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INSIDE THE ARCHIVE

DISASSEMBLY/REASSEMBLY OF THE KAHR P45 PISTOL

GUN SALES RISE AS CRIME AND ACCIDENT RATES FALL • INSTALLING A FOREND BARREL-TUNING DEVICE • M1911 SAFE...

ORIGINAL METHODS. MODERN ACCESS.

ARCHIVE EDITION 034

DIGITAL ARCHIVE EDITION

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FROM THE ARCHIVE

Gun Sales Rise As Crime and Accident Rates Fall

BY AMERICAN GUNSMITH EDITORS SEPTEMBER 2006

ORIGINAL PP. 2

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New statistics show that firearm and ammunition sales are on the rise, coinciding with steady downward trends in gun crime, suicide and accident rates, in the U. S. The National Shooting Sports Foundation (NSSF), the trade association for the shooting, hunting, and outdoor industry, has released U. S. Dept. of the Treasury figures indicating that retail sales of firearms and ammunition rose 2.6 percent in 2005 to a combined total of \$2.1 billion.

For the year, approximately 4.7 million new guns were sold, bringing the estimated number of citizen-owned firearms in the U. S. to more than 290 million. The number of American households with at least one firearm is now estimated at nearly 110 million. Of the various firearm types, the sharpest gains were seen in retail sales of handguns. Handgun sales rose 3 percent, while long-gun sales rose 1.8 percent. Ammunition sales rose 3.5 percent.

Combined 2005 sales of firearms and ammunition generated \$224.3 million in excise taxes earmarked for wildlife and habitat conservation projects through the Federal Aid in Wildlife Restoration Act. Since inception, the act has raised more than \$5 billion for conservation. As NSSF-member companies and conservationists laud the latest sales numbers, their applause coincides with more good news about American society in general.

According to figures from government and independent sources, firearm crimes, suicides, and accidental fatalities are all trending downward. "Reductions in gun crimes and accidental fatalities have been documented for many years, even as gun sales and ownership in our country continue to rise," said Doug Painter, president of NSSF. "However, today's anti-gun organizations rake in lots of cash by perpetuating the myth that more guns equals more bad news.

Clearly, there is no relationship between gun ownership and firearm misuse. Painter credited many different organizations and programs working together to ensure that gun owners are safe, active, responsible, and aware of their 2nd Amendment rights.

NSSF's highlight programs include: "Project Child Safe," which has provided more than 30 million free firearm safety kits, including gun locks, since 2003; "Don't Lie for the Other Guy," an educational program to help firearm dealers curb illegal gun purchases; as well as a variety of safety education and recruitment programs designed to reach out to new hunters and shooters. Formed in 1961, NSSF is celebrating its 45th birthday.

The organization recently reached important new milestones, topping 3,000 members and hosting the largest annual trade show (SHOT Show) in the history of the firearms industry. Editor Keith Lawrence Technical

PISTOLS

Disassembly/Reassembly Of the Kahr P45 Pistol

Though similar in its precision, the construction of this .45-caliber pistol differs from its earlier, smaller-caliber relatives.

BY CHICK BLOOD SEPTEMBER 2006

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It took better than a year for me to get my hands on a Kahr P45 for this article. That's because, since its announcement, this eagerly awaited big-bore cousin of the Kahr 9 had a very long list of buyers standing by with their wallets and checkbooks open. It's been quite awhile since the first Kahr was covered here (May 95). Since reprints of that article are no longer available and much of what was written then does not apply to the P45, I decided another look at the Kahr was in order.

First, however, let me say that I was pleased to see that none of the precision found in the K9 is missing in the P45. It remains masterfully made from outstanding materials. Though mechanically locked and unlocked in the style of John M. Browning, it is far more than a mere knock-off of the great man's design. The Kahr emerged from the fertile mind of Justin Moon, and is covered by no less than six individual patents.

