



JUL 2013

DIGITAL ARCHIVE
EDITION

PRECISION ARMS WORKSHOP

AND THE AMERICAN GUNSMITH ARCHIVE

A TECHNICAL JOURNAL OF CRAFT, REPAIR & RESTORATION

07

ARCHIVE ISSUE NUMBER

INSIDE THE ARCHIVE

CONVINCING 1911 PISTOLS TO FEED AND FUNCTION

SOFT SKILLS • WORKING A MARE'S LEG • STOCK STIFFENING: A NEW AND EFFECTIVE WAY • JUKAR PISTOL RESTORATI...

ORIGINAL METHODS. MODERN ACCESS.

ARCHIVE EDITION 115

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AMERICAN GUNSMITH

DIGITAL ARCHIVE EDITION • JULY 2013

ISSUE RECORD

ORIGINAL DATE	July 2013
VOLUME	Archive volume not stated
ISSUE NUMBER	07
SOURCE ID	ag-9e0812a8f84ed02c81cce206

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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FROM THE ARCHIVE

Soft Skills

BY AMERICAN GUNSMITH EDITORS JULY 2013

ORIGINAL PP. 2

From Range Report (rangereport.org), tips on better serving your customers. Gunsmiths and shooting range employees can be incredible resources for product knowledge. Most have extensive training and can accurately and thoughtfully help a customer select the most appropriate firearm, ammunition and accessories that fit their needs. On the other hand, that same sales person may not have the same level of customer service skills when it comes to welcoming new customers.

Soft Skills “You have to hire people who have a basic desire to be nice,” states Dan Mann, founder and president, The Mann Group, a retail consulting firm. “Unfortunately you can’t train nice. Range owners can hire people who have the soft skills and teach them how to apply that consistently.

Good opening phrases can be taught, reinforced and dialed in.” People skills area critical element to consider. “We don’t hire our sales staff based on gun knowledge,” says Ed Santos, founder of Center Target Sports. “The absolute most important key to our hiring is that they have people skills and that they fit with our team. We can teach the gun knowledge. We can’t teach people to be responsive, compassionate and understanding.

Those are the top one criterion when hiring new employees.” Although not all facilities offer comprehensive retail operations, attention to customer service still plays a significant role in generating loyalty from experienced shooters. Recognizing the importance of first

impressions on first-time customers who may be slightly uncomfortable and knowing how to handle those situations can pay off.

That same attention to personalized customer service can be even more important with experienced shooters who may be in a situation to champion your facility to their circle of friends and neighbors. “The goal of customer-service training is making your sales staff aware and understanding what your customer may be going through,” explained Mann. “We must learn to become great listeners and ask questions. Don’t assume anything until you can better understand by listening what the customer is doing.

By listening well and asking questions you demystify the experience for the customer and make the range and retail operation very approachable. When they are in a situation in which they feel comfortable, they will stay longer and buy more.” At Center Target Sports, employees will answer a customer’s question by walking around the counter and taking them to the part of the range or store that holds the answer, and, if needed, offering them product recommendations.

Those few extra steps have impressed many first-time visitors. Miles Hall, founder and president, H&H Shooting Sports Complex in Oklahoma City, OK notes, “Good customer service is all about listening and communicating. It’s always about informing and educating. We are here to help, and that’s the way it comes across. People-skills training is at the root of our company.”

RIFLES

Working A Mare's Leg

Henry Repeating Arms brings back a favorite from the days of black and white TV.

BY CHICK BLOOD JULY 2013

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Let me see. Was it used by Chuck Connors to wipe out undesirables roaming the streets in *The Rifleman*? Was it first seen in Wyatt Earp, Western Marshall or Lawman or Gunsmoke or Rawhide? Maybe it wasn't on TV after all. Maybe it was carried by Rooster Cogburn while he charged across a huge field shouting at some creep in a black hat who was waiting on the other side, "Fill your hand, you sunofabitch!" No, to all the above.

You'd have to have been a fan of another action hero to be in on the first appearance of a Mare's Leg. The hero's real name was Steve Mc Queen. In 1957, he showed up on the small screen as bounty hunter Josh Randall in *Trackdown*. The show was retitled *Wanted, Dead Or Alive* and Josh Randall toted his leg-holstered lever action throughout the series TV run from 1958 to 1961. The series died, but the gun didn't. It was in the film *Wanted Dead Or Alive* in 1987.

In *Once Upon A Time In The West* it was the weapon of choice carried by Woody Strode during his hunt down of Charles Bronson, and it was in on the defense of Mexican peasant farmers in *The Magnificent Seven*. The Mare's Leg was

most recently seen in a 2009 film *Zombieland* as the sole zombie eliminator of Woody Harrelson. Those of you who have seen the television shows or films mentioned here may recall the pistol is cocked by hanging on to the lever and rotating the rest of the gun by it like a yo-yo.

Yes, I said "pistol." Despite the fact it began life as a rifle and has a drastically shortened barrel—several inches too short to remain legally classified as a rifle—it can be 9 inch barrel only extends 6 inches beyond the forend of a Mare's Leg. The gun is available in .45 Long Colt, .44 Magnum and .357 Magnum calibers. A .22 LR version lacks the brass receiver. All are listed and sold as lever action pistols. Considered a pistol as long as it is openly carried in a holster.

I've had cause to wonder why it was called a Mare's Leg. Why not a Stallion's Leg or Bronco's Leg? I can only guess the prop man/gun wrangler figured the Model 1892 he'd cut down the stock on and had a gunsmith fabricate a rounded lever for looked more like it would belong on a female horse. Another thing, that original pistol

was made from a caliber .44-40 Model 1892. In the TV programs, Mc Queen's belt was filled with .45-70 cartridges.

I reckon the actor felt the collection of big rounds he was packing would make Josh Randall a more fearsome character. Before going to work on the Henry Repeating Arms Mare's Leg, a quick study of some of the screw heads in the pistol told me to reach for my thin blade Magna-Tip driver bits. They were added to my tool inventory way back when the Auto 5 Browning was having a resurgence of popularity. Even though the great shotgun was taken out of production, I didn't take stupid pills and discard the bits.

It has turned out to be a wise decision as there remain dozens and dozens of A-5s to service. Besides that, a few of the screw head slots on a Mare's Leg demand them and I've found the same to be true with other guns. Before tackling this very interesting throwback to Josh Randall, go through the usual drill. You know, make sure the magazine tube carries no cartridge, the chamber is empty and you have not overlooked donning your eyewear. Once positive the pistol is empty, cycle the action to cock

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the hammer. Follow this by relieving the now tensioned mainspring (50). Hold on to the hammer, squeeze the trigger and ease the hammer forward to its fired position. Field Stripping Cycle the action far enough to cock the hammer. Hold on to the hammer, pull the trigger and ease the hammer all the way forward. You have just taken some tension off the mainspring. Open the lever (23) again, but this time only enough to clear both sides of the lever screw (12) from the receiver (1). Back out the screw.

The lever is taken out downward. Remove the bolt (16) to the rear. As a result, the ejector (31) and its spring (32) may tumble from their receiver slot as a unit. If they don't, reach in with tweezers or a pair of mini long nose pliers. Maintain the ejector and spring as a unit, lift them from the slot and don't lose them. The gun is ready to be basically cleaned in its present state. If that's your decision, remember to operate from breech to muzzle with the barrel.

If there is anything close to looking like a build up on the firing mechanism, which is still attached to the trigger guard plate (2), you may decide to carry the field stripping further. Henry Repeating Arms has gone beyond many by including a complete drawing of the firing system in the schematic. You've also noticed the pictured stock of the rifle therein hasn't been cut off. The reason is simple and to your advantage.

