the extractor spring goes to the rear. The short taper of the extractor rod nut goes to the front. Chiappa 1911-22 This may look like a 1911 but it is a completely redesigned handgun, not just a .22 conversion put on a 1911 frame. Made out of "Chiappalloy" it has mass like a 1911 and handles like a centerfire with less recoil. This is a good training gun.

SINCE THIS IS NOT A 1911 CLONE, FIELD STRIPPING IS DIFFERENT. USE SAFE-

CHIAPPA RIMFIRES CONTINUED

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ty glasses when disassembling and check to make sure it is unloaded. Drop the magazine out and rack the slide back to insure there is not around in the chamber. Release the slide forward and control the hammer while pulling the trigger. With the barrel pointing up, press down on the nose lock. Rotate the bushing 90 degrees CCW and pull up and out. Watch that you control the recoil spring as it can fly out when removing the bushing. Remove the nose lock and recoil spring. Cock the hammer and pull the slide back.

Grab the slide and rotate CC and lift the back off the frame. Now move the slide forward and off the frame. The recoil spring guide is loose and can be removed. The slide stop lever can be pushed out to the left. For detailed disassembly, start with the slide. Using a roll pin punch, push the extractor pin down enough to release the extractor. I try to leave the roll pins in place to make it easier to put back together. With the extractor removed the extractor spring can be lifted out of the hole.

Drive the firing pin retaining pin out to the right. The pin has serrations on the right side. To get the safety key out, push in on the firing pin with a punch. While holding down, push the safety key out to the right. There is a small detent ball that will launch itself once clear of the frame, so this is one procedure to do inside a clear plastic bag. Once the safety key is out the firing pin and spring can be removed out of the slide.

Moving to the frame, using a 7/64" hex bit, remove the two grip screws holding the left grip panel. Keep the panel in place while removing these screws. Lay the frame down on the bench and lift the grip panel off. The thumb safety housing is not secured to the frame. Put a finger on the plunger while lifting the housing out of the frame. The slide safety can then also be lifted out. Remove the slide safety spring. Carefully control the hammer and decock it. Take off the right grip panel.

Unscrew the screw retaining the thumb safety. Push out the thumb safety to the left. Drive out the pin in the lower portion of the

grip. Pull the back strap out of the back of the frame. The transfer bar will be loose. With the back strap laying with the hammer at the top and to the right, take off the hammer group cover. With a finger to hold the spring, take off the sear, then the pawl and spring, the hammer, bushing, and spring. Now push out the pin that holds the magazine block.

The magazine thumb release is like a 1911. Push from the left side and, using a screwdriver, rotate the screw 1/4 turn CCW. Take out to the right side. The trigger can now be removed out the back of the frame. Reassembly Tips Starting with the slide, put the firing pin and spring in the slide, push down on the firing pin and gently clamp the front of the firing pin with smooth vise grips. Insert the key safety in far enough to be able to put the spring and detent ball in.

There is a small cutout for the ball to go into when putting it back in place. Cycle the key safety before releasing the firing pin. The firing pin nose has to be vertical and in

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Original caption: Top: Back strap with the hammer, pawl, and sear installed with the respective springs in place. the proper orientation to put in the retaining pin.

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For the frame, insert the short end of the hammer spring into the 1 Slide 2 Extractor 3 Extractor Spring 4 Extractor Pin 5 Firing Pin retaining pin 6 Key Safety 7 Key Safety Detent Spring 8 Key Safety Detent Ball 9 Thumb Safety Plunger Housing 10 Thumb Safety Plunger Spring 11 Thumb Safety Plunger 12 Slide Safety Transfer 13 Slide Safety Transfer Spring 14 Magazine Block Pin hole in the hammer. Place the hammer on the pin in the back strap. Put the hammer bushing on before hooking the spring on the post.

Use a 1/16" punch to hold the pawl up on the post when putting the small sear spring on. Do the same when putting on the sear. The safety transfer bar is tricky to get into place, so carefully put it back in. Gently slip this back into the frame. Be sure to have the trigger back in.

Line up the back strap and frame, then insert 15 Magazine Block 16 Hammer Group Cover 17 Hammer Bushing 18 Hammer 19 Hammer Spring 20 Pawl 21

Pawl Spring 22 Sear 23 Sear Spring 24 Back Strap Pin 25 Back Strap 26 Safety Transfer Bar 27 Thumb Safety Screw 28 Thumb Safety Chiappa 1911-22 (Specifications subject to change without notice) 29 Grip Screws 30 Grip Pair 31 Frame 32 Magazine 33 Magazine Thumb Release 34 Magazine Thumb Release Spring 35 Magazine Release Pin 36 Slide stop Lever 37 Trigger 38 Recoil Spring Guide 39 Recoil Spring Plunger 40 Barrel Bushing 41 Firing Pin 42 Firing Pin Spring the safety lever with the tab of the post down and against the frame.

