



MAY 2023

DIGITAL ARCHIVE
EDITION

PRECISION ARMS WORKSHOP

AND THE AMERICAN GUNSMITH ARCHIVE

A TECHNICAL JOURNAL OF CRAFT, REPAIR & RESTORATION

05

ARCHIVE ISSUE NUMBER

INSIDE THE ARCHIVE

RIFLES FOR LESS PERMISSIVE PLACES

SHOT UNIVERSITY • BOND ARMS TRIGGER WORK • NEW GUNSMITH ITEMS • REMINGTON 788 STOCK UPGRADE

ORIGINAL METHODS. MODERN ACCESS.

ARCHIVE EDITION 233

DIGITAL ARCHIVE EDITION

Preserved for the bench.

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AMERICAN GUNSMITH

DIGITAL ARCHIVE EDITION • MAY 2023

ISSUE RECORD

ORIGINAL DATE	May 2023
VOLUME	Archive volume not stated
ISSUE NUMBER	05
SOURCE ID	ag-96a77fca422014f376312b1a

DIGITAL EDITION

PUBLICATION	American Gunsmith
EDITION	Digital Archive Edition
ARCHIVE STEWARD	Innovation Network LLC
CONTACT	editor@gunsmithmag.com

Editorial fidelity. Article titles, author attribution, issue relationships, source-page references, and article text remain bound to the archive corpus. Layout, covers, navigation, and conversion notes are newly produced for this edition. Historical statements remain part of the original editorial record.

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SAFETY & COMPLIANCE

SHOT University

BY AMERICAN GUNSMITH EDITORS MAY 2023

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SHOT University is an online continuing-education resource for firearm industry professionals. Created by the National Shooting Sports Foundation, the coursework includes dozens of elearning modules covering everything from OSHA and ATF compliance to training program creation, social media best practices, and retail store management, all specific to the specialized needs of firearm-related businesses.

Currently listing over 44 courses (and growing), each one contains a series of modules discussing the subject in depth. These are broken down into Retail and Range courses with a series of subcategories. Some examples. The 2023 Firearm Industry Compliance Education Series covers legal concerns conducted as a monthly, live webinar series, with a focus on topics such as ATF inspections, store/shop security, OSHA lead and noise compliance, and firearm sales.

Completing the New Form 4473 covers transfers to inspections to trace and the new (as of 2023) Form 4473. This provides a step-by-step big-picture overview presented by retired ATF deputy Director Wally Nelson and retired ATF Inspector Jean Zabel. Sales Training Series for the Firearm Industry Retailer covers retail, customer satisfaction, growth, and return rate.

Insurance for the Shooting Sports Industry reviews the types of insurance, including workers' compensation, property, and management liability related to the shooting sports industry. For businesses that also include a range, the Range Training Equipment and Program Design Course covers range training equipment essentials and their effect on short and long-term sales, Building a Range Training Program explains how to create classroom training to benefit long-term and engaged customers.

NSSF Research Reports provide a synopsis of industry trends and how they impact your business. These include an Industry Reference Guide, Financial Benchmarking Report comparing operation financials around the industry, and Customized Market Research reports that address your specific region, customer demographics, and buying habits. These courses are free to NSSF members.

The Firearm Retailer/ Range Membership helps with essential issues such as marketing, compliance, security, safety, and many more topics unique to our industry. This membership is designed for firearms retailers, gunsmiths, indoor and outdoor shooting ranges (with or without a retail component), and not-for-profit shooting ranges and can be had for \$100 per year. Visit PathLMS.com/NSSF and NSSF.org/membership/nssfs-shot-university-online for details.

FROM THE ARCHIVE

Bond Arms Trigger Work

Improving the Bond Arms Rowdy .45LC/.410 trigger.

BY KENNETH FINLEY MAY 2023

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The most important choice in selecting a firearm for personal defense is to pick one you can and will use. If the selected firearm is uncomfortable or difficult to use (i.e. trigger pull too stiff) then you won't use it. However, if on someone else's advice you have already spent the money, the next course of action is to see if what you bought can be made to work for you. In this case, the purchaser was a lady who wanted a "snake charmer" to carry along when walking her property.

I've been there and she needed one. She had been encouraged to purchase a Bond Arms Rowdy .45LC/.410 derringer. Her problem was the heavy trigger pull required to fire the steroid-enhanced compact pistol was more than she could manage when trying to aim at the same time. The stiff trigger pull limited her ability to use the pistol effectively. Her request to me was to at least make the trigger feel smoother when used. I have very little experience with the concentrated cannons and so conducted a little research.

Bond Arms deliberately produced a pistol with a heavy trigger pull—about 8 pounds. Their concern is that a heavy trigger is recommended to be safely carried in such a

hostile environment as a pocket or a purse. The 45LC/.410. Big punch, small package. Manual also states that the trigger will be smoother with use. The logical error in this case concerns the belief that with a trigger pull too heavy to comfortably use, that the owner will ever bother to cycle it enough to improve the feel.

I agreed to examine the pistol and do what I could without altering the springs or sear engagement as these are critical to safe operation. The Bond Arms "Rough Series" line of derringers are built to meet an entry-level price target. From the company's website, "[W]e do minimal clean up and deburr to make sure there are no sharp edges and then we bead blast the finish. With this gun, part of the 'cool factor' is that you can actually see the parting lines in the metal frame and trigger guard.

As a final touch we left in some of the swirly tool marks on the barrel just to give it that more 'rough & tumble' look. Also, since we are not sanding and polishing the frame, you may see tiny casting imperfections and rough areas that would never be acceptable for our current line of products." Many labor-intensive (and, therefore, expensive) polishing steps are left out. Where

it is believed to have no user impact, the frame is less polished as the casting marks show on the inside of the grip frame.

The stainless steel barrels are not brightly polished and show some tool marks. The lower frame is beadblasted inside and out as a low-cost alternative to several additional polishing and finishing steps. Removing the grips reveals some of the areas that are defined as less critical are not machined smooth as are the separation marks on the outside. The bead-blasted stainless frame does present an attractive appearance and a good texture for gripping.

Project Scope I agreed to examine the pistol and do what I could without altering the springs or sear engagement as these are critical to safe operation. Without disassembling the pistol, my initial idea was to see what I could do to smooth the trigger pull and make the hammer easier to draw back. The first step would be to address the trigger and then follow up with the hammer assembly. On to removing the trigger. The trigger assembly is deep in the frame.

To access it, you will have to remove the trigger guard and the locking le-

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Trigger guard, locking lever flipper, locking lever, and locking lever spring. Above center: The location of the trigger pivot pin which is located far to the rear of the trigger. This explains why Bond Arms recommends a trigger pull that is both back and down. ver assemblies. The trigger guard is an addition to the classic derringer design held in place by one tapered screw designed for a 5/64 hex wrench. The screw is located inside the frame.

Removing the add-on trigger guard will make it easier to drop the trigger after the trigger pivot pin is removed. Before that, you must use your hex wrench to release the locking lever flipper, enabling you to remove the locking lever and spring. For once you have a fairly substantial spring that is well behaved. This allows access to the trigger. The trigger pivot pin is located far to the rear.