The action of a Mare's Leg is the same as that of Henry's Big Boy lever action and the parts interchange. The one exception might be the lever itself. Having a Mare's Leg lever on a full stocked rifle could require considerably more dexterity and skill to function than it does when the stock has been drastically shortened.

I hopefully presume, however, that an owner with a driving urge to perform 360 degree spins in cocking a full length carbine or rifle would set him or herself enough dry practice sessions to safely satisfy that urge. You might have decided to pass beyond field stripping and attend to the dirty trigger guard and trigger assembly. Let's do it. Four screws (45,46,47 and 48) unite the plate with the receiver and its contents. Take all of them out.

The plate is a snug fit but doesn't call for brute strength in getting it to let go. Now, remove the tang screw (49). Pull the stock off to the rear. By the way, be a bit careful with sharp tools and the receiver. The latter is Prior to field stripping, the hammer must be fully forward to relax some tension on the mainspring. solid brass, not merely brass plated. I'm told no American-made rifle since the original Henry wears as much brass as the Mare's Leg. You scratch it, you need to polish it out. Got the idea?

Keep the gun inverted and look down into the receiver. Locate the locking bolt (35). Lift it out and don't lose its spring (59) in

the process. Turn the receiver on its side. When you removed the carrier screw (46) it was very likely the carrier assembly dropped out. If it remains in the receiver there might be a possibility a carrier component requires replacement. In such a case, you can insert a talented finger through the ejection port to free the carrier (27), its dog (28), dog pin (29) and spring (30).

Otherwise, you can leave the carrier assembly unmolested. For now, the same truth applies to the hammer assembly with its transfer bar safety system. More about the hammer set up later. In the meantime focus on the front end of the pistol. With the muzzle facing away and you looking down on the barrel you can remove the inner magazine tube (34) with a twist to the right and mild pull. Set the inner tube aside. A replacement is available but only as a complete unit. Turn out the barrel band screw (53).

The band (52) slips over and off via the front sight. Remove the forearm (55) toward the muzzle. There's still the outer magazine tube (37) to deal with. It is attached to the barrel with a tube support (42). The support, in turn, is dovetailed and pinned. You have to drift out the support pin (43) from the left with the muzzle pointed away from your belly button before you can move the support out of the dovetail.

WORKING A MARE'S LEG CONTINUED

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A Uh oh. The outer tube still doesn't come off? The reason is an 8x32 conical pointed set screw (44). It's located in the receiver just under where the forward end of the trigger guard used to be. The screw has had blue Loctite applied to its threads. Light to medium heat may be required to break the bond. I chose an alternate means to a naked flame and found it most satisfactory. I sawed off a threeinch length of drill rod matching the head diameter of the set screw.

After resting one end of the rod on the screw, I heated the opposite end while holding the rod in place with long nose pliers. It wasn't long before enough heat had traveled down the rod and warmed up the screw enough to

defeat the thread bond. I made a note to apply fresh Loctite to the screw during reassembly.

In retrospect, I think I'd have achieved the same result by applying the smallest tip of an electric soldering iron. An ill-fitting drift punch has been placed through the assembly to keep parts loosely aligned. to the screw head before pulling the trigger. Either way, avoid contacting the brass receiver or guard plate with a torch. Trigger Group Disassembly To free up the hammer (3) back out its screw (45). Lift out the hammer.

Remove the trigger/rocker link (15), the transfer bar pin (14) and the mainspring yoke pin (60). The transfer bar (13) can be picked

from the body of the hammer. This is followed by the rocker (6) and rocker spring (8). You're faced with two differing diameter pins. The trigger and sear pins (10) mike out at 0.094. The lever detent and trigger lock pins (11) measure 0.078. Removing the trigger pin lets you separate the trigger (4) from the sear (5). After the sear has been taken out, drift out the rearmost #11 pin.

Follow with removal of the trigger lock (7) and its spring (9). The other #11 pin maintains the lever in its closed position by the pressure it puts on the lever plunger (24) and spring (25). The little lever plunger pin (26) secures these very small parts inside the lever (23). A

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Further Bolt Disassembly The front and rear halves of the firing pin (17 and 18) is retained by two roll pins (21 and 22). These two pin have been OEM installed via the bottom of the bolt (16). Keep them moving in the same direction to drift them out. They retain a bit more than the split firing pin. Specifically, the firing pin spring (20), the extractor (19), extractor plunger (57) and extractor spring (58). Be alert for small flying objects.

Reassembly Tips Fundamentally, the Mare's Leg is reassembled in reverse order but there Henry Repeating Arms Big Boy "Mare's Leg" (Speci ications subject to change without notice) 1 Receiver 2 Trigger Guard Plate 3 Hammer 4 Trigger 5 Sear 6 Rocker 7 Trigger Lock 8 Sear/Rocker Spring 9 Trigger Lock Spring 10 Sear/Trigger Spring 11 Lever Detent/Trigger Lock Pin 12 Lever Screw 13 Transfer Bar 14 Transfer Bar Pin area few things to keep in mind.

First, to avoid any interference between the guard plate and the receiver the link end of the trigger/ rocker link (15) must fully seat

in the assembly. If the link fights you going back in, try flipping the trigger/rocker end for end. Second, the tab on the lower front of the hammer must fit under the rocker. Third, the transfer bar (13) only fits inside the hammer body one way and must be seated there below the centerline of the rear firing pin half.

Fourth, when reinstalled in the bolt both halves of the firing pin plus their spring must 15 Trigger/Rocker Link 16 Bolt 17 Firing Pin-Front 18 Firing Pin- Rear 19 Extractor 20 Firing Pin Spring 21 Firing Pin Retainer Pin, Front 22 Firing Pin Retainer Pin, Rear 23 Lever 24 Lever Plunger 25 Lever Plunger Spring 26 Lever Plunger Pin 27 Carrier 28 Carrier Dog 29 Carrier Dog Pin 30 Carrier Dog Spring 31 Ejector 32 Ejector Spring 33 Mainspring Yoke Assembly 34 Inner Mag. Tube 35 Locking Bolt 36 Barrel 37 Outer Mag.

Tube 38 Mag Tube Follower 39 Mag. Tube Spring 40 Mag. Tube Knob 41 Mag. Tube Knob Pin 42 Mag. Tube Support 43 Mag. Tube Support Pin 44 Mag. Tube Retaining

Screw 45 Hammer Screw 46 Carrier Screw be aligned. Finally, the front firing pin half has a flat on its leading end. Do not let it rotate during reassembly. One way to assure this is to form a chisel end on a wooden stirring stick and slip the "wedge" between the pin and inner side of the bolt. This is not difficult.

Just insert the wedge into the receiver slot usually occupied by the lever. You know, all that's needed to transform a Mare's Leg into a legally carried and serious weapon would be a rather expensive leg holster, but the carrying couldn't possibly be considered concealed.

AG 47 Trigger Guard Plate Screw 48 Trigger Guard Plate Support Screw 49 Tang Screw 50 Mainspring 51 Mainspring Seat 52 Barrel Band 53 Barrel Band Screw 54 Buttstock Assembly 55 Forearm 57 Extractor Plunger 58 Extractor Spring 59 Locking Bolt Spring 60 Mainspring Yoke Pin 61 Front Sight 62 Rear Sight 62A Rear Sight Elevator

RIFLES

Stock Stiffening: A New And Effective Way

This somewhat unusual, but very effective, method of adding rigidity to a target stock resembles endoscopic surgery in its approach, but the result is better accuracy.