Wiggle it a little to capture the hole of the transfer bar. Put on the screw to hold the safety lever. Test function of the safety before going any further, then pin the back strap. Reassemble the rest in reverse order. The slide stop lever has to be put in before the recoil spring and plunger are installed. There is an indentation that the recoil spring guide goes into to keep it in place. AG

RIFLES

Scoping Henry Lever Action Rifles

BY NORMAN E. JOHNSON JANUARY 2016

ORIGINAL PP. 10-13

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An avid squirrel hunter brought me his Henry Golden Boy lever action .22 rifle to be sighted-in with the existing buckhorn-style open sights. "It's hitting way left, 'course my eyes aren't quite what they used to be either," he said. I suggested the possibility of replacing the open sights with a scope. Following a detailed discussion, he liked the idea and left the gun with me to complete the work.

The Henry rifle was invented by Benjamin Tyler Henry back in 1860 as the first effective lever action repeating rifle. These lever action rifles were made in a number of calibers with open sights, including the popular .22 rim-fires. The rifle brought to me was the Henry Golden Boy tubular magazine lever action with open sights. There was no built-in provision for a scope sight but the receiver was flat on top with the surface running parallel to the bore line with adequate length and width for a receiver base.

The receiver top was more than thick enough for the base screws, allowing for a thread depth equal to the width of the 8-40 base screws I would use. The receiver cover, over which the action is enclosed, is not made of steel but of a brass-like coated metal that appeared to be hardened aluminum. This one piece, well-machined action cover encloses and guides the leverdriven bolt assembly immediately below the surface where the new base screws would be drilled and tapped.

It would therefore be absolutely necessary to maintain a smooth, linear surface here for the bolt to slide on. Remnant threading burrs can really gall moving parts. While the owner's manual suggests it is not necessary to take the Henry lever action apart to keep it clean, installing a base atop the receiver required it. Such disassembly This is the flat-top part that makes scope mounting possible.

Were the receiver cover not solidly anchored in line with the barreled action, reliable accuracy would not be possible. Below center:

View of the receiver cover shows the required flat surface for attaching the dual purpose scope base on the Henry. The dual purpose scope base is shown with 3/8" dovetail and Weaver quick detachable rings attached. The base tang, which must be milled off, is shown at the bottom. is quite easy, requiring only a properly fitted screw driver for removal of six screws.

The receiver cover tang screw, which passes through the stock at the end of the upper aspect of the tang, is removed first. A wood screw enters the stock through the lower tang, permitting the stock to be removed by pulling it rearward. Removal of the four cover screws, two of which are located at the bottom sides of the receiver, enables the cover to be removed upwards. The bolt assembly will come out with the cover, which can be removed by sliding it rearward.

The bolt remains intact, as do the exposed action parts. It's a relief to not have spring loaded parts flying

SCOPING HENRY LEVER ACTION RIFLES CONTINUED

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around during disassembly as some guns do. Access is thus gained to the one-piece receiver cover on which the rifle scope base would be attached. Now to measure and fit the receiver cover for scope base screws. It didn't take me long to realize that the flat surface of the Henry Golden Boy lever action rifle would lend itself well to adaptation of a flat, one-piece scope base. It would be a matter of finding such an adaptable, top-mount base. That didn't take long either.

I found a Weaver top mount base (Part #TO-10 48202) which is designed for Winchester 94/22 and some other 22 rifles with 3/8-inch grooved receivers. Only problem with the Henry lever .22 is it doesn't have a grooved receiver. I would have to mill off the grooved receiver wings from the TO-10 Weaver base to fit the flat surface of the Henry rifle receiver. A real advantage here is that it would permit the use of either 3/8-inch dovetail rings or standard Weaver tip-off rings as mounted.

What could be better for a .22 rifle owner than to have this option in mounting a rifle scope? I used my milling machine and milling vise to remove the laterally opposing 3/8-inch dovetail wings from the TO-10 scope base. The base fit perfectly flat on the receiver. I then measured and cut the base to 3.55" in length to fit the Henry receiver.

Two additional cross slots were then cut for Weaver style rings to lock them securely in place. This was quickly accomplished on the milling machine, leaving the base ready for attachment to the receiver. I also had to be sure there would be no complication in cocking the external hammer beneath the low mounted scope, which would extend out over the hammer.