The radically displaced trigger pivot pin accounts for the manufacturer's recommendation to pull the trigger back and down,

rather than straight back as most are used to. Note the location of the trigger pivot located far to the rear of the trigger. Using my handy clothes pin as an improvised armorer's block, a brass punch makes short work of driving the pivot pin to the left in the frame. The pivot pin moves Far Grip frame assembly, hammer, and hammer pin.

The hammer pin is located under the grips, easily allowing you to work the trigger free from the frame. With the locking lever and trigger removed, you can see the beadblasted finish extending evenly throughout the interior of the grip frame. While the beadblasted stainless provides a useful gripping surface on the outside, it may not be the best for the interior of the frame. I decided for the time being to leave the interior finish unaltered.

Trigger Points The trigger is an interestingly shaped piece and serves several functions. Again, I want to call attention to the unusual distance between the trigger surface and the trigger pivot. This accounts for

the unusual motion required to "pull" the trigger down instead of back. The long distance is required for the trigger to perform both its functions—releasing the hammer sear and indexing the cam to move the internal hammer up and down between the upper and lower rebounding firing pins.

The trigger is a less-than-finished part. Of concern regarding smooth pull are the casting bosses and artifacts from manufacture. My observation of the trigger in the lower grip frame indicated that these casting artifacts rubbed against the bead-blasted finish to impart a gritty drag on the motion of the trigger. I lightly burnished the side of the trigger with fine emery cloth to highlight the areas of friction.

Polishing the larger casting bosses flush with the trigger body improved the feel of the trigger when reinstalled after

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Shown is what I call the hammer shell, indexing hammer, indexing wheel, and spring, completing the work on the hammer assembly. Next was smoothing the hammer. After studying how the hammer moved in the grip frame, the next step was to remove the hammer from the frame to see what elements contributed to the gritty feel of the hammer action. Looking at the main hammer components located in the actual grip frame and with the grips removed you can easily see the hammer pivot pin.

The hammer pin presses out of the frame with a light tap from a brass punch. Bond Arms refers to the hammer as a hammer assembly and does not call out the individual parts. There is complexity of the piece, including what I would call a hammer shell that carries the other parts. The actual hammer rides on the star gear that shifts between upper and lower firing pins in the frame. Cycling the trigger indexes the hammer for the next shot.

The entire assembly rides on a stainless steel sleeve through which the hammer pin passes to retain the assembly in the frame. While the hammer is not a “rough” part, it is not polished. A close examination of the

lower portion of the hammer shell shows where it was rubbing inside the grip frame. The actual sear surface is apart of the hammer shell and the slight burnished area next to the star wheel shows how little contact the trigger actually makes with the hammer.

During this operation I informed the customer that I would not touch these surfaces as I did not wish to alter the relationships. The real gains in smoothing the action of the hammer came from the upper frame. The casting lines left in the hammer slot during the cleanup and bead-blasting process area prime example. Since the hammer was not a polished part, and the frame interior was not polished, there was friction in this area. Polishing away the mold lines reduced the gritty feel of the hammer movement.

Final Result I did not fully understand the unusual nature of the derringer’s trigger pull until I had it fully apart and could see how everything fit together. Accordingly, I do not have much faith in my initial trigger pull readings which ranged between 8 and 10 pounds. Averaging nonsense numbers merely creates another nonsense number that tells nothing. By cleaning up the trig-

ger itself and smoothing the hammer slot of the frame I was able to reduce the trigger pull to less than 6 lbs.

Most of that reduction was from cleaning up The hammer shell showing the path of the indexing hammer within the frame and the sear wear area. the trigger casting. The rest merely made it easier for the owner to pull the hammer back. I left all springs original and merely polished the sear surfaces with a bit of metal polish on a cloth. No metal was removed from sear surfaces. The Bond Arms derringers are purpose-built tools manufactured to a price point.

Most of the compromises are acceptable, except for the unfinished nature of the trigger. Upon returning the pistol to its owner I coached them on how to correctly draw the trigger downward instead of back. I also coached them to understand that firing the derringer was a two-handed operation despite its small size. It seemed to the customer to be counter intuitive. My final impression of the pistol is that like most .410 caliber firearms it is assumed that its small size makes it suitable for the novice.

NOTHING COULD BE FURTHER FROM THE TRUTH. THIS IS A SPECIALIST’S TOOL. AG

FROM THE ARCHIVE

New Gunsmith Items

An overview of new tools and products of interest for gunsmiths.

BY DENNIS SANDOZ MAY 2023

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As with any industry, technology and trends in gunsmithing continue to evolve. To keep up with the times, vendors market their wares and showcase them at industry trade shows such as SHOT (Shooting, Hunting, Outdoor Trade Show). Here are some manufacturers of interest and their latest products. Bore scopes are very useful for gunsmiths and the technology improvements have made them increasingly better and less expensive.

Lyman Products and Teslong offer Wi-Fi-based borescopes with a price point that is within reach of anyone that needs one. Both of them work in .20 caliber barrels or larger and use a smart phone to display and record images and video. The Lyman Borecam Pro offers a 24" rigid viewing rod while the Teslong is available with 45" flexible, 26" or 10" rigid viewing rods, along with an optional set of five NTG Borescope Side-View mirrors with an MSRP of \$20 that improves image quality for barrels larger than .20 caliber.

The Lyman Borecam Pro kit has an MSRP of \$369.95 and the base Teslong unit starts at \$89.95. Below center: Oehler System 89 Ballistic Coefficient Chronograph. Clymer Precision (Clymer Tool. com), JGS Precision Tool (JGSprecision.com), Manson Precision Reamers (MansonReamers.com), Pacific Tool and Gauge (Pacific Tool And- Gauge.com), and Star Cutter Company (StarCutter.com) all offer cutting tools for the firearms industry.

Pacific Tool and Gauge announced their new Multi Helix Top Top "One-N-Done" Rougher, Finisher, and Breech/Counter bore all in one chamber reamer. It can plunge the complete chamber cavity from barrel face to rifle bore in one operation. With every diameter and length on one reamer cutting depth consistency will be the same each and every time. One-N-Done

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NEW GUNSMITH ITEMS CONTINUED

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Original caption: Top: Dura Coat Firearm Finishes. Chamber Reamers decrease tooling costs and increase efficiency in a production setting. Oehler Research still offers the time-proven Model 35P Chronograph that features three Skyscreen III detectors, printer, 4' mounting rail, and two folding stands in a hard-sided case. The system makes two velocity measurements for each shot and when they agree you have a valid measurement.

The extra screen allows two velocity measurements and whenever the two measurements are not nearly identical (within about 1%) you should consider discarding that data point and repeating the measurement. Oehler recently introduced the System 89 Ballistic Coefficient Chronograph for me a- Below center: Smart-Jaws sleeves. suring the muzzle velocity and time of bullet flight for calculating bullet ballistic coefficient for your gun and load.

The system presents the horizontal and vertical bullet deflection at target that allows an easy evaluation of the wind and the resulting bullet deflection. It includes three sky screens at the muzzle and microphones at the target. Precise timing is provided by controller units at both the muzzle and target linked by radios with a range of over two miles. The entire system is controlled by a Windows computer.