BY NORMAN E. JOHNSON JULY 2013

ORIGINAL PP. 7-9

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In our never-ending search for supreme accuracy and precision from our best rifles, no stones should go unturned. I was reminded of this while shooting with one of my 13.5 pound target rifles, chambered in 6mm PPC and equipped with a 20-power scope. The rifle has a composite stock with a rather slender section extending through the small of the stock, including the curved pistol grip forward of the comb. The stock is actually small enough in this area for my first three fingers and thumb to completely encircle it.

One day as I was shooting from benchrest, I was getting a few annoying vertical groups for no reason I could immediately identify. Then, as a test, while I was viewing through the 20-power scope with the forend and buttstock resting solidly on the front and rear supports. I placed my hand on the rifle stock in the same fashion as used to fire the rifle, thumb on top, three fingers below and extended index finger on the trigger.

This was all the hand contact that was needed to noticeably spring the stock downward enough to cause scope reticle movement on target. Normal procedure in firing a rifle is to apply even thumb pressure to the stock equal to that of the trigger finger during trigger

squeeze. Such pressure is not always equal between thumb and finger, resulting in uneven pressure to the stock, which was exactly what I was seeing.

Following this I shot a five-shot group while encircling my right thumb on the stock with somewhat varied contact firmness between shots, but not enough to discernibly 5 inches, which is the weakest area of bridging support as a rifle is placed across sand bags in preparation for shooting. The guide tape is pictured here used to direct the drill. disturb the scope reticle position, which was carefully centered on the aim point at the start of each shot.

Sure enough, the group resulted in vertical change from the shots fired with no thumb contact. I then tested one of my Model 40X Remington rifles with a heavy walnut stock and could not duplicate the scope reticle movement. I immediately decided to make a careful evaluation to see if any corrective measures might be applied to the offending stock. Stock Stiffening Idea The idea struck me to place three spine-like rods into the small of the stock diagonally upward through the pistol grip, straight up to the

STOCK STIFFENING: A NEW AND EFFECTIVE WAY CONTINUED

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The rods are then marked for length to fit each hole. Along, thin stick is used to apply bonding material to the walls of each hole. integral aluminum bedding system used in this type of stock. Entry for the three rods would be at the lower border where the grip cap would normally be. As rod material I used lengths of round steel files 5/16 inch in diameter. The rods would be bonded in place with J-B Cold Weld material, which has a tensile strength and stiffness near that of steel.

I felt all this should serve to help stiffen the stock in this weakened area. Final tests would tell. As a gunsmithing procedure, the work was straightforward. A piece of masking tape was placed along side the pistol grip as a drilling guide. Three equally spaced entry marks were placed at the lower border of the grip cap for the start position of each hole.

The three holes were then drilled, being sure to stay near grip center and not too close to the sides of the stock.

The holes were drilled to a depth of about three inches, or until contact was made with the metal bedding block. The material inside the stock turns to powder with no apparent strands as used in some fiberglass application. The material is very lightweight. I used compressed air to clean up the holes. With the J-B Cold Weld mixed, the sides of the holes and the rods were coated. Warming the material makes insertion easier. If necessary, use a punch to help insert the rods so any air can be pushed out.

As a finishing touch, use J-B Cold Weld to fill the holes flush and finish to the same color as the stock. Similar to endoscopic surgery,

the holes are small. As an alternate method of covering the holes, I applied paint was later used to match stock color. I applied a decorative brass grip cap to the stock on one of the two rifles. Testing The Work The rifle was set aside in a warm place for 24 hours for the Cold Weld material to set firmly before testing it.

With the rifle placed in a padded vise, I could immediately feel there was an increased stiffness in the involved area. This was further borne out as I placed the rifle on firm sand bag rests. The stock definitely withstood hand pressure better as I pushed down on it with the reticle of a 20-power scope fixed on a one-inch aim point at 100 yards. It also

STOCK STIFFENING: A NEW AND EFFECTIVE WAY CONTINUED

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Adding stiffness to the narrow area of the stock helps reduce flex while shooting. made shooting those small groups on target noticeably easier. Would I recommend this stock stiffening procedure for all rifles? Perhaps not. But where pinpoint accuracy is sought after, as in benchrest shooting or long range varmint shooting, it gets my nod. Where we can improve accuracy without a great deal of cost or effort, it should be done. The two pairs of groups shot at 100 yards clearly show this.

The targets showing vertical grouping, compared with the near perfect groups, were made by purposely applying uneven hand pressure to the stock while shooting.

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The weaker the stock in the pistol grip area, the greater the vertical grouping is likely to be. Heavy trigger pull is a primary offender here. In benchrest shooting there should be as little hand contact with the stock as possible.

But, where a heavy trigger pull is present, thumb and hand pressure must be commensurate to the trigger pull force or the rifle will surely move as the trigger is pulled or squeezed. This is where added stiffness to a stock really pays off.

PISTOLS

Jukar Pistol Restoration

the bad. So it was with an old rusted-up Jukar Spain .45 caliber black powder pistol.

BY NORMAN E. JOHNSON JULY 2013

ORIGINAL PP. 10-11

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Better judgment should have alerted the owner to hang the old muzzleloader pistol over the fireplace, but he was a very determined sort. Though the old gun was covered with rust, the cocking mechanism was frozen and the trigger guard was missing, I told the customer I would do my best to make the old gun presentable, possibly even functional. Restoring it to firing condition would be very questionable but I would see what I could do.

On closer inspection of the old Jukar Spain muzzleloading pistol, I was able to loosen the rusted action retaining screws and remove the seized-up side plate cocking mechanism and barrel. The nipple unscrewed quite easily and a close inspection of the bore revealed it was very good looking with nice, deep lands and grooves. A closer inspection of the cocking/firing assembly showed I would be able to free things up and freely cock the hammer. This appeared to be a very well made lock assembly.

With the bore in very good condition, I called the customer who gave me the green light to restore the gun to firing condition. Refurbishing Process Underway Before doing anything else, I made sure the gun could be safely cocked. The hammer and trigger assembly, as well as the sturdy leaf hammer spring area carefully machined and fitted part of the side plate assembly comprising a very well made unit. There is a half-cock safety and the trigger is made up as a separate assembly, attached from below.

As the trigger is pulled it provides upward pressure against aside lever on the sear. After thoroughly freeing the entire trigger/ The right side of the milled-out stock shows where the integral cocking/lock mechanism fits in. Note the trigger mechanism does not attach to the cocking/lock mechanism per se, but works from below on the extended sear. The attaching screws, with washers, barrel pin, nipple and ram rod are also shown.

These internal parts were pretty much seized up with rust as received but cleaned up very well in the restoration process, leaving them in excellent condition. On close examination this is a very well made, precision cocking mechanism. Note the hammer spring and sear/trigger positions and how they would function. From this position the trigger pushes upward on the sear lever to fire the pistol. hammer mechanism, I reassembled the gun and the hammer/trigger functioned smoothly. The half-cock safety worked well, too.

I then buffed any remaining rust from the attractively engraved side plate and directed my attention to the barrel assembly. There was much external rust over the barrel which buffed off to clean barrel metal. The nipple was easily removed with little remaining rust. The barrel flash hole was open as was the nipple. Thorough bore clean-up and lapping left the interior in surprisingly good condition with sharp lands and grooves. I then left the bore lightly

JUKAR PISTOL RESTORATION CONTINUED

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oiled. All other remaining parts, including screws, pins and lower trigger assembly and ram rod were also cleaned up and buffed. The metal parts were then blued using Formula 44/40 Instant Gun Blue. I really wasn't out to get a dark-bright bluing on the old gun, thus leaving it in a more rustic appearance. As aforementioned, the trigger guard was missing with but a small remaining end attached to the stock. The trigger guard was made of brass, which I used in constructing a replacement.