This presented no problem as it fit nicely beneath the ocular lens housing of the scope. The rear sight would, however, have to be removed for clearance of the objective lens housing which cleared the barrel by about 3/16". There was also ample clearance to cock and lower the hammer beneath the scope tube without the use of a hammer side spur. Shell case ejection was perfect from beneath the scope too. Any one of these things could present a problem in mounting a scope such as this, but everything worked out well.

Now for fitting the scope base. The new base would be attached with four 8-40 flat-head, 82-degree countersunk screws. I carefully marked and located the base on top of the receiver, which was held squarely in the milling/drilling vise for in-line hole locating and drilling. The front base screw hole was marked, drilled and tapped, and the base fastened perfectly in line with the barrel and receiver. I then used a center drill to spot the three remain-

SCOPING HENRY LEVER ACTION RIFLES CONTINUED

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Holes are beveled for the 82-degree 8- 40 flat head base screws. Above center: Following precise base screw hole alignment, a center drill is used as a locator for each screw hole. The flat top receiver cover on the Henry rifle is ideal for attaching the dual purpose scope base. ing holes for completion of the hole drilling and threading. Each base screw was then individually fitted for maximum thread depth and inside receiver clearance.

The holes were then cleaned up of burrs and the base securely attached in-line to the receiver top. No thread bonding material was used and each screw was torqued to specifications. This was another reason I went to the 8-40 thread in lieu of the regularly With all holes drilled and tapped, and scope ring

slots milled, the dual purpose base is ready for mounting. Below center: The dual purpose scope base is solidly in place atop the Henry receiver cover.

Four 8-40 screws hold the base solidly in place without the use of any screw thread adhesive. 22 rifle shows attachment of each type of scope ring. On left, 3/8" dovetail .22-style ring. The Weaver one-inch Quad-Lock detachable ring on the right is also used on centerfire rifles. used 6-48 thread size. This is particularly indicated in non-ferrous metal softer than steel. As a result, the base was solidly and squarely attached to the receiver. I chose to go with Weaver oneinch Quad Lock medium height scope rings.

This allows for up to a 40mm objective lens on most high power rifles but the modified TO-10 base was at minimum thickness and still worked out for a most attractive mounting. Distance between ring centers is at 2.80" with scope tube clearance over the receiver at 0.160". I guess we have all seen mounted scopes that didn't seem to fit the rifle but this scope has a most excellent aesthetic appearance as if it really belongs there.

Sighting In At any time when mounting a scope with parts not specifically made for the job, it is possible to exceed the windage and elevation adjustment limits, leaving the reticle not adjustable. I ended up right on track here. Both windage and elevation were well within normal adjustment with

SCOPING HENRY LEVER ACTION RIFLES CONTINUED

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much to spare. A common problem with some scopes sometimes finds the turret adjustments working the high or low radius of the erector lens tube, causing problems. Typically here, a scope being adjusted for windage may also cause adjustment of the elevation reticle and vice versa. But all was well with the Henry rifle sight-in. The average squirrel/target rifle is sighted for closer range at about Far 22 rimfire scope. This scope base offers the shooter a most useful scope mounting combination.

Bottom Sometimes a gunsmithing project turns out better than anticipated. 25 yards, enabling the user to make head shots, there-

by saving more edible meat. The owner wanted his Henry .22 sighted at 25 yards with .22 Shorts. I chose to use CCI Pistol and Remington Target ammo as a good compromise. Three five-shot groups averaged 0.397 inch, which would indeed be a challenge if open sights were used. Trigger pull weighed 4.75 pounds and could be adjusted by a skilled gunsmith.

Scoping the Henry Golden Boy rifle turned out to be a very worthwhile project, which I can highly recommend for anyone wanting this rifle to shoot and look even better. I'm sure old Benjamin Henry would allow us to break tradition for this reason. The owner

liked the addition of a scope on his rifle very much. He plans to put it to good use. I just learned that Henry Repeating Arms has designed a rifle named The American Beauty, symbolizing the strength and spirit of the American woman.

The rifle is just like the Henry Golden Boy but has an engraved nickel-plated receiver cover. The American Beauty comes drilled and tapped for scope mounting and sells for \$900. This sort of makes the scoped Golden Boy look even better. AG 22 are excellent for a production rifle using different ammunition.

MAINTENANCE & REPAIR

Glock Custom Barrels

Fitting aftermarket barrels in popular service pistols.

BY ROBERT K. CAMPBELL JANUARY 2016

ORIGINAL PP. 14-17

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My sons grew up with the 1911 handgun. They also grew up with quite a number of other handguns around the home, some of which I was evaluating for various agencies and others in various states of repair. I wasn't surprised when my oldest son elected to obtain a Glock 36 and use it for a carry gun. My respect for the Glock has grown over the years even though I still prefer blue steel and walnut. As a goanywhere, do-anything defensive handgun the Glock has merit.