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The System 89 is ideal for long range shooters because the system eliminates the requirement to hike to the target to measure group size. The Labradar mounts on a standard tripod and provides velocity data at up to five distances out to 100 yards with a .30 caliber bullet and it is easy to set up; simply place the unit on the side of the muzzle and you are ready to shoot. No down range set up is required which is really appreciated when making bullet velocity measurements at a public firing range. MSRP \$625.

A lower priced option, the Caldwell Ballistic Precision Chronograph is supplied with two detection screens, carry case and tripod. It connects to your smart device via Bluetooth and has a MSRP of \$169.99. Finishes and Tools Popular firearm coatings are available from Cerakote Firearm Coatings (Cerakote.com) and Dura Coat Firearm Finishes (DuraCoatFirearmFinishes.com). Duracoat finishes are available in many colors and are an attractive option for a durable finish. I've used Dura Coat Firearm Finishes Dura Blue from

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an aerosol can with good success on new rifle barrels. Some of the newer Cerakote applicators include Score High, Shark Coast Tactical, Snowy Mountain Rifles and Spectrum. The company has a list of coating applicators in your area. Alternatively, you could consider becoming a certified applicator and expand your gunsmithing service offering. Several firearm vises have caught my eye. Berry's Versa Cradle Gun Vise (\$209.99) is a strong and rugged vise constructed structurally of steel and aluminum.

It allows significant rifle fitting adjustments to provide a secure fit to the firearm of interest and because it supports along gun at two points, provides a very stable mount for sight mounting, refinishing, or repair. The 360 degree ball mount allows the firearm to be rotated to a comfortable position for all your long gun work. The vise can be mounted on a bench, tripod or stand for convenience.

Also, accessories are available that allow the vise to be used on a table top, as a shooting rest, or with a checkering cradle. The Hyskore Portable Armorer's Vise (\$69.99) easily clamps or bolts to a table or work bench to securely hold a firearm for cleaning, repair or up-

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grade. The vise rotates 360 degrees in the vertical axis allowing the firearm to be positioned vertically for ease of repair or cleaning.

The Portable Armorer's Vise is a rugged and practical vise to take to the range and clamp to the shooting bench for on the spot cleaning or repair. The Real Avid Master Gun Vise (\$299.99) provides a versatile and 360 degree gun vise for gun cleaning, improvement and repair projects that installs on your work bench. Smart-Jaws Multi-Fit Sleeves securely hold a variety of shapes and the Master Gun Work Station has a very flexible table top and long gun holding fixture.

The company's Smart-Assist Accessory System provides a light, magnifying glass, and smart phone holder for improved work site convenience and efficiency. Real Avid also has a line of AR-15-specific tools. The Tipton Ultra Gun Vise (\$259.99) offers a modular and interchangeable design that will adapt to almost any firearm shape for cleaning, repair, and upgrade. The ball and socket clamp pads adapt to almost any surface for Far Below center: New Wheeler F. A. T. Wrench Screwdriver Set.

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Above center: Wheeler New Ultra Scope Mounting Kit. secure holding. The front and rear clamps are height and length adjustable with fast-turn knobs for quick and convenient secure clamping. Punches, screwdriver sets, wrenches, files, and other hand tools will always be essential.

Obsidian Arms manufactures a Standard Drive Pin Punch Set and AR-15 tool sets such as AR-15 Complete Armorer's Punch Set, AR-15 Specialty Tool Set, AR-15 pivot Pin Detent Tool, AR-15 Bolt Catch Removal Punch and AR-15 Upper Receiver Vise Block. All of their products are supplied with a lifetime warranty. Fix It Sticks offers abroad selection of both general purpose and firearm specific tool kits with individual or all-in-one torque drivers with a focus on portability.

Their Armorer's Tool kit is an extensive, yet portable kit, with most of the tools you need to fix, maintain or upgrade a wide variety of handguns, shotguns and rifles. Wheeler (WheelerTools.com) introduced their new 100 piece Professional F. A. T. Wrench Screwdriver Set (149.99), a solid and complete kit. I've used the Wheeler F. A. T. Wrench for many years with good results. In addition to Wheeler, American Outdoor Brands (AOB.com) also owns Caldwell and Tipton.

Accessories Almost all new firearms are currently available with a threaded muzzle option so that a muzzle brake or suppressor can be fitted relatively easily. The number of companies offering options is Far

NEW GUNSMITH ITEMS CONTINUED

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Far huge, offering products for a wide variety of rifles and pistols.

A few new products in this category worth checking out include Advanced Armament Company's new Ranger line of rifle suppressors with unique models designed for AR-10 and AR-15 rifles, Carbon Research USA line of suppressors fabricated with carbon fiber and aluminum or titanium for light weight and quiet results, Griffin Armament's new DUAL-LOK family of suppressors, Nosler Inc. line of suppressors designed for hunters using today's rifles, and Rugged Suppressors feature a Dual Taper Locking System, ADAPT Modular Technology as well as an unconditional lifetime warranty.

The market for electronic optical sights continues to expand as most manufacturers of pistols, carbines and, more recently, shotguns, are making firearms that are pre-cut, drilled and tapped for easy installation.

Viridian offers the GDO 22 Green Dot Electro Optic as green is a better color for some than red. Night Fision and Ameri- Glo both offer tritium based night sights primarily for pistol applications. HIVIZ Shooting Systems offers Lite Pipe based sighting systems for handguns and long guns.

The Forster Universal Sight Mounting Fixture is ideal for gunsmiths and hobbyists who drill and tap holes for the mounting of scope mounts, receiver sights, and shotgun beads. The fixture will accommodate any single-barreled long gun—bolt actions, lever actions, and pump actions—as long as the barrel can be laid into the "V" blocks of the fixture. With a drill press, this allows precisely drilling and tapping a firearm receiver for mounting sights.

I've used this fixture for mounting scopes on many different rifles over many years with good success. One of the challenges in prop-

erly installing a scope is reticle alignment and I have found the Wheeler scope leveling tools to be very helpful in achieving correct reticle alignment. Wheeler's new Ultra Scope Mounting Kit is ideal. Sight pushers are offered by many companies.

XS Sights has several new sight installation tool and sight kit packages for Glock pistols, such as their DIY Series which includes a Glock sight pusher tool compatible with OEM slides, requires less install force than standard tools, centering scale for precise alignment, and open top design for easy visual centering and clearance for suppressor height optics and sights. The interest in long range shooting has caused a number of scope mount manufacturers to offer bases with built in elevation options.

MDT (MDTtac.com) offers 20, 30, 40, 50 MOA Picatinny scope bases and Ivey Shooting (IveyShooting.com) of-

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Above center: Zero Creep Technology in a Remington 700 trigger. fers Picatinny-compatible adjustable scope bases with an elevation adjustment range of 0-60 MILS or 0-200 MOA. Stocks, Triggers, Cleaners The growing interest in long range shooting has also impacted rifle chassis and stock makers.