Not knowing the original configuration, I made a workable pattern of stiff cardboard and shaped it to fit the stock recess at the ends and formed it to fit the gun with plenty room for a finger. I then carefully The owner was totally thrilled with the result. marked and drilled the existing screw holes in the trigger guard and rounded the edges before final polishing. It turned out quite well, considering I didn't have the original as a pattern.

Some Finishing Touches The hardwood stock required re-finishing but there were no major dents or broken parts there. I hand sanded it

and applied two coats of Birchwood Casey Tru-Oil. It turned out well with a high luster. The gun was then reassembled using all original screws and parts except the trigger guard. The finished gun more than met the customer's expectations, leaving a very happy owner. Rescuing an old gun from the depths of despair can make two people happy—both the customer and his gunsmith.

I didn't hold much hope for getting the old Jukar muzzleloading pistol in safe shooting condition but it was well worth the time in accomplishing it. AG

PISTOLS

Convincing 1911 Pistols To Feed And Function

BY ROBERT K. CAMPBELL JULY 2013

ORIGINAL PP. 12-16

Despite the modern trend to highly reliable and well designed 1911-type handguns, we still see the occasional problem in feed reliability. Some of the problem comes with the current crop of foreign-produced budget pistols. They are minimal, but everyone has to start somewhere. These pistols are affordable and give many shooters on a tight budget a taste of the 1911's good handling. There are also inexpensive domestic products that are not jewels or sterling examples of the gunmaker's art.

Many of these pistols are reliable only with full metal jacketed round nose ammunition. I have examined a few that would not feed even hard cast 230 grain lead bullets. As for hollow point ammunition anything other than the Cor Bon Pow RBall is out of the question. Many of these pistols are purchased for personal defense and the user just doesn't understand why it will not feed anything stuffed in the magazine. There is also the issue of poorly made ammunition from south of the border or the Pacific Rim.

This makes for poor utility and customer dissatisfaction. Some trade up to a better pistol but others come to us for a fix. When you look at the whole picture, ensuring reliability may be a complex issue. It isn't as simple as a feed ramp polish, as the magazines, barrel hood and the ramp itself are all part of the issue. And it isn't just the foreign produced pistols.

The Auto Ordnance GI pistol is recommended for ball ammunition only but anyone who shoots enough needs to handload

and one of the most popular accuracy loads of .45 ACP handloaders is a cast 200 grain semi-wadcutter bullet. I have worked the Auto Ordnance and older Colt pistols to ensure reliability. Convincing these bullets to feed properly isn't an insurmountable problem and often a minimum of work gets the ball rolling.

Basic magazine modification, ramp polish and barrel hood polish may be done profitably with a high assurance the pistol will feed reliably when you are done. You may as well go ahead with the job and cover all of your bases, including checking the extractor of these sometimes problematical, inexpensive or well worn handguns. Magazines There are two primary magazine feed lip designs for the 1911 pistol. These are often described by different terms but tapered and parallel are the most apt.

In one design the feed lips are tapered to an extent and in the other the feed lips run parallel. The tuning that a pistolsmith does is adjusting magazine feed lips for an earlier release of the cartridge case. This earlier release simply means that the cartridge nose comes up more quickly and travels to the chamber more directly with less bouncing over the feed ramp. The only means of doing so with the parallel feed design is by filing the lips. Bending doesn't work as well.

File and try testing, where you modify a little and then test feeding, repeating as necessary, is the only means of doing it correctly. Continue until the bullet nose feeds as smoothly as the droppings of that

flying nocturnal predator. Tapered feed lips in the 1911 magazine may be adjusted with pliers, one of the few cases in which a gunsmith applies pliers directly to a gun parts as fragile as thin sheet metal magazine lips.

The tapered lips may be adjusted inward to limit release or outward to instigate earlier release. The experienced gunsmith may know just how much to bend or chamfer the feed lip, but be certain that due caution is used in chamfering around the magazine feed lip area. If you are ten thumbled momentarily at least you will not ruin a gun, only the magazine.

It is true that modern purposebuilt magazines feed the bullet nose more into the chamber but the perfectly adjusted standard design magazine remains the superior product. Some feel that bumping the nose into the feed ramp helps snug the cartridge case rim into the extractor and do not approve of the new style direct feed magazines. In any case, gunsmith-modified magazines remain the most reliable in my experience.

Handloading Tips A gunsmith must understand ammunition and it is best if you have some experience with handloading. Many manuals state that the best overall length for good feed and function is the standard 1.250 inches. The .45 ACP cartridge case properly headspaces on the cartridge case mouth. Sometimes the extractor controls headspace more than it should but proper headspace is on the cartridge case mouth. If the cartridge case is

CONVINCING 1911 PISTOLS TO FEED AND FUNCTION CONTINUED

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This is a factory Kimber pistol, about as good as it gets from the factory. not the nominal 0.898 inch length that is recommended, and particularly if the cartridge case is shorter, the extractor will control headspace. This isn't ideal. Some experienced handloaders actually load their 200 grain lead semi-wadcutter bullets to headspace on the bullet rather than the case mouth, with the shoulder of the bullet slightly exposed from the case.

You have to understand this and whether this expedient is working with the product the shooter has on hand. The bullet edge of the cast semiwadcutter is soft and allows easier feed than an abrupt meeting with the case mouth of the cartridge case. But the accuracy of the SWC bullet, the economy of a 200 grain bullet and the more even hole cut by a SWC bullet are all worthwhile despite the work that must be done.

With the Oregon Trail Laser-Cast 200 and 180 grain SWC bullets, a cartridge case that headspaces on the case mouth may be bril-

liantly accurate. A magic overall loaded cartridge length number for headspacing on the 1911 seems to be around 1.245 with the 200 grainer. If the shooter isn't loading or using good ammunition there is little we can do to help him. A good start is the Black Hills 200 grain SWC loading.

A competitor will not use factory ammunition because the cost is prohibitive and he likes to tune his ammo to the gun but this Black Hills load is a benchmark of reliability and the overall length, bullet seating and crimp are good examples for anyone to follow. If you use this load to proof the 1911 pistol then you will not be confused by poor handloads. Invest in a box or two and then set your loading dies by them.

When working with varying overall cartridge lengths, be certain the extractor is in top shape with a good bevel and proper fit. The contour of the hook must be right and the extractor polished or the work This unit is a rough casting but it gave yeoman service in a

parts gun. with the feed ramp and magazines is pointless. When the cartridge case isn't headspacing on the case mouth, but rather on the bullet, the crimp may be tighter.

A taper crimp is normally used with .45 ACP loads but it is possible to use a slight roll crimp in some cases. The case will be slightly more likely to move over the feed ramp smoothly with a tighter crimp. Why a stouter crimp on a light target load? Ignition is more consistent and the full powder burn that is highly desirable is easier to realize.

Also—and this is something very few shooters really understand—when .45 ACP cases are loaded many times with light loads they do not necessarily lengthen and need to be trimmed. Rather, they will become shorter and then there is some difficulty in achieving a good crimp. The dies will have to be adjusted to make certain that the proper crimp is applied.

CONVINCING 1911 PISTOLS TO FEED AND FUNCTION CONTINUED

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Someone fired a .38 ACP Super round in a .38 AU barrel. The .38 AU is a rimless .38 Special operating at very low pressure. Back To Hardware It is possible to improve feeding by working with the feed ramp. The sharper nose of the SWC bullet may not mate with the sharp radius of the 1911 frame ramp. When you increase the radius of the feed ramp there is a danger of creating excessive exposure of it. We all know the dangers of an unsupported case head.