My son is a hard working young man on a budget and doesn't wish to bang up a nice 1911. He is also an enthusiastic handloader and that presents a problem with Glocks. We could debate hexagons and polygons but we will not as the end result is the same when lead bullets are pressed into the barrel. The Glock's polygonal rifling is seen as an advantage by many as it is not cut as deeply in the barrel.

The gas seal with jacketed bullets is better and Glocks often exhibit greater velocity than equal barrel lengths that are conventionally rifled. Unfortunately, that shallow rifling isn't

compatible with lead bullets. Lead fouling has nowhere to go in a polygonal rifled barrel. As a result, pressure can build quickly, blowing cases or even the pistol. Those wanting to shoot lead bullets out of a Glock need an aftermarket barrel.

Barrels by Bar-Sto Precision yield excellent results and the ability to use lead bullets is worth the price. They tend to be more accurate than factory barrels and produce comparable velocity. Let's start by considering the ability to use lead bullets. Glock pistols use polygonal rifled bores. The primary difference of this type of rifling is that the bore is rifled

GLOCK CUSTOM BARRELS CONTINUED

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Above center: Although it is a little difficult to eyeball, the Glock's replacement barrel is slightly over size. with hills and valleys that are quite smooth rather than the traditional lands and grooves. This results in little friction and generally higher velocity than conventional bores of a similar length. Accuracy potential is claimed to be high due to the prospect of little bullet deformation. However, there is no place for lead fouling to accumulate.

Sport shooters using cast lead bullets for economy cannot use great quantities of lead in the Glock barrel. There is also the fact that the Glock has a sharp transition from the chamber to the leade or beginning of rifling, an area which also accumulates lead. This lead build up may prevent the pistol from ful-

ly closing and the resulting build up may allow the pistol to fire when Below center: The Bar-Sto barrel offers extra strength and precision where needed.

It also shoots lead bullets better than the factory barrel can. A good crown contributes to accuracy potential. For this project, a ported Bar-Sto barrel was used and proved to be a good choice. Gunsmith-fit Glock barrels area worthwhile investment. The pistol's intrinsic accuracy not locked up. While the Europeans may think we are mad for using lead bullets, this is the only way for the shooter of average means to afford to fire the piece in the quantity demanded for proficiency in competition.

The Glock barrel as supplied from the factory also has an unsupported chamber in order to insure feed reliability. Almost every aftermarket barrel will offer a more fully supported chamber. A custom grade barrel will typically increase accuracy. This is partly due to careful manufacture with higher tolerances and superior materials than found on some factory barrels and partly due to superior hand fitting by a gunsmith. Another reason to consider anew, custom barrel is if the shooter desires a caliber change.

A shooter may prefer another caliber or simply wish to use several calibers in their Glock. You may convert a .357 Glock to .40 S&W and vice versa or convert a .45 ACP Glock to .400 Corbon. There are other conversion options as well.

GLOCK CUSTOM BARRELS CONTINUED

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Above center: It isn't a bad idea to gauge the original barrel in any barrel replacement project. The fitting procedure is simple enough. If the hood is oversize, fit it to the slide by carefully removing the barrel sides until clearance is approximately 0.003 on each side. Take it slowly with the cut-and-try method. If you are able to fit the barrel with a minimum of tolerance (about 0.002 on each side) the pistol will be an accurate number.

Occasionally, a barrel will bind at the rear of the hood. Often, simply pressing the barrel into the slide and working the slide will fit the barrel. If the barrel continues to bind, the rear of the barrel hood must be filed. Use a stone, be certain to bear evenly, and finish up with a smooth surface. It is rare for the angled wedge locking surfaces on the bottom of

the Glock barrel to need any fitting. When they do the most I have had to work is to slightly file the bottom of the foot.

The slide will usually close without any such binding. My fitting procedure for gunsmith-fit barrels and semi drop-in barrels is as follows. I first drop the barrel in the slide and frame. If the barrel does not fit correctly it is most often the barrel lugs binding. I remove very small amounts of metal from the hood area. Then I check to see if the under lug is perpendicular to the bore as it should be. If off center, material is removed from the opposite of the offending side.

Look toward the muzzle to gauge right and left alignment of the locking lugs. If off to the left, remove metal on the right. When done with the lugs, fit the barrel into the slide for

a check. Remember to respect the locking lugs as these lugs control lift and chambering angle. The bottom foot controls lift and usually gives a good, tight lockup without any type of modification.