Manufacturers such as Boyds Gunstocks (BoydGunstocks.com), GRS Rifle Stocks (GRS rifle Stocks.com), HS Precision (HSprecision.com), Kinetic Research Group (KRG-ops.com), and MDT offer stocks that are easily adjustable to fit the shooter. All of us have shot rifles that did not really fit and can appreciate the value of a correctly fitting rifle. The Score High Gunsmithing (ScoreHi.com) is keen on promoting opportunities for gunsmiths to increase profits by offering services to make rifles more accurate.

Long range shooting improvements can be offered for a relatively small capital investment. Score High offers epoxy stock bedding supplies and fixtures for gunsmithing as well as a complete list of gunsmithing services with their Adjustable Style Pillar Bedding

Kits available for a variety of rifles. Also available are bedding block sets for the Remington 700. Use of the bedding block protects the stock finish and creates a bedded surface like it just came out of a precision mould.

TriggerTech.com offers triggers for gas guns (AR-series) and bolt action rifles. Their Frictionless Zero Creep Technology (ZCTTM) and TKR Technology enables superior trigger sear release characteristics with minimum over travel. Their CLKR Technology allows shooters to adjust trigger pull weight with tactile clicks so the shooter will know the magnitude of trigger pull weight adjustment.

Dillon Rifle Company (Dillon-RifleCompany.com), a sibling company to famed reloading machine maker Dillon Precision, released their new Patrol AR Trigger Family of pre-stage drop-in triggers with a choice of 30 or 100 degree finger engagement. RISE Armament (Rise Armament.com) released their new ICONIC Independent Two-Stage Trigger for the AR-10

and -15 platforms. The ICONIC trigger provides lighter pull weight with minimal over travel, a clean second break without creep, drop in installation, and life warranty.

The first stage breaks at approximately one pound and the second stage breaks at approximately two. Ultrasonic cleaners can make fast work of cleaning and degreasing parts of varying sizes depending on the unit. They also can be set up to clean cartridge cases. A variety of cleaning solutions can tackle a range of cleaning jobs. Infante Ultrasonics (InfanteUltrasonics.com) has their new S9 Subgun & Rifle Cleaning System for long guns, MSRP \$1850.

This accommodates parts up to 19" long and is supplied with one 19.5x11.5x6" tank, two part suspension baskets, and one stainless lube pan. Lyman Products (LymanProducts.com) has the new Power Pro Ultrasonic Cleaner (\$2550) supplied with one tank (35.75x8x6.25") and one parts basket. AG Far

MEASUREMENT & INSPECTION

Remington 788 Stock Upgrade

An overview of refinishing a birch stock, here's how I upgraded a Remington 788.

BY PAUL MAZAN MAY 2023

ORIGINAL PP. 12-14

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Every time firearm prices seem to get out of control, manufacturers look for away to produce a less expensive model. We see that today in the Ruger American and Savage Axis. Back in the late 1960s, Remington did the same thing with the introduction of their Model 788. Among other cost cutting measures the guns were stocked in birch rather than walnut. Here is how I modified the stock on a 788 to give it a more classic look.

It's no secret that firearms prices have gone through the roof over the last couple of years and new shooters looking for a hunting rifle that won't break the bank face some daunting challenges when shopping for new guns. Often the best solution is to look at the used gun market. This isn't anew situation and firearms manufactures have made less expensive models to overcome sticker shock before.

In 1967, Remington introduced the Model 788 bolt action rifle to offer The comb is raised in the Monte Carlo style that was so popular in the 1960s. There is no tapering or fluting at the front of the comb and there is no pistol grip cap. The recoil pad was a later addition. shooters a less expensive alternative to the Model 700. Originally offered in 222 Remington, 22-250, 30-30, and 44 Magnum, it features a removable three-round box magazine and rear locking lugs arranged in three rows of three.

This allows for a 60-degree bolt throw rather than the 90 degrees required for the Mauser-style actions. At first, they were stocked in plain walnut but in an effort to keep costs down later production was switched to birch. Although birch is a fine wood for gunstock use, it does have two drawbacks from the gunsmith's perspective. The first drawback is birch is very plain with little to no figure. Second, birch

does not take stain evenly. In the eyes of many shooters, it has become the mark of a cheap gun.

When I came across a left-handed 788 recently, I jumped at the opportunity to add it to my accumulation of left-handed rifles. My first thought was to simply restock it in walnut. That would be the easy way out, but when I priced stocks from several sources and discovered that even a moderately figured walnut stock was priced just under \$400, I rethought that decision. Perhaps a face lift was in order. Factory stocks are always a compromise between cost, fit, and style.

The dimensions are supposed to be one size fits most, and the style is determined by current ideas of what is fashionable. We have gone from the classic clean lines of the rifles of the first half of the 20th century, to the extreme angles and inlays of the 1960s, and now into polymer and synthetics. Frankly, what the

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stock looks like doesn't have an effect on accuracy, so the design of the stock's appearance can be as simple or extreme as the customer demands. I'm an old baby boomer and really dislike multicolored laminates and polymers. My guns normally wear classic style stocks of reasonably attractive walnut but with today's prices I may have to rethink that preference. The stocks on the 788s were typical of factory stocks supplied by the major manufacturers.

The wood is plain, without a lot of The comb has been straightened and fluted, the pistol grip has been sculpted and made prominent. The black line shows where the Monte Carlo will be removed, leaving a straight

comb. grain or checkering, and in this case, it is made from birch as this wood choice is less expensive than walnut. The end of the pistol grip blends into the stock without a grip cap, the comb is raised in the Monte Carlo fashion, and from the factory, the butt was protected by a plastic buttplate.

All these features, or lack thereof, are designed to make manufacturing easy and keep costs down. This particular 788 had seen the attention of a gunsmith in the past, having been rebarreled in 7x57 and a recoil pad added. To give the gun a more classic and custom look I removed the raised Monte Carlo comb with a rasp, leaving the comb

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. of the stock straight from the nose to the butt rather than raised at the end. The comb was also thinned and fluted at the front while the pistol grip was fitted for a grip cap and raised by changing the angle of the bottom of the stock from the toe to the base of the pistol grip. In this case a recoil pad had been added sometime in the past and that was removed with a steel buttplate installed in its place.

This reduced the length of pull to my preferred dimensions and made it much more comfortable for me to use the scope without having to crawl up the stock. I could have achieved the same length of pull by simply cutting the stock and fitting a recoil pad but, after years of High Power competition, the recoil of the 7x57 Mauser round doesn't seem to bother me. Plus, in wanting to achieve a truly classic look, the checkered steel butt plate is much more appropriate.

Naturally, after all that alteration to the wood it was necessary to refinish the stock. With birch that is always a challenge. Unlike walnut and maple where the grain undulates in regular patterns that take the stain in a manner that give us tiger-like stripes, burls, and various shades in pleasing patterns, birch takes the stain differently in random spots which leaves us with a blotchy look. To at least partially solve this problem, it is necessary to seal the wood before staining it.

There are several pre-stain sealers on the market and many woodworkers use shellac as a sealer on these softer woods. Once sealed, the stain will not penetrate as readily and you may find the need to use a semitransparent oil-based stain to get the color you want. As a gunsmith you must be proficient in both woodworking and metal work and have an artist's eye for style. In this case, the trigger guard is a simple stamped piece of flat steel. It serves its purpose but certainly isn't pleasing to the eye.