The ramp isn't exactly straight but nearly so and polishing is superior to actual removal of the metal. The 1911 operates on controlled feed. The cartridge jumps up under the extractor when feeding, then the extractor hook catches in the case ridge case rim and the extractor leads the cartridge into the chamber. That is why I work the extractor first and then worry about anything else.) Despite its age, the 1911 is still evolving.

Barrel Hood Look at the barrel hood, particularly the bottom rear corner or ejection port side. The barrel hood rear corner at this point should be slightly chamfered from the factory. Some are not. The corner of the barrel hood will catch bullets with a flat nose at this point on some 1911 pistols. This is an overlooked area that really needs attention. At this point, let's remember that we are doing a custom modification to a pistol designed to feed only 230 grain round nose jacketed loads.

I have experimented with the bullet nose by marking the bullet carefully to check how it fits. If everything is set up properly there will be a mark on the bullet where the bullet has struck the ramp on feeding. There may be more than one mark but the mark closest to the nose is where the bullet struck the ramp

first. The more you learn about the 1911 the more you will realize that the bullet nose isn't the single greatest determiner or feed.

Rather, the diameter of the bullet is more important and a fat, short bullet will probably feed better than a skinny long bullet. In other words, the closer to the diameter of the original 230 grain ball bullet the better the feed reliability. To ensure feed reliability the feed ramp must be polished over about seventy five per cent of its area, polishing from three o'clock to nine o'clock for best results.

By carefully polishing the ramp in this manner, the sharp nose has less chance of catching the ramp and producing a tie up. Warnings If the customer brings in spent brass, know how to read it. A flattened primer is his fault, he needs to back off his load, but there are other problems apparent from spent cases

CONVINCING 1911 PISTOLS TO FEED AND FUNCTION CONTINUED

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Today there are more complications and poor manufacture complicates the parts wear issue. The ones on the left are from Sb.nc, an Italian maker of superlative quality parts. as well. If the brass is creased about 0.25 off the case mouth it is a sign of poor reliability. While the piece may actually be feeding, trouble is coming. Magazine tension. A first round jam with stout recoil springs means you have to increase the strength of the magazine spring. Extra power springs from Wolff Gunsprings work well.

Breech Face polish. The breech face is sometimes delivered a bit rough. It should be lightly polished. The area around the firing pin channel is often a cause for concern. Polishing the feed ramp isn't something to be

done lightly. Knowing the 1911 as I do, I understand the controlled feed design and appreciate the superlative reliability of the type. As long as the ramps have the obligatory 1/32nd inch gap between the two parts, they should offer good feed reliability.

The factory offered a slight bevel to lead the bullet into the chamber. This is fine for the round nose military loading but leaves something to be desired for jacketed hollow point or flat point semi-wadcutter bullets. The bevel The grips illustrated area poor fit and did not allow the magazine to release. If I had not seen it I may not have believed it.

These parts are destined to improve a Rock Island pistol. should be studied and extended carefully to take up all of the chamber, with the shaping accomplished with a Dremel. First, shape the bevel with the grinding bit. Next, move to rubber bits with a bit of grit and finish the bevel off with fine abrasive sand paper. A very fine grit of 1200 is a good idea. When you address the barrel throat itself, do not create something resembling a funnel and don't allow the cut to go into the chamber.

The barrel throat that actually leads into the chamber should be polished, but only lightly. Chamfered is the best description. This polish is an aid in the too frequent failure to go into battery malfunction.

CONVINCING 1911 PISTOLS TO FEED AND FUNCTION CONTINUED

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You could probably fix it just fine if you know the 1911. Parts are another matter. Although it has been claimed these problems were solved some time ago, I recently worked up a Colt Commander fresh out of the box, 2011 production, that showed this problem. Remember that nothing should be done that reduces case head support. When you look at the 1911 feed ramp under magnification you will see plenty of machine marks but these may be smoothed if not completely erased.

Again, polish only and do not attempt to work up what might resemble a funnel. The breech face is sometimes found to be excessively rough. This roughness may snag a cartridge case as it feeds and snugs into the extractor. The firing pin channel is sometimes in need of a bit of clean up where the firing pin protrudes. Do not forget to clean this channel. I have seen firing pin channels with bits of brass, powder and even lead shavings built up. Next, take a look at the extractor.

The claw itself must be of the proper shape, which means sharp and flared. Although sometimes extractors show no tension at all when tested and work just fine, there should be sufficient tension to hold the case when the slide is stripped from the frame. Ejection ports are an area of con-

cern. While many modern pistols feature the lowered ejection port, all are not created equal. The original slide window stopped about six tenths of an inch above the slide rails.

Lowering the ejection port to about five tenths of an inch above the slide rails offers better function and clearance during administrative handling. However, often the modern pistols with extended or scalloped design ejection ports are not sufficiently polished on the inside of the port. I recently examined a Government Model fitted with the longer Commander-style ejector. Never do this. You are asking for the ejector to bump the primer of a loaded round when unloading during administrative handling.

The Government Model 1911 pistol needs the standard ejector, not the Commander length version. You have to understand the differences in slide length, caliber, load factor and magazine strength. A weak recoil spring is another cause of weak function. The proper magazine spring and hammer spring are essential for 1911 function. Another problem that is especially daunting is the fitting of a recoil buffer to a service type 1911. I would never use a buffer in a pistol designed for personal defense scenario.

The 1911 works okay with the recoil buffer in place but in a worst case scenario the shock buff limits slide travel to the point that allows a spent case to eject properly but makes it difficult to impossible to eject a full length cartridge. In the event of a dud round in a shock buff equipped 1911, a full length dud round would require a rapid action drill including removing the magazine and racking the slide to convince the dud to drop out of the bottom of the chamber.

For a pistol destined for critical use the shock buff should never be installed. After the work is over, it isn't over. Whenever work is done on the 1911, a safety check must be performed. Cock the hammer, place the pistol on safe and pull the trigger. There should be no movement of the hammer. Take the safety off and the hammer should not fall. The grip safety must also work properly. The pistol is checked by pressing the trigger with the palm off the grip safety. The trigger should not move.

The trigger should be released when the grip safety is about one half of the way pressed into the frame. When all is said and done, the finest fighting pistol of all time demands attention to detail to maintain its edge, particularly when a manufacturer has cut corners. AG

PEOPLE & COMPANIES

Timney Safety Fitting On The 96 Mauser

If you are going to mount a scope on a 96 or other military Mauser, it is necessary to replace the original safety to provide for clearance. There are several options.

BY WENDELL DEANER JULY 2013

ORIGINAL PP. 17-20

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I prefer the Timney “wing” safety for its reasonable price, simplicity and ease of installation. Available as the Buehler-style Low Safety (Brownells #883-805-096 WB) to fit the 96 Mauser with a retail price of \$38.99, it functions similarly to the original Mauser safety. Dayton Traister, Inc. offers their Mark II safety ((Brownells #204-001-950 WB), which is comparable and available for \$21.99.

While I have used Timney safeties on my Mauser conversions (both 98 and 96 models) many times, I am still disappointed at the directions supplied by the manufacturer for doing so. I don’t have this gripe with just Timney but also with most of the other manufacturers of gunsmith’s “drop-in” or “may require some fitting” parts.

Along time ago, before I had fitted a few of these parts, I sent Timney an email asking for a better description of how to install it, specifically where to locate the small notch on the cocking piece that is necessary for the safety to function. I received a conde-

scending reply from some management twinkie telling me I was supposed to know better. The gist of the reply was that their instructions were perfect, and a trained ape should be able to follow them easily. Thanks, what customer service!