The Glock is a straightforward pistol, simple enough to work with, and durable. The only common reason that you will see a Glock in the shop is for barrel work or barrel changes, which is the most beneficial change to the Glock pistol. For testing the barrel after installation, use good quality factory ammunition. It is difficult to tell a shooter who has spent good money on a custom barrel that his handloads are not up to par. This handgun

GLOCK CUSTOM BARRELS CONTINUED

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Above center: The forward area of the barrel hood seldom needs attention. was proofed with Remington factory ammunition, both Remington UMC 230 grain ball and Remington Golden Saber 230 grain JHP. Once the pistol is proofed with these loads or something similar with known good reliability and accuracy, a malfunction or accuracy problem with handloads will be a issue related to the ammunition.

That being said, handloads may be produced that are at least as reliable, accurate, and versatile as factory loads (possibly more so) but save that until after the pistol is proofed. When working with another brand of barrel,

I once experienced a feeding problem when working the Glock. Certain dimensions were tighter than the original Glock barrel. In the end, I carefully polished a rounded edge from two o'clock to ten o'clock on the chamber. The Glock ran smartly after this simple polish.

In yet another case I had more difficulty. Glock frames are the same internally without fail through all generations, they claim, so the fault must have been in the barrel. The hood of the suspect barrel presented no problem but the rear lug struck the frame lock bar. I proceeded to cautiously mill and file, and then stone the lug. I removed 0.016 off

the rear lug. The rear lug then In the end, the project created a handsome job and a great shooter! cleared the lock bar.

I did not like the amount of work needed on this "drop in" barrel but it worked. This pistol performed well after the barrel fitting. With several hundred handloads fired it has proven reliable. Accuracy is improved to a noticeable extent. Groups with the shooter's Remington carry load has improved about a half inch at 15 yards. Recoil control is improved due to the ports. Velocity potential is at least equal to the original barrel. Adding this barrel has proven to be a very worthwhile upgrade. AG

FROM THE ARCHIVE

Workshop Aids On A Budget

These shop-made helpers are easily made, often with materials (or scrap pieces) readily on hand.

BY DICK MAHEU JANUARY 2016

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I have known a lot of gunsmiths in my time and the vast majority of them did not have a pocket full of greenbacks to throw away. Ingenuity and frugality were common attributes with most of them and they made do where they could, without compromising the quality of their work. I have had this mindset from day one of taking my first gun apart. It makes good sense to save your money for the tools and equipment you can't make and to make those that you can.

The wood products I have made and display in this article were all made with scrap lumber and hardware I already had on hand. I have always had my hand in wood-working of some sort, building sheds, additions, furniture, etc. Because of this, various scrap pieces of wood for gunsmithing projects are readily available. You may not have scrap wood hanging around your shop or house but can make any of these aids with very little outlay on your part.

Lowe's, Home Depot, or any of the other discount lumber outfits always seem to have some economy lumber, seconds, or project scraps at little cost. Ferret out these places or yard sales before starting your projects. Most of these aids were made since moving back to my native Maine in 2002. It seems like every time I have moved over the years, I have had to leave some things behind for lack of space. If all these measurements get a little confusing, the accompanying pictures of the aids are pretty self-explanatory.

Long Gun Vise I have made probably 7 or 8 of these over the years and each one has evolved to be better as I found a better way to make it more useful to my personal needs. The features of this vise are adjustable for a wide variety of rifles and shotguns. Let me note here that the measurements of these shop aids are not set in stone! If I had a piece of lumber left over

from another project, that's the length I utilized. You may have different preferences than I.

These figures I use can simply be a starting point for your project. The base of this vise is made from a 2x6 that is 38 5/8 inches in length. Remember, a 2x6 actually measures 1 1/2" x 5 1/2". The base has a 1 1/2 x 8 notch cut at the middle front for adjustment of the front rest forward. There is also a 7/16 x 2 1/4 notch cut out for adjustment of the clamping block on the side of the base. The right side rest is 17 3/4" in length and 5 1/2" high with the back piece 3 13/16" wide and 5 1/2" high.

The front rest is 1 1/2 x 5 1/2 x 8 3/4 high. The U-shaped notch cut out is 2" wide and 3" high. The front rest has a 1 1/2 x 1 extension that goes into the front base notch. The through bolt which is 5/16 x 3 1/4 goes through this extension and a 1x4 metal brace

WORKSHOP AIDS ON A BUDGET CONTINUED

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that is 1/4 x 5. The round rest was made with a 1 7/8" cut-out saw and electric drill. The side and back rests were mounted with decking screws from the bottom of the base. The front rest has a one-inch access hole drilled through it with the top of the hole being 1 3/4" from the base. This hole is to access the nut on the through bolt for moving the rest forward or backward in its notch.