A bit of work with the file or Dremel tool can slim and sculpt it into apiece that guards the trigger while also enhancing the look of the rifle. Now with a steel buttplate, grip cap, classic stock line, narrowed and fluted comb, and refinished stock my bargain basement 788 has taken on a custom look that I like a lot more than what I started with. Of course, this is all dependent on what you or your customer like.

If ease of maintenance and resistance to point of impact change due to weather is more important to you than style and the beauty of figured wood, various synthetic stock options may well be your first choice. At my age I don't hunt anywhere near as much as I once did and most of my shooting takes place at the range so I am not concerned with weather related problems and I build what I like and enjoy. You should do the same for yourself and your customers. AG

HISTORY

Rifles for Less Permissive Places

Modern manual repeaters and accessories can offer the same sort of modularity commonly found in self loaders. Here are some options for those unfortunate enough to reside in restricted areas.

BY DEAN MEIER MAY 2023

ORIGINAL PP. 15-21

Self-loading long guns define the modern sporting rifle. Love or hate it, Eugene Stoner's influential design is the basis of the longest serving rifle in United States military history, one of the most popular actions for civilian and law enforcement use, the modern sporting rifle archetype, and the dominant platform in a number of precision and speed oriented shooting competition disciplines.

Decades of statistics from government agency reports such as the Federal Bureau of Investigation Uniform Crime Report and the Centers of Disease Control National Violent Death Reporting System (NVDRS) have shown about twice as many homicides are committed using "personal weapons" (the perpetrator's hands or feet) than by all forms of rifles, not merely the unfairly and overly-maligned AR-15. Sadly, facts rarely convince those swayed by emotional appeal.

As proof of this, a number of countries and individual states have passed legal restrictions against these types of long guns despite no legitimate data indicating any such necessity nor any reliable statistics demonstrating such bans help solve any problem. Of course, there are no end of other shooting options, however, some shooters enjoy features common on such rifles.

Here is around up of manual repeaters offering the same features as self-loading modern sporting rifles that are more likely to be legal where semi-automatics have been restricted. Lever Action Accessories Standard

lever action rifles have been offering fast handling and fast shooting for more than one and a half centuries. Attendance at any organized Cowboy Action Shooting event will confirm this. Of course, these were first designed long before today's sighting and modularity options were common.

No need to let that stop you from updating lever actions with a modern flair. Ranger Point Precision (RangerPointStore.com, was started by Adam and Kimberly Devine to build custom lever actions and the parts to support these builds. The company makes performance parts for Henry Repeating Arms, Marlin Firearms, Winchester Repeating Arms, and Rossi 92 rifles compatible with modern versions and older versions manufactured as early as 1950.

Part types include improved loop levers, improved extractors, trigger kits, loading gates, and action components. They also make various peep sights, fiber optic front sights, dovetail fillers, and optic mounts.

Accessory options such as M-LOK handguards and cartridge quivers for more flexibility and easy access to ammo. Midwest Industries, (MidwestIndustriesInc.com, offers a line of accessories for Marlin lever action rifles.

Constructed from hard coat anodized 6061 aluminum, their handguards are just over 13.6 inches long and weigh six ounces. Rifles without handguard caps or with a forward barrel band can use the optional

RIFLES FOR LESS PERMISSIVE PLACES CONTINUED

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Rifles without a handguard cap and/or with a barrel band can use the optional MI-MAR336A adapter to install this M-LOK handguard. Center MI-MAR336A adapter to install the handguard. As a M-LOK handguard, and type of accessories can be mounted. These kits include a five-slot M-LOK rail section (more can be added) and features a forward mounted sling swivel for the use of conventional hunting slings. MI also makes sighting accessories.

The MI-1895-GRR (Ghost Ring Rail) is hard-coat anodized 6061 aluminum featuring a ghost ring rear sight and mating front sight along with a four-inch Picatinny rail section. The iron sight has a wide windage and elevation adjustment range to accommodate a variety of different ammunition and a sight adjustment tool is included. XS Sights (XS-sights.com), is now offering modernizing options for Henry rifles.

The XS Lever Rail upgrades the Henry 45-70 Government round barrel models to allow for mounting of XS Ghost Ring sights or an optic in multiple positions. Made of lightweight

anodized aluminum, the rail unit is machined to Picatinny specs and allows scope mounting directly over the receiver or forward for scout scopes or red dot sights. Installation requires the removal of the factory rear sight. All screws torque to 20 inch-pounds.

The XS Ghost Ring WS sets are fully adjustable for windage and elevation and come with two apertures (0.230" and 0.191" inside diameter) for different conditions and shooter preference. For a manual take on the PCC (Pistol Caliber Carbine), POF-USA (POF-USA.com), offers the Tombstone, a modern lever-action chambered in a pistol caliber, initially offered in 9mm. The Tombstone uses the same 20 and 10-round magazines as the semi-automatic POF-USA Phoenix.

With an overall length of 36", the Tombstone weighs 5.75 pounds unloaded and has a smooth trigger that breaks at 3.5 pounds. The 16.5" free-floating 4150 steel barrel with removable dual port muzzle break is complimented by a 10.5" Modular Receiver Rail (M. R. R.), with Below center: POF-USA

Tombstone, a magazine-fed 9mm lever action carbine. M-LOK slots at 3, 6, and 9 o'clock along with a 2" Picatinny rail at 12 o'clock.

In addition to rails for mounting your sight of choice, integrated XS Ghost Ring sights are included. Sticking with lever actions, Fight Lite (FightLite.com), offers a manually repeating AR-15. The Herring Model 2024 uses the same stock and bolt carrier as the company's Sport-Configurable Rifle, a self-loading rifle with a more traditional stock design (including wood options) based on the AR-15.

The M2024 takes this idea and makes it a lever action while using the same bolts, barrels, chamberings, magazines, and aftermarket accessories compatible with Arma Lite-type rifles. Straight Pull The internal piston design patented by Eugene Stoner was motivated primarily to save weight as noted in the original patent application. Weight saving measures included having the bolt and bolt carrier serve dual roles as gas piston and gas sleeve, respectively. The more typical metal operating rod or long piston exten-

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Original caption: Top: SGC Straight Pull Speedmaster.

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sion was replaced with a light tube to transport gas pressure to the piston (rear of the bolt) forcing the sleeve (bolt carrier) to be worked rearward, actuating the action. This had the additional benefit of improved accuracy potential. Lacking a large metal op rod and/or piston moving and resetting for each shot eliminates potential accuracy-robbing variability.

Competition shooters in the Service Rifle High Power discipline have noted a well-built match AR-15 is like a “gas-operated bolt action” in its accuracy, especially when compared to accurizing the more finicky M1A/M14 for Across The Course shooting. Removing the gas tube and modifying the bolt carrier with a pull handle converts the AR-15 into a manual straight pull bolt action rather than a gas operated one. As expected, most shooters find little to no accuracy benefit to doing this.

Such accuracy improvement in a manually operated AR is not common and that benefit is slight when it does occur, however, faced with silly legal restrictions, this keeps an AR-15 still shooting. For example, the Australia International High Power Association includes American-style High Power in addition to Fullbore and Service

Conditions shooting and maintain membership with the U. S. Civilian Marksmanship Program.