Giving them their due, they do send all the parts needed for installation and instructions that should be read by the first-time user, “Smoother operation will be obtained by honing a 45-degree bevel 1/32 inch back on leading or left edge of cocking piece engaging surface. Hone or polish the bevel on the left side similar to the factory method on the right side.” All right, but wouldn’t a picture or drawing that shows exactly where to put this bevel be nice? How about a little template to make it easier?

As I said, I am grateful to Timney for sup-020-0.030” and block the firing pin from moving forward. Grinding this notch can be accomplished using a small file or a cutting wheel attached to a Dremel tool as shown. The piece is marked to indicate the area to

begin cutting. Check for fit and function often. A try action with the trigger installed comes in handy. plying these parts for the Model 96, but I’m sure it isn’t altruism on their part.

Some of us must still be customizing these rifles regardless of collector’s howls. The law of supply and demand still applies no matter how the Keynesians that rule our country at the moment protest. Perhaps these rifles will be as valuable as a Fabergé egg one day, but I doubt it. They make nice deer rifles if modified in a good way. As far as I’m concerned, the 6.5X55 Swede loaded with a 140 grain bullet or some of the new 120 grainers is one of the most deadly deer rifles in the woods.

Also, this round has mild recoil and hits very hard, far out of proportion to the minimal pain at the shoulder. The only criticism of this action is the cock-on-closing feature, mostly

TIMNEY SAFETY FITTING ON THE 96 MAUSER CONTINUED

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This one will work as is, but I like to dress the piece further with files and stones. Either way, I think removing this area improves the appearance of the part when on the finished action and no one will miss it. Scope clearance can be a problem depending on what mounts and optics are selected. I prefer using high mounts, argued by those who have never used one. These actions feed the round they were manufactured for flawlessly.

As long as a barrel with the appropriate twist is screwed on and a good bullet is sent down that pipe, they will shoot as well as any factory rifle on the market today. I wouldn't hesitate to use them for heavier game. The first time I tackled this job I ground and ground away with my Dremel until the cocking piece was so damaged I had to buy another. My bad. Thank goodness these parts are readily available from Numrich and others.

The last one I purchased cost me about ten bucks, but the shipping was \$6.50 for a couple of ounces, so add some other stuff if you

can to justify the freight. The point is not to beat up on Timney. I think a lot of manufacturers could do a much better job of providing instructions for their products. For the ones who mock their customers I can't understand such a casual attitude. You need us, we don't need you. Maybe we need each other.

Taking one of the cocking pieces from another gun that I had already fitted for the safety, I put an unmodified piece next to it and took the picture shown in the article to help give a good reference point. A small cutting wheel on a Dremel tool is used to make the notch. I like to smooth the left side with an Arkansas stone to take any burrs off.

The safety has to glide positively into this notch and literally push the cocking piece back (according to the instructions, "20 to 30 thousandths") and block it from moving forward, just like the original. That's why I like this safety. It blocks the firing process instead of just the trigger.

The only thing I don't like is that this safety is a two-position one, unlike the original which has three positions: Safe, Safe (yet able to operate Removing the bolt will allow unscrewing the shroud, cocking piece, firing pin and firing pin spring from the bolt body. bolt) and Fire. Cycle the bolt in the action to cock it (cocking piece all the way extended), move the safety to the top (upright) position and remove the bolt from the action.

With this done, the cocking piece and shroud easily unscrew from the bolt body. One thing Timney doesn't mention is that unscrewing the bolt shroud is now problematic in that you can't leave the safety in the middle position when you remove the bolt since it doesn't have one. The wing is either up or down. It loses the middle position of the original. To unscrew the bolt body from the shroud, thereby separating the bolt from the shroud, safety, cocking piece, and firing pin

TIMNEY SAFETY FITTING ON THE 96 MAUSER CONTINUED

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This gun cannot fire. Don't overdo it. with its spring, place the sear in a sturdy vise and pull out on the bolt until it can be twisted out counter clockwise enough to easily miss any obstructions and unscrew the rest of the way without mishap. The directions are complete in that they instruct us to grind down the cocking piece engaging surface at the rear of the part. I still can't figure out why this knob is here in the first place.

Did the generals expect the troops to pull it back recocking the rifle to remedy a misfire? Try it sometime. I don't have the finger strength to even come close to returning the rifle to battery, but the Swedes are probably a lot tougher than I am. If anybody knows anything about it I'd be happy to hear from you. The gun will not fire if the face of the cocking piece contacts the safety, which it will if not modified. The instructions show leaving a small part of the back of the cocking piece standing. Forget it.

Take it all off. Nobody will miss it and it looks a lot better in the aesthetic sense. Polish it well and no one ignorant of Mauser anatomy will ever suspect it was there in the first place. So, installing this safety is first dependent on cutting the small notch in front of the cocking piece and then grinding off the back. Use a 6-8 inch table-mounted "rough" grinder and roll the back of the cocking piece over it to give a smooth, even cut until it is completely removed.

Don't let this piece get hot enough to ruin its temper. I dunk it in water before that gets close to happening. Use a pair of good gloves and appropriate eye protection. Follow up by polishing with a smooth file and abrasive paper. I think this modification makes the action look much better than the original. The last safety I fitted had a clearance problem when installing the The three position mili-

tary part allows the bolt to be opened with the safety engaged. This is not possible with the Timney.

It is a fine, positive design for battlefield use, however, no conventionally-mounted scopes allowed. wing to the bolt shroud. It was just a little too tight. I used a small file and a smooth Arkansas stone to make it work. No big deal. There can always be a little bit of fitting with these guns that were manufactured over many years and sometimes in many countries. The wing must be removed via a small screw in the back before it will fit on the shroud. It must then slip back over the shroud and the screw replaced.

I always dab a drop of blue Loctite as appropriate to keep this important screw tightened. A small spring which fits into the body of the safety and inside the bolt shroud is included in the Timney kit as well as a tiny Allen wrench to

TIMNEY SAFETY FITTING ON THE 96 MAUSER CONTINUED

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Use gloves to hold the small piece and roll it against the wheel to form an even cut. Don't forget eye protection. Dress the piece with files and stones for a professional appearance. The safety on left is original military. tighten the diminutive screw holding the wing in place. The spring can be problematic in that it needs to be compressed and slid into the shroud without binding or kinking.

This can best be accomplished by using a small screwdriver as appropriate to hold the spring in place while sliding the safety into position. This spring is essential in that it removes any slop when the safety is activated and allows for a much more positive feel. With the safety installed but the cocking piece not yet notched there is an opportunity to reach behind the cocking piece with a very thin marking pencil or Dykem and scribe a good guideline as to where to begin grinding the necessary notch.

This would be ten times easier by using a small plastic template, but I suppose the extra ten cents the manufacturer would have to spend to provide one precludes this. This replacement safety will usually clear amounted scope but I have found that using high rings is best. Some folks may remark that there is not a lot of purchase working this safety, especially with gloves on. I have to say that's just the way it is until someone comes up with a better idea.

I really don't have that big of a problem with it but I have small fingers and am more forgiving than most. Working the

small notch we ground into the cocking piece with a smooth Arkansas stone really enhances the function of this safety, although it will work without it albeit somewhat grittily. You do not have to overdo this notch. Take a little off and reinstall the bolt's parts to test it frequently, especially the first time you try it.

The trigger must be installed in the action so the bolt can function normally, of course. A Dremel or Foredom tool is not absolutely necessary. The job can be done with a needle file but I have found a little power helps the medicine go down, so to speak. This should go without saying, but test the safety for proper function before you let it out of the shop. The cocking piece must clear the small screw holding the wing of the safety to the shroud. Make sure the wing feels positive and isn't wobbly.