I have a 1x4 straight metal brace as a stop at the end of the base and a 1x2 brace that does the same job for the clamping block on the side of the base. The angle iron mounting

base is 1 1/4" x 8" and mounted with two front and #2 in the rear. for tightening and adjustment of the rest. I have a filler block, 1 x 1 1/2 x 5 1/2, that is used at the back of the vise to extend the length of the firearm forward if needed.

The right side rest, front rest, clamping block, back rest, and filler block are all covered with sticky-back felt to prevent scratches to gun stocks or metal. This felt material can be obtained at Walmart, Jo Ann Fabric, or craft stores for relatively cheap. I use it for many projects. Moleskin is another, thicker

product that also works well. This gun vise has three adjustments that can be made for the length, width, and pistol grip of various stocks. The clamping block can be adjusted from 1 1/2" to 3" in width.

The front rest has eight inches of adjustment forward. The round rest which is 1 7/8" in diameter and 1 1/2" wide has many different positions it can be mounted on, depending on how many quarter-inch holes you want to drill for its 1/4 x 3 1/2 bolt. I have wing nuts on this bolt and a clamping block through bolt

WORKSHOP AIDS ON A BUDGET CONTINUED

ORIGINAL PAGE 20

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The purpose of this base is to mount the long gun vise in a bench vise. It can be mounted either level or canted up or down. If I want to use it level on a workbench, I simply use two bench blocks, 1 1/2" x 2" x 10" in length under the base. I have a oneinch eye bolt mounted on the back of the base to hang the vise up on a nail when not in use. This is a pretty versatile and utilitarian long gun vise that I use for stock and metal work, scope mounting, and glass bedding, to name just a few uses.

Handgun/Buttstock Vise This vise is for working handguns and buttstocks and utilized on the same principle as the Long Gun Vise without the front rest. The base mea-

sures 1" x 5 1/2" x 18" while the back rest is 1 1/2" x 3 1/2" x 5". The side rest is 18" in length made up of two pieces, one piece being 1 1/2 x 3 1/2 x 13 and the other at 1 1/2 x 2 1/2 x 5. The clamping block is 1 1/2 x 3 1/2 x 4 with a 1/4 x 5 through bolt and wing nut.

The round rest is 1 1/4" in diameter and 2" in width and has a 1/4 x 4 through bolt with wing nut. The clamping block has a 3/4 x 3 straight stop brace mounted with wood screws. The angled piece for mounting in a bench vise is 1x5 aluminum, mounted with two wood screws. The eye bolt is 3/4", screwed onto the front of the base for hanging on a nail when not in use. This is a great

aid in working on handguns and buttstocks with easy access with the lowered section of the side rest.

It sees a lot of use in my shop for mounting sights, swivel studs, etc. **Gun Rests** The first gun rest is utilized in working stocks and barreled actions when I want to avoid nicks and dings that might occur if simply sitting on a cluttered work bench. The base is 1 1/2" x 7 1/4" x 24". The back and forward rests are both the same, measuring 1 1/2 x 4 x 7 1/4 with 2 1/2" 45-degree angle cuts. The notches in the rests are 2 x 2 and the elevation block is 1 1/2 x 2 x 2 3/4 with a 1 x 1 1/2 notch for placing

WORKSHOP AIDS ON A BUDGET CONTINUED

ORIGINAL PAGE 21

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inside the rest notches to raise up one end or the other if needed. The front rest is 2 1/2" back from the end of the base. Sticky-back felt is utilized in the rests and elevation block. A 1" eye bolt is mounted on the front of the base for hanging up when not in use. The second gun rest is utilized mainly for holding rifles and shotguns for routine work. The base is 1 1/2" x 3 1/2" x 32". The rests are 5" from the ends of the base and are 1 1/2 x 3 1/2 x 5 3/4.

The rear rest notch is 2 x 2 1/4 and the front rest Anvils And Blocks My I-beam anvil is a great little bench-mounted anvil for parts

work on a straight, level, hard surface. It's mounted to the bench with 7/16" bolts. I paid \$1.00 for it at a yard sale and it sees a lot of use in my shop. It measures 2" x 2" x 5 3/4". notch is 1 1/4 x 2 1/4. Felt is utilized in the notches. A 1" eye bolt is mounted on the rear of the base for hanging up when not in use.

My handy handgun rest is used for sight and rib work on handguns as well as scope mounting. The base measures 1" x 3" x 9" with the rear rest at 1 1/2 x 3 1/2 x 4 3/4 and the notch sized 1 1/4 x 2 1/2. The front rest is 1 1/2 x 2 7/8 x 3 1/2 with a 1x1

notch. The rests are 3/8" back from the base ends and are mounted from the bottom of the base with long wood screws. Once again, felt is utilized in the rests to prevent marring.