Due to their national laws, AR-15s used in Australia are manual repeaters converted to straight pull bolt actions. Some of the Australia High Power Rifle team compete in the CMP National Matches at Camp Perry where they use their lower receivers with American-legal gas operated self loaders. Previously, this was a custom proposition as there’s no sensible mechanical reason to convert an AR-15 into a straight pull bolt action.

Given the restrictions in some locations, some companies have made this into a standard catalog option. Southern Gun Company (Southern-Gun. Co.uk, contact information omitted in this digital edition) is a gun maker based in the United Kingdom. Ever since their politicians passed legislation creating a self-loading rifle ban in 1988, manually-operated (Section 1) firearms have become popular. SGC started busi-

The receiver is a 7075-T6 alloy, Magpul PRS adjustable stock and pistol grip, SGC quick release forend, and Walther R50 barrel.

Designed for SGC Straight Pull Receivers and Carriers with twin tapped holes. Offered in 100mm, 125mm, and 150mm lengths, these cocking levers allow adjustment of the cocking knob to the user’s preference. ness in 1969 when Robert Clark was working a gunsmithing apprenticeship and earning a degree in Mechanical Engineering.

Due to legislation in the United Kingdom first banning semi-automatic rifles and then pistols in 1997, Clark started looking for anew line to try and carry on with. He went to SHOT Show in 1997 where he met and became friends with Randy Luth of DPMS (now Luth-AR). That generated his interest in AR-15 rifles. SGC would collaborate with DPMS until they were purchased by Remington, starting by selling their straight pull AR-15 rifles in 1997 using parts from DPMS until SGC’s own manufacturing came on line in 1999.

They have stayed in production of many variants since then. By the end of 2021 SGC completed their four thousandth custom AR-15 rifle, helped by the expan-

RIFLES FOR LESS PERMISSIVE PLACES CONTINUED

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Above center: The Lantac E-BCG has three knob variants and two handle mounting options have along and short (inset) to allow precise positioning with the included tools. A spring assist helps with opening and the CP-R360 "Smoothcam" Domed Cam Pin makes for smooth operation.

Features including an internally flared mag well, radiused Cam Pin slot, reduced diameter barrel extension area for precise barrel fit, rear set screw lug tensioning, and strengthened side walls to reduce flex. sion of the CNC equipment in their workshop. SGC has also expanded from United Kingdom to sales in the United States but their emphasis remains converting semi-automatic weapons to Section 1 UK legal firearms, either with their in-house components or with parts from American suppliers.

To this end, SGC improved use of manual operation by the original, rear-mounted AR-15 charging handle was not ideal so SGC created side-cocking handles along with anew upper receiver design to support it. The company dubs this configuration the Speedmaster as this straight-pull design is arguably the fastest manually-operated design. The SGC Carrier facilitates straight pull twin tapped holes in the carrier with an external handle attached. The Ultimate R/H Cocking Lever come 100mm, 125mm, and 150mm lengths.

The cocking knob can be rotated around the lever. By choosing the proper length and then adjusting the angle of the knob puts it in the best position for it to be immediately grabable by the shooter. SGC puts all of their options on the Straight Pull Rifle Builder available on their website, or gunsmiths can pick and choose the best options for their build. Lantac (Lantac-USA.com, offers similar options.

After the United Kingdom banned private ownership of semiautomatic centerfire rifles, shooters began improvising a variety of methods to convert these rifles into manual repeaters, usually by drilling and tapping the side of the bolt carrier for a handle and using a barrel with no gas port. Lantac- UK owner Paul Oglesby made rifles in this manner for a period before deciding that the system could be made more effective.

Lantac's E-BCG (Enhanced Bolt Carrier Group) Straight Pull is a modified bolt carrier group designed for use in manually operated rifles where no gas system is present (or legal). The patented design is machined from 8620 steel heat treated to a 15N Rockwell hardness of 89.5+. The Ravens CP- R360 Domed Head "Smoothcam" Cam Pin reduces friction and wear to the upper receiver and creates a much smoother operation of the working parts, being turned from 17-4PH (Precipitation Hardened) stainless steel and heat treated.

All bolts are MPI (Magnetic Particle Inspected) for defects prior to coating and all parts are QPQ (Quench Polish Quench) Nitrided to AMS2753B standards. The gas key has been replaced with a guide that fits inside the top of the upper receiver. The carrier body has been reshaped to reduce weight and features an oil reservoir access hole together with spring to assist with bolt unlocking.

The E-BCG includes a modular charging handle system offering the flexibility of either a knurled, neoprene, or original steel and rubber grip design. These are attached with either a full-length straight pull arm or stubby side charging screw in base threading in a 1/4- 28TPI and tightened in place using a provided adjustable spanner. A lubrication port is machined into the side of the carrier so that oil or grease can be applied with the carrier and bolt in battery. The

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Original caption: Top: Robert Clark of Southern Gun Company shooting his SGC 9mm U/L, showing the lever at full extension with no interference from the long magazine. port aligns perfectly with a lubrication reservoir on the tail of the bolt, allowing the user to lubricate the mechanism without having to disassemble the rifle system. All components are machined from stainless steel and QPQ Nitride finished. The E-BCG is designed to function with Lantac's USC (Upper Side Charging) receiver.

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Unique Designs The manually-operated firearms featured here so far are updates or modifications of existing designs. Some builders have taken this a step further by making unique—even radical—designs. The first is also from the Southern Gun Company. In addition to their Speedmaster Straight Pull, SGC has made their 9mm Under Lever, a lever action PCC (Pistol Caliber Carbine) influenced by the AR-15. This latest lever action rifle is a result of SGC's lever release rifles being banned in 2019.

No SGC rifle has ever been used in a crime but, of course, that didn't stop the ban. The 9mm U/L lower receiver is made of 7075-T6 alloy with a Magpul CTR adjustable stock and pistol grip. The controls (safety, magazine release, etc.) are standard AR-15 and the magazine well takes Glock 9mm magazines in 17, 19, and 32 round capacities. The 9mm U/L upper has a bolt with a built-in tilting locking block that locks into a steel insert in the receiver.

A pair of lever extension arms located in the area behind the magazine well cycle the action when the lever loop is worked. The lower receiver is assembled with SGC trigger mechanism components and is fitted with an AR receiver extension, Magpul MOE pistol grip, Magpul CTR stock, threaded stainless steel barrel, and M-LOK handguard. The lever only needs a short throw to actuate the action, so extended length magazines (including long rearward-swept 32-round Glock magazines) do not get in the way.

Pivoting through a few inches of space from the front of the pistol grip toward the magazine, some shooters can cycle the action with their shooting thumb still able to reach the back of the pistol grip, making for a fast manual action. This is accomplished in part with a lever loop angled significantly downward, fitting flush across the front of the pistol grip with the bolt in battery. The upper receiver assembly features a SGC quick release forend and the barrel is threaded for muzzle brake.

The SGC 9mm U/Lisa commercial option. Now let's look at some interesting custom options. John "Bricks" Brickey runs Brick Wur X Manufacturing (BrickWurX.com). With a company name based on his nickname, Brickey typically does custom one-off jobs. Many of his builds have a science fiction influence, such as his build that looks like the AER-9 Laser Rifle from the Fallout video game series.