As mentioned previously, the cocking piece should move back to allow the safety to block it without fail. When the trigger is pulled with the safety engaged the gun should not fire. When the safety is moved to off, the gun should not fire unless the trigger is pulled. A sudden jar such as bouncing the butt of the gun on a hard surface should not allow the gun to fire no matter if the safety is engaged or not. If it does you may want to check your trigger job as well.

As I mentioned earlier, Dayton Traister makes a similar safety for Mauser rifles. The manufacturer recommends grinding a 1/8" notch on the right side of the bolt sleeve to allow the new safety to turn down

so the cocking piece body will pass under the cut away in the head of the safety. As with the Timney, I think the supplied directions suck, but maybe that's just me. There are several other options for the 96 Mauser, but not many. The 98 gets all the gravy, and why not?

Certainly, the German standard military arm is much more popular and prevalent than the Swedish version. The 96s are not going to be manufactured ever again. They are a finite entity. I'm thankful that we have the replacement parts that we do but I don't see a lot of aftermarket companies jumping on the 96 bandwagon, so it is what it is. Timney also manufactures a trigger with an integral safety named the Deluxe (Brownells #883-200-595AH).

This unit comes complete with aside mounted affair that blocks the trigger but not the cocking piece. If you use this, the stock will probably have to be relieved to fit it. I prefer a safety that blocks the cocking piece like the wing type. This kind of mechanism is more like the original and more to my taste. Other folks may have a different opinion. As far as I'm concerned, a Mauser Model 96 is a viable candidate to sporterize. I am using one right now in caliber 6.5X55 as my main deer rifle.

After market producers such as Timney and others should be commended for offering essential parts for this process, however, don't expect these folks to offer parts as orphans if there is no market. Buy what you need now. AG

MAINTENANCE & REPAIR

.455 Webley Revolver

Accuracy with the .455 Webley and .45 ACP ammunition had been disappointing. Here's how a little bit of good gunsmithing can help fix it.

BY PAUL MAZAN JULY 2013

ORIGINAL PP. 21-22

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The British .455 caliber Webley revolvers served from 1887 when the Mark I was accepted for service, through 1936 when the .455 caliber Mark VI was replaced by the .38/200 cartridge. The gun was still a Webley but the .455 cartridge was honorably retired. Many of the old warhorses were sent to America where there seems to be an insatiable appetite for handguns, be they beautiful and handy or homely and cumbersome.

Whatever you think of the Webley you have to admit that they are rugged, steeped in history and different enough to be interesting. I own two of them and would have several more if the prices were more reasonable as I love to shoot them. I find it almost impossible to shoot the Mk I without seeing the opening scenes from the movie *The Wind and the Lion* running through my head and saying “damn” after I have fired the last shot.

Both of mine have been modified to accept either the .45 ACP cartridge in half or full moon clips or the .45 Auto Rim. I normally reserve the .45 Auto Rim cases for the Webley because I load them lighter than ammo for my 1911. This makes the light loads easy to identify and keep separate.

The guns rarely give me any trouble regarding function and parts breakage has been limited to a broken latch spring. Accuracy, however, has been far less delightful than I had hoped.

After cycling through several bullets, powders and loads I reached the wrong conclusion that nothing I did was going to get the guns to shoot as long as I was pushing .451 bullets down a .455 bore. I went so far as to look for bullet molds in .455 caliber. Thankfully, I hadn't found one before I decided to slug the bores. Imagine my surprise when one bore slugged 0.451 and the other 0.450. I generally refer to these missteps as “jumping to conclusions” because they usually leave my wallet black and blue.

That's when I started doing the research I should have done before I started looking for elegant solutions to problems that didn't exist. According to several Internet sites I visited all the .455 Webley barrels were made with 0.450 to 0.452 diameter bores. Then why did they call this round the .455 Webley? I suppose for the same reason the .38 Special bore measures 0.357. Bullet diameter wasn't the entire problem. 448 gauge would not clear all chambers.

Every cylinder checked produced one or two chambers under 0.448 diameter. 450 to 0.451. Now that I had wasted enough time and effort chasing wild geese I started to actually look for problems rather than simply assume I knew what they were. It didn't take long to discover that the cylinder throats were not only inconsistent, they were universally too small. I got together with a shooting buddy that owned two Mk VI Webleys and we measured the throats of all four of the .455 Webleys we owned.

Each one had at least one chamber that would not take a 0.448 gauge and none of them were larger than 0.450. Upon firing the gun the .451 diameter bullets were being forced through the cylinder throat and resized to the throat diameter. From there they entered a 0.450 to 0.452 bore and wandered down range. No wonder accuracy was disappointing! A call to Dave Manson at Dave Manson Precision Reamers (mansonreamers.com), soon had a .45 caliber Cylinder Throating Reamer with a Mr.

Manson knows his business much better than I do. After discussing my problem and listening to my bore and cylinder measurements, he

.455 WEBLEY REVOLVER CONTINUED**ORIGINAL PAGE 22****ARCHIVE IMAGE WITHHELD**

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4525 to 0.453 fast and easy. picked the reamer that would do the job. The reamer arrived two days later and quickly cut every cylinder throat to a consistent 0.4525 to 0.453. Now bullets would not be deformed exiting the chamber and the forcing cone could do its job sizing them to a tight fit in the barrel. Most of the Webleys out there have been converted to shoot .45 ACP rounds loaded in moon clips or .45 Auto Rim ammunition. That is, in theory, a great idea as .45 ACP ammo is easy to find.

Unfortunately it is also far too hot for the Webley. Using .45 ACP or .45 Auto Rim cases is fine but they should be loaded with lead bullets and .455 Webley pressures. The original loading for the .455 was 18 grains of black powder under a 265 grain lead hollow based bullet propelled at 650-750 FPS. The proof load for the .455 was 18,440 PSI with service ammo producing about 13,000 PSI. The .45 ACP is proofed at 21,000 PSI and loaded to around 19,000 PSI.

In other words, every .45 ACP round loaded to normal specs is much hotter than the Webley was designed or 451 pin gauge.

proofed for! The fact that Webleys have held up to these abuses is a tribute to its rugged design but firing it with a steady diet of what amounts to proof loads is not conducive to accuracy or longevity. With all that straight we come to bullet diameter. The original Webley bullet was a 0.450 diameter hollow based lead round nosed bullet, sort of like a Minié ball.

Upon firing the bullet was forced through a 0.450 chamber mouth before entering a 0.451 to 0.452 bore. The hollow base was supposed to expand to fill the rifling and produce "reasonable" accuracy. All well and good depending what you consider reasonable accuracy. In my somewhat limited experience I have found that each gun seems to have its own preference.

Some guns will shoot well with .451 caliber .45 ACP cast lead bullets but mine will not, giving me groups that averaged about 7.5 inches before I reamed the chambers. I have found that it wants an oversized bullet and have had the best luck with .452 caliber bullets meant for the .45 Colt. I have not tried a hollow base design yet. Check the Internet

for loading data. Keep pressures around 13,000 PSI and velocities between 650-750 FPS with lead bullets and I think you will find some improvement.

In my case, groups have been reduced to an average of three inches after reaming the chambers. Still not target accuracy but at least headed in the right direction. This is an old design and just because you can hot rod it with .45 ACP jacketed ammo doesn't mean you should or that it will shoot well.

Accept the gun for what it is, respect its limitations and load it with lead bullets at the pressure and velocity it was designed for and it should pay you back with much better accuracy and along, pleasurable relationship. Shooting for this article was done from an early production Hyskore Rapid Fire Precision Shooting Rest (hyskore.com). Although not a gunsmithing product, I mention it because it solves the problem of test firing rifles with pistol grips and extended magazines.