Finally, my single rest is a simple rest to hold one end or the other of a gun in work when only one rest is needed. The base is 5/8" x 3" x 6" made of 5/8" plywood. The rest is 1 x 3 1/2 x 3 1/2 and the notch is 1 1/2 x 1 3/4 with felt in the notch.

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I purchased a piece of railroad history in my RR Track anvil from a Native American at a flea market in New Mexico almost 30 years ago. He had used it in making jewelry but was retiring from that endeavor. I paid all of \$1.00 for it. This is mounted to my bench with 3/8" machine screws and has been part of several workbenches in my workshops for all the time I've owned it. To say it has seen a lot of use would be an understatement. I have used it for hundreds of tasks over the years.

Its curved and work-hardened surface is great for working on parts. Propane torches won't hurt it at all and many red hot parts have been cooled on this piece of railroad track. It is 1 3/4 x 3 1/2 x 6 on a 3 3/8" wide base. These kinds of deals are out there, you just have to determine what your needs are and then ferret out the right equipment. I usually pick items like this up when I see them, cheaply priced, for later use or projects.

Finally, simple mounting blocks don't come any cheaper as they are small pieces of scrap wood and make great tool holders. All you have to do is drill a bunch of right sized holes and/or screw two pieces of wood together. The picture is ample description! Holders I've used the same file holder for over 40 years in my shop. I made it with a couple of pieces of 7/16" plywood

and 1" x 1 1/2" and 1" x 2" plain pieces of wood. It is put together with small brads and holds close to 100 files!

It has always garnered a spot on my main workbench keeping its contents within arm's reach for four decades. The plywood pieces are 9 1/2" x 11 3/4". My shop liquid box is just a simple wooden box I put together to occupy a specific spot on my main workbench. I judiciously utilize my workbench space to meet my needs and this box contains only the products I use the most while at work on firearms.

The catch pan is exactly what it is called: A pan to catch those little pins, screws, springs, etc. that have to be cut off and kept from bouncing under the workbench never to be seen again! A friend made me a small aluminum box many years ago that I used for catching these objects but it was not deep enough as some items would bounce out of it. I solved the problem with this deep pan. For those of you who are culinary enthusiasts, you will recognize it as a meat-loaf pan. I paid 99 cents for it at a discount store.

It's mounted under the bench with two wood screws. I have been using numbered parts boxes for disassembly of firearms ever since I started in this business. An old time gunsmith of my acquaintance used a simple wooden box with dividers in it. I'm still

surprised by the number of gunsmiths who simply scatter the parts on their workbench as they disassemble a gun! I have about ten of these boxes of different sizes and dividers and never take a gun apart without utilizing one of them.

I simply number the bins from 1 to whatever number of bins I have. For the larger bins, I number them 1A, 1B, 1C, etc. for larger size parts. I simply put the first part in Bin #1 and so on until the gun is disassembled. Simply reverse the order to put the gun back together. In addition to the numbered parts boxes, I also keep a notebook handy to jot down specific points, like how several parts are positioned, where spring arms/ends are located, etc., to make reassembly easier.

This is especially important if you need to order parts or otherwise set the job aside for a period of time. Grab your notes and parts box and you're ready to put it back together when the time comes. I recently put an old shotgun back together that I had apart for ten months. At my age, Post-it notes are an everyday workshop aid. Well there you have it. I hope that you find some of these aids will work well for you in your shop.

I have many other special tools and shop aids that I hope to feature in forthcoming articles. Enjoy! AG

METALWORKING

Reader Forum

BY AMERICAN GUNSMITH EDITORS JANUARY 2016

ORIGINAL PP. 23-24

I wish I could offer a better answer but at this point your choices are limited to shooting factory loaded lead ammunition until you can find lead shot, or trading for a gun designed to handle steel shot. Break Open Actions Paul Mazan's "Tightening Break Open Actions" was great! It is nice to read an article about these guns written by someone knowledgeable and enthusiastic about them. I am in the process of refurbishing a HHH (House Hasson Hardware Company) 16 gauge single with a full choke and 32" barrel.

It was first purchased in the early 1900s for \$4.50 with a box of shotshells. Stamped on the barrel is, "- PAT. date May 14, 1901, SN322774." The gun is still in great condition. I rebrowned the barrel and receiver and refinished the forend and stock in the mid 1960s. It was not fired again until the mid-1980s by my son. The Damascus barrel has deteriorated inside in circles while the outside remains pristine. I would like to clean and preserve the inside of barrel.