The company started as a hobby craft for Brick Wur X and Brickey does not currently have an Federal Firearms License or Special Occupational Taxpayer permits but this is being worked on. The Brick Wur X Red Ryd-AR is based on the famed Red Ryder BB gun with a huge influence from the beloved holiday classic, A Christmas Story. Brick Wur X is prototyping a polymer conversion stock assembly, which will create a commercial version of the Red Ryd-AR and parts to work with any mil spec forged lower.

Work on the needed injection molding and parts is currently in the works, restarted since being delayed dur-

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ing Covid shutdowns. Patents are in the works with the U. S. Trademark & Patent Office. Brick Wur X custom builds. PSA does custom roll-mark designs on their lowers for customers. They also offer a “Christmas-15” made with A Christmas Story movie motifs on it.

THE RED RYD-AR USES A PALMETTO STATE ARMORY, AS DO MOST OTHER

This folding custom stock by ADF Projects & Designs replaces Ruger’s more traditional wood stock. The most radical part is the customized machined custom lever, shown held above Ruger’s original lever. The loop was rotated down about 40 degrees to accommodate a pistol grip. ADF designed a two-piece chassis to hold the Ruger barreled action using 3D CAD software.

Attached to the chassis area Magpul Zhukov-S folding stock, CAA AK-47 pistol grip with the front beveled to fit the new lever loop, and a Midwest Industries AK-47 forend. Like the soft glow of electric sex gleaming from a window, this non-fragile homage to a certain beloved Christmas movie is based on the famed Red Ryder BB gun. This inspired the Red-Ryd-AR but was specifically modified to better mimic the Daisy Red Ryder BB gun as a lever action.

Originally, Brickey’s lever-action design was only incorporated as a type of charging handle, however, the more the concept was developed, the closer it merged into a true lever action. All of the lever action mechanical provisions are contained in the rear stock assembly with only a lower front trigger guard

sleeve being required to modify any forged AR-15 lower into this lever-action conversion.

The trigger guard sleeve requires very minimum modification to an existing forged lower, requiring only light Dremel work near the lower mag-well, and the addition of two drilled holes. Brick Wur X plans to offer an included guide jig when these are offered as a kit. The motif is obviously driving the nostalgia angle and the only improvement offered by a lever action AR-15 is use in places that restrict against self loading rifles.

Still, if a shooter is forced under such restrictions, they may as well enjoy some style along with it. Another set of lever actions are custom jobs by ADF Projects &

RIFLES FOR LESS PERMISSIVE PLACES CONTINUED

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Above center: ADF was heavily influenced by the HK G11. The chassis and internal components are made from blocks and sheets of aluminum. The non-disintegrating 3D plastic printed, pinned links are advanced by the modified lever. Cartridges are pushed up by a lifter from the open-topped link into the awaiting out-of-battery bolt. Designs. Tony French created two unique designs, both based on the Ruger 96 44 Magnum lever action. The first is a folding custom stock that replaces Ruger's more traditional wood stock.

The most radical part is a customized machined custom lever with the loop rotated down about 40 degrees to accommodate a pistol grip. ADF designed a twopiece chassis to hold the Ruger barreled action using 3D CAD software. Attached to the chassis area Magpul Zhukov-S folding stock, CAA AK-47 pistol grip with the front beveled to fit the new lever loop, and a Midwest Industries AK-47 forend.

ADF's second and more radical lever action design came from the fact that the UK doesn't have explicit ammunition capacity re-

strictions. There is no ban, restriction, or other additional legal requirements on the possession, purchase, sale, or import of high-capacity magazines in the UK for rifles, shotguns, or pistols. So the designer set out to create the highest potential capacity possible: belt feeding.

Top Far After spending about six months and \$650 in parts and machine work, ADF created a bullpup, belt fed, lever action long gun also based on the Ruger 96. The design began as an exercise in computer aided design, modeling the Heckler & Koch G11 into a lever action. The CAD designs led to specifications for a chassis to hold the barreled action of the Ruger 96 machined out of blocks and sheets of aluminum. The CAD design part was almost conventional and similar to the previously described folding stock.

However, the belt feed added another element. The ADF bullpup uses a non-disintegrating belt consisting of 3D plastic printed pieces held together by pins. The 44 Magnum cartridges are held in a simple friction fit

with the open end of the link up, the opposite direction typically seen in belt-fed machine guns.

This is because the ADF build uses a lifter actuated by the lever that presses the cartridge up and out of the link and into the awaiting outof-battery bolt similar in manner as the magazine feed the Ruger 96 was originally designed to work with. Of course, the linked belt can be made as long as the shooter cares to. Both lever actions required a re-designed loop. The bullpup also needed a lever action transfer bar that operated the Ruger action and actuated the belt-feed indexing mechanism.

An extended trigger transfer bar assembly with return spring was also needed to work the Ruger's trigger mechanism now housed in an aluminum chassis. The laws that motivated these manual actions serve no value to society. However, it is a testament to these clever gunsmiths to build firearms that follow such restrictions while providing good shooting performance. AG

FROM THE ARCHIVE

Increasing Your Revenue

BY EARL ROBERTS MAY 2023

ORIGINAL PP. 22

So, you are doing what you love and you're running your own gunsmith shop or some other firearms related business and doing pretty good. But you can't help but wonder what else could be done to bring more customers through your doors. I constantly ask myself what else I can do to stay current, proficient, and relevant. What other amenities can I offer without over taxing myself? What are my customers looking for now? What does the future look like?

If you ask yourself similar questions or have ever been curious about how to increase your revenue, then keep reading. I've put together a few ideas that most gunsmith shops and independent firearm retailers can add in to bolster profitability with a minimum of cost and effort. Keep Training Quoting the words of Henry Ford, "Anyone who stops learning is old, whether at twenty or eighty.

Anyone who keeps learning stays young." Now, physically being old is not necessarily a bad thing when it comes to guns but having an old mind may prevent you from getting young jobs. Establish some sort of training plan for you and your business, dedicate a few hours or days each month and/or year toward continuing education. Find a mentor to study under and visit that person often.

Sign up for courses and seminars, dedicate time to visiting gun shows and auctions with the intent on learning about the resale market and how firearms are graded. Join organizations dedicated to your profession and actively participate in with

them and their events. Take Care of Your Employees In the words of Richard Branson, "Take care of your employees, and they will take care of your business." If you have employees, your goal is to get them working at their full potential to accomplish common goals.

To do this, you will need to support, train, motivate, and encourage them. Some key factors that motivate employees are appreciation or recognition for a job well done, being in the know about company matters, job security, good wages, loyalty from management, and good working conditions, just to name a few. Look at your employees. Are they trained? Do you offer continuing education? Do they feel like they are truly part of the team, along with some formal acknowledgment and an "at-ta-boy" for going above and beyond?

Are reasonable corrective actions taken when your workers fail to meet standards? Many departing employees are not leaving their jobs, they're leaving poor management or a subpar working environment. Don't give good employees a reason to leave. Take Care of Your Customers Once you have a good employee package and management in place, look at your customers and customer retention. Are new customers coming into a welcoming environment? Do returning customers feel valued?