It also provides a solid platform for test firing handguns and should prove useful to the gunsmith. AG

PISTOLS

Reader Forum

BY AMERICAN GUNSMITH EDITORS JULY 2013

ORIGINAL PP. 23-24

High Standard Double Nine I need some help fitting anew “finger” in a High Standard Double Nine. This gadget rotates the cylinder to the next stop and I’m at a loss on getting it fitted and working. J. L. Halderson American Fall, ID The article we want you to read, “Correcting Timing Problems in S&W Revolvers,” appeared in our September 2002 issue. We understand you’re working with a High Standard but the “gadget” you mention is the hand. It engages the ratchets to rotate the cylinder in all revolvers.

When a hand fails to do its job, a revolver suffers a timing problem. The cylinder fails to rotate at all or completely. 99% of the time this is because the hand is too short, too long or one or more of the ratchets need reforming. Contact our back order department at Norwalk, CT 06856-5656 or call It is possible the September, 2002 issue may no longer be available as a reprint.

If that turns out to be the case, get a copy of *The S&W Revolver: A Shop Manual* by Jerry Kuhnhausen, which covers the S&W J, K, Land N Frame revolver actions. It will provide all the help you’ll need. 1918 Erfurt Luger My Luger is 95%+, the bore is perfect and only the grips show wear. The serial numbers all match! The only problem with this gun is its inability to lock out (hold open, as the Germans call it) after the last round has been fired.

At the range we thought maybe the rounds didn’t have enough power to lock out the toggle but my P38’s and my P9R (Brown-ing Highpower Hungarianmade clone) work fine on lock out. The hold open latch is chromed with the last two digits of the serial number as are all the other parts and has no look of repair work. The magazine lifts the hold open latch properly and can be manually locked out with no problem.

I put marker on the bottom of the bolt (they call it the breechblock) and fired three rounds with regular 9mm, 9mm +p, and 9mm +p+ but none of them lock out the bolt after the last round. The marking on the bottom of the bolt indicates it needs to move back to lock out about 1/16" or so. I’ve had many problems with some of my collection and have never had a strange problem like this. It almost seems as if this gun never worked properly.

I’ve heard tell that Erfurt Lugers were the runts of the litter compared to the other manufacturers, which may explain its great condition. Perhaps this one never saw action because of its disfunction, which is a shame because she is dead accurate and feeds with no problem. I just received a hold open latch and spring from Jack First and will not change the original one under any condition as both are identical in shape and size. The spring tensions seem fine through out as all other operations work fine.

I work only on my collection to put the ailing ones back to working condition. Joseph C. We’re not absolutely certain you should be firing +P or +P+ rounds through your Luger. As an Erfurt, we’re told it’s of higher value than some others. The hotter rounds might be cycling the pistol too fast due to their extra power and could batter it some or even seriously damage it.

Besides that concern, check out the following: Wear in the toggle linkage and about midframe there’s an L-shaped hold open lever serviced by a flat spring. Said spring could be tired and needing replacement. Shortening A Model 1100 Barrel I have access to a Model 1100 Remington in 12 gauge that I would like to convert to a home defense gun. I would like to cut the

barrel down to 18.5 inches. Will it still cycle with the shortened barrel? If not, what will I need to do to make it work? Barton Slow down apiece.

How long is the existing barrel? Is it chambered for 2 3/4"? Three inch? Magnums? Did you know what there is of the gas system in an 1100 lives inside the fore end and that the shortest barrel ever offered by Remington for the 1100 was 22" from breech to muzzle? Even at that length, the two existing gas ports had to be opened up with a #43 drill in order to cycle the action with 2 3/4" field or magnum loads.

There is serious doubt expressed by the experienced Remington engineers we contacted regarding your inquiry that the 1100 will function with an 18.5" barrel. They added that an attempt to drill any additional hole, if required, would have to be at the same angle of the original and at a distance/size yet to be specified to assure reliability. The same engineers made the observation that shot dispersion difference between an 18.5" and a 22" cylinder bore 12 gauge would be close to nil.

Ljungman Agm/42 My dad has an old Ljungman Agm/42 that he is looking for a parts breakdown, something like a blue print. We are AGA members and feel that you may be able to help. John H. The rifle was made many years ago by previous manufacturer Carl Gustaf in Sweden. It was designed in 1941 and was the first, mass produced direct gas operated rifle. Original caliber was 6.5x55mm Swedish. When the rifle was adopted by the Egyptian armed forces it was rechambered to 8x57mm Mauser and called the Hakim.

WE HAVE NEVER HAD ACCESS TO WORKING BLUEPRINTS AND HAVE BEEN UNABLE

READER FORUM CONTINUED

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to locate a useable schematic for the military Hakim. Parts apparently are available from Numrich Gun Parts Corporation (gunpartscorp. com) but the rifle shown is identified as a trainer. Automag III Technical Question Where can I obtain an exploded view or frame reassembly information for an AMT Automag III? I have a customer that brought one in disassembled. The purpose and location of part #CM14 is not obvious to me, labeled part #CM14, "Slide Stop Plate," in the owners instruction manual.

The Automag pistol has had a chameleon-like existence. It was acquired by along list of companies in vain efforts to keep it in production. The alphabet soup of ever-changing owners culminated with AMT. Undoubtedly, your customer has failed to keep the owner's manual and the sole disassembly/reassembly information we have been able to uncover is for the AMT Back Up. The good news is the son of the pistol's inventor may be able to help you further: He also has some parts.

ATF Rules During a recent perusal of prior issues of American Gunsmith, I came across a letter sent to you through the Reader Forum portion of the magazine in the May, 2011 issue. A gunsmith wrote a letter asking for assistance with a Browning A5 which was having an issue with the safety sear after he modified the shotgun to accept 2 3/4 in shells. Your response was for him to "stop now", then going on to tell that gunsmith that he was "manufacturing" and would be considered so by the BATFE. Am I missing something?

I take particular issue with this notion of "manufacturing", and I was hoping you could set me straight. Neal According to the BATFE from their website, "Generally, a person engaged in gunsmithing requires only a dealer's license (type 01). There are circumstances in which

a gunsmith might require a manufacturing license. Generally, a person should obtain a license as a manufacturer of firearms if the person is: 1.

Performing operations which create firearms or alter firearms (in the case of alterations, the work is not being performed at the request of customers {emphasis added}, rather the person who is altering the firearms is purchasing them, making the changes, and then reselling them), 2. Is performing the operations as a regular course of business or trade, and 3.

Is performing the operations for the purpose of sale or distribution of the firearms." Was this particular gunsmith not modifying the Browning A5 at the request of a customer? Was he purchasing multiple Browning A5's, making the changes, and selling/distributing them?

Now, I understand this was not the brightest of ideas, to modify this particular Belgian-made shotgun, however, how can this possibly be construed as "manufacturing?" I change, as a matter of course in my gunsmithing shop, calibers and barrels of rifles (not necessarily shotguns). Can you clarify if this is considered manufacturing, per se? I thought it was just what we, as gunsmiths, were supposed to be able to do.

John Mc Bride, owner/gunsmith TENEX CUSTOM Firearms Concord, You are not the first to raise the ATF rules on manufacturing. However, it is not the gunsmith's interpretation of that regulation that matters during the annual, unannounced inspection the holder of a dealer license is exposed to. There are about 1000 ATF inspectors. The one making the inspection interprets the rule as he or she understands it.

In other words, opinions of the individual FFL holder, the editors of this publication and even the Browning engineers contacted (as stated in the reader response under discussion here) matter not. What the inspecting officer thinks is what matters. Period. AG

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