Also, the breach lever (surface screw mount) was replaced with a terribly-worked, home-made replacement and I would like to find a proper lever that fits snug. I have a high mechanical aptitude, have been employed in several machine shops in my youth, and have machine experience with mills, lathes, welding, and sheet metal fabrication. Since retiring in 2014 I've been learning more gunsmithing. Hugh Author Paul Mazan responds. Thanks for reading and writing in about my article.

I think that most of us that write articles on repairing and restoring these old guns do so out of a love for them and a desire to see them safely used again. Unfortunately, your description of the condition of the inside of the barrels of your shotgun make it unlikely that it will be safe to fire even with light black powder loads. The deterioration of the inside of the barrel in circles is an indication that the softer iron used in the process of making the Damascus has rusted away over the years.

My suggestion would be to restore the gun to a condition that will make it a prized family heirloom and display it proudly. I would include a note on card stock rolled up in the chamber giving the known history of the gun, who owned it, and clearly stating that it is unsafe to fire. That should make it a family treasure to succeeding generations as well as keeping the grandchildren

ORIGINAL SOURCE PAGE

23

READER FORUM CONTINUED

ORIGINAL PAGE 24

or great grandchildren safe from trying to shoot it. Replacing the top lever is a difficult proposition. The first hurdle is to find out who made the gun. Many of the “hardware store guns” were made by Crescent Firearms but many were also imported. I searched the Internet and found that House Hasson Hardware is still in business and has a nice nine minute video on the company history you may enjoy at their website, HouseHasson.com. They are located in Knoxville, Tennessee.

Although it is along shot, you might contact them and see if company records indicate who made the guns with their name on them. That information could lead you to a company like Numrich Gun Parts Corporation who might actually have atop lever listed under the name of the manufacturer. You could also take the home-made top lever to gun shows and check with some of the parts vendors and try to locate one that would be usable.

Half the fun of restoring old guns is finding parts that either fit or can be modified to work. Last but by no means least, if you have the tools or are really handy with a file you can try to make the part yourself. Preserving the interior of the barrel is a tricky proposition. The rings you describe would look like the surface of the Moon under magnification. The first step is to remove the rust all the way to the bottom of those pits.

I would start with a good cleaning to remove all the loose rust, dirt, and/or residue from the last time it was shot. I would follow that with a liquid rust and blue remover and follow the instructions for neutralizing it after it has done its job. Then I would use a preservative like Boeshield (Brownells #686- 901-004) that will seal the surface.

The real trick is keeping the rust and blue remover from contacting any of the refinished parts because it will remove that beautiful brown finish you put on the barrel and receiver in a moment. I hope that will help you along the way in preserving this family treasure for generations to enjoy. Once again, thank you for writing and the nice words. I do truly appreciate knowing you enjoyed the article. T. C. Montgomery Paul Mazan’s “Tightening Break Open Actions” was a great article on break open side-hammer guns.

I am particularly interested in learning more about T. C. Montgomery shotguns. Can you point me in the right direction to find out more about these beautiful old guns? Steve Adams Author Paul Mazan responds. The only references to the T. C. Montgomery shotguns I have been able to find are on Google. It appears they were made in the late 1800s by J. P. Clabrough & Bro. They were in business from 1870 until 1893 in England.

It appears they were in business making shotguns in Birmingham and perhaps had a sales office in London. If you remove the barrels you should find English black powder proofs under it. British proofs would be crossed halberds or crossed scepters with a crown. The J. P. Clabrough company would most likely have used the T. C. Montgomery name for their lower grade guns while producing their high grade guns under their own name. That was a fairly common practice at the time as I understand it.

I have not followed up on researching the company any further. Be very careful and have the gun inspected by a gunsmith before attempting to fire it. The barrels are most likely Damascus and would not be safe with any smokeless load and probably not be safe even with black powder loads.

My recommendation with Damascus barreled guns is to hang them on a wall where their beauty and craftsmanship can be admired after placing a note on heavy card stock in the chambers with the notation that the gun is unsafe to fire so that some future owner won’t injure him/ herself. That card can also contain a record of what you learn about the gun and who has owned it. That can make the gun a nice family heirloom if it has been in the family for any length of time. Think of it as a one-gun collection. AG

SEARCHABLE ISSUE RECORD

Archive index

Shooter's Bible Guide To Tactical Firearms
American Gunsmith Editors

2

Detail Cleaning Shortcut
Chick Blood

3-5

Chiappa Rimfires
David W. Manney

6-9

Scoping Henry Lever Action Rifles
Norman E. Johnson

10-13

Glock Custom Barrels
Robert K. Campbell

14-17

Workshop Aids On A Budget
Dick Maheu

18-22

Reader Forum
American Gunsmith Editors

23-24

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