Look at your shop through the eyes of a first-time visitor. Confirm that you have desired products on the wall. Identify what would turn you from a visitor into a customer and then make those changes.

Consider a customer loyalty program or a members-only discount program for your returning customers. If a customer is willing to return to your business, you can bet they are going to recommend you to a friend.

Put Yourself Out There If you want to grow, you definitely need to consider a website and social media presence. Keep your website current and easy to navigate. Use social media to showcase some work you have done and encourage customers to follow, like, comment on, and recommend your social media page. Business cards are also great, but you need to be out there putting them in the hands of potential customers. Make yourself known at the local sportsman's clubs, hunting clubs, ranges, and gun shops.

Set up a table at gun shows and shooting related swap meets. Be present (better yet, participate) in local turkey shoots, shooting leagues, and shooting competitions. Go to any turkey shoot (also known as a block shoot, card shoot, or meat shoot in some areas) and ask a shooter who made their barrel. They won't just say a name, they will actually point to their gunsmith if there. At a bullseye pistol league, ask a shooter who did their trigger job or mounted their optic.

Again, they will likely point to the 'smith if there. Bottom line is, in those situations the gunsmith was there, part of the shooting community, and known to the shooters. Expand Your Scope of Practice Many people are buying guns online now and those guns must be sent to

METALWORKING

Reader Forum

BY AMERICAN GUNSMITH EDITORS MAY 2023

ORIGINAL PP. 23-24

Corrosion Basics for Gunsmiths I have been an American Gunsmith subscriber for many years. Brian Smith's "Corrosion Basics for Gunsmiths" (February 2023) was the best article I have ever read in your publications. My role with my company for over 32 years has been to deal with corrosion issues primarily in stainless steels although other base materials are concerns. Thanks for the great article! yourself. Consider purchasing a Kydex press and start making custom holsters and pouches for magazines and equipment.

To add leather holster work to your shop menu, consider enrolling in a leather holster making course or check out the training videos at HolsterSmith.com covering everything from designing to building high quality leather holsters. Offer Training If you have the space, ability, knowhow, and certification to teach classes, then do so. If not, considering a partnership with a local instructor.

New gun owners are seeking information on how to use and care for their new gun while seasoned shooters are looking for ways to make them a better or faster shooter. Offer classes such as a basic firearms cleaning, firearms safety in the home, introduction to shooting, and concealed carry. Open the classes up to the public to bring more people into your shop, and maybe offer the class attendees a discount to anyone who makes a purchase in your shop.

Conduct Appraisals Death, divorce, bankruptcy, estate planning, liquidation, natural or man made disaster, insurance litiga- I'm along-time subscriber. "Corrosion Basics for Gunsmiths" by Brian Smith (February 2023) was very interesting and informative. The fact that some well-known products are potentially harmful set

me to wonder if the silicone-impregnated "gun socks" might also harbor a potential surprise? I live in a dry climate and keep my gun-socked long arms in an upstairs interior closet.

Since the metal surfaces are lightly coated with what's termed as a "longterm storage protectant" there's no doubt that there is some con- Mark Yapple tion, a collector making a purchase, or an average Joe wanting to sell a used gun are just a few reasons someone may need an accurate, trusted, and certified appraisal of a firearm.

AGI offers a Certified Firearms Appraiser Course (AmericanGunsmith.com/product/certified-firearms-appraiser-course) that will provide you the tools, training, and certification need to become a Certified Firearms Appraiser and how to market your services. There are many ways we can improve our business and further sources of additional income. These area few that most shop owners can implement for their business.

Whenever and however you decide to increase your revenue, good luck and thanks for doing your part in this awesome firearms industry. AG Keep Training Take Care of Employees Take Care of Customers Put Yourself Out There Expand Your Scope Offer Training Conduct Appraisals tact between the silicon and the petroleum distillates (and possibly Teflon) in the oil. So far I've seen no problem but wonder about longterm storage and like to know what Mr. Smith thinks about it. S.

Sutton Salmon, ID Author Brian Smith responds. Thank you all for the kind words regarding my article. I am aware of silicone-treated gun sock products but personally have no experience with them aside from one containing a firearm that I purchased. Af-

READER FORUM CONTINUED

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ter handling the gun sock to get the firearm from the gun shop to my home, the skin on my hands broke out in a rash. Because of that, I tend to avoid silicone impregnated gun socks. Once burned, twice shy and all that. I have read anecdotal experience by others which is generally positive for protecting firearms against corrosion.

The silicone itself is generally inert, but I recall reading of two instances over the past 20 years where the silicone carrier, that is, the “solvent” in which the silicone oil is dispersed, was thought to have caused deterioration to the finish on a gun stock. I’m sorry that I don’t have details on the finishes that were affected. I recommend web searching for reviews for specific silicone-treated gun socks as a guide. Manual Glock Safety? In the February 2023 Reader Forum, L.

Walters wrote in about a Glock Safety Installation asking about options for installing a manual safety on Glock handguns, stating, “A 1911-like thumb safety requires modification of the frame and doing so is best handled by using a jig typically available for \$80-\$100.” I’m a licensed firearms dealer and gunsmith who has one such Glock and I love it. However, I also believe in the arguable benefits of having a manual thumb safety.

I know one such manual safety system as the Cominolli Safety System and would like to offer installation of these as a service for my customers. I’ve tried the email address and phone number for Cominolli Custom but have not been able to get in touch with anyone. It seems their website has been down for several years. Do you have a source for purchasing this template and the parts? By the way, love your magazine. Keep up the great work.

Anthony’s Gunsmith Services You’re correct, Cominolli Custom hasn’t updated their website or contact in several years. However, I was able to speak with Mr. Cominolli directly. He is no longer selling the parts or doing this work but Alex Hamilton at Ten-Ring Precision (TenRing.com, alex@tenring) is. Mr. Cominolli can be reached by phone for technical questions about this at Tarnhelm Supply Co. (Tarnhelm.com, also offers a manual Glock safety, among other modifications for a variety of handgun models.

They sell the parts as a kit or can install it for you. Officer Model Fixes Regarding “Officer Model Fixes” by R. M. Layng (March 2023), maybe it’s me but at the end of the article no exact issue was said to have been the problem. Early on, he wrote that most would say it was the recoil spring. Replacing so many parts, it’s hard to say what was the problem. Normally, I would replace one part at a time to see what would solve the issue.

If it was a customer’s gun, I would replace the most logical part and go on from there, not replace every spring, hammer, and slide stop. It was a good article on overhauling but didn’t seem to address problem solving. Frederick Ludwikowski Clarksville, TN Author R. M. Layng responds. Thank you for the constructive criticism on my article. I’ll do well to keep this in mind for my successive work. Please forgive the mixup.

Reading it again, I see your valid points. (AGS) Madison, AL If I may offer a counterpoint, my background and career are centered on repair machining, R&D, and prototyping. Whenever I do any repairs, doctrine has always been to preventatively replace the inexpensive wear parts like springs as a matter of course. My figuring was, since I had it apart anyways for inspection I might as well just put new parts in to keep her running. I value the feedback. Thanks for reading! AG

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