The Kahr has no visible safety, so don't bother looking for one. Kahr pistols have no externally located safety levers and no grip safety. What makes the pistol safe is inside. A spring-loaded striker block seats into a recess in the striker preventing it from moving into contact with alive round. The block is released only when the trigger has been pulled fully to the rear, disengaging the striker from the cocking cam.

How Kahr Pistols Function As the trigger is pulled, a protrusion on the cocking cam lifts the striker block to clear the striker. At the same time, the cocking cam pulls the striker rearward to a fully cocked position. The cocking cam releases the striker to move forward when the pull of the trigger has been completed. Recoil from the discharge of the round moves the barrel and slide back.

After about 1/2 inch of movement, the camming action of the barrel's recoil lug and the slide stop/locking pin pull the rear of the barrel down, unlocking it from the slide. This allows the slide to continue rearward, extracting the spent case. The take-down indents in the frame and slide are within the circle superimposed on the photo, while the side-panel pin is indicated by the arrow. and ejecting it to the right.

The slide then moves forward under tension from the recoil spring to strip around from the magazine and chamber it in the barrel, which has been pushed upward/forward to relock with the slide. Nothing unusual there. Most autoloaders work the same way when recovering from recoil. With a Kahr, recovery is compounded when the striker is recaptured and placed under partial tension by the cocking cam. The Kahr is a defensive, DAO hand-

DISASSEMBLY/REASSEMBLY OF THE KAHR P45 PISTOL CONTINUED

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The notch matches the configuration of the stud extending from the slide-stop thumb-piece. The two must be perfectly aligned when disassembling or reassembling. gun. If you understand how it works from what I've stated here, I think you'll agree there is no way it can be fired unless and until the trigger is pulled completely to the rear. Field Stripping Okay, the magazine is out, the chamber checked and empty. The springs on these pistols are strong, so wear eye protection.

The .45-caliber pistol used in this article is a P-Series Kahr pistol. Basic take-down for it is identical to Kahr's T, TP, CW, PM, and MK series. They all wear two small index marks on the left side of their frames and slides. Draw the slide back until the two index marks are aligned. There is also a half-moon cutout in the slide. When the two marks line up correctly, you'll be able to see the inner lug on the slide-stop lever through the cutout.

Note that the inner lug must be seen clearly and completely or you will never be able to push out the slide stop. When you are able,

push it all the way out from right to left. After that, ease the slide forward, pull the trigger to release the striker, and move the slide forward off the frame. Now invert the slide, and push the rear of the recoil-spring guide slightly toward the muzzle and lift it clear of the barrel lug. Grasp the lug of the barrel, move it forward a little, lift, and pull it out to the rear.

As previously hinted, there are minor but potentially important differences to be addressed when field stripping a Kor PM series Kahr. These are spelled out in the owner's manual packed with any Kahr pistol. Since owners rarely retain these missives, it wouldn't be a bad idea if you downeir website I think you'll find justified if you consider sight requirements alone. On some Kahr pistols, the front sight looks as though it could be drifted in either direction for adjustment. It ain't necessarily so.

Though a pinned-in front sight hasn't been used for several years on a Kahr, you could still be handed a pistol that has one. Check it out by inverting the slide and locating a little

hole inside near the front. If the hole is there, a front sight pin is living under it. Under the pin is a spring. The pin has to be pushed down, compressing the spring, before the front sight can be drifted in either direction. There's more. A change has been made in the dovetail size in the slides of Kahr pistols.

That can set you up for a major goof when ordering factory replacements. Here's the tip-off as to which slide you have in your hands: Turn it upside down. If you spot a dimple to either side of the striker block, you're holding anew-model slide. With no dimple, it's an oldmodel slide. P45 slides all have a dimple. I hasten to add here that a pistol entering your shop with tritium sights requires those sights to be drifted right or left using a sight-pushing tool. Night sights cannot and should not be beat upon.

They are far too fragile and too This provides more area for slide-stoppin contact, better distribution of impact, and extended slide-stopspring life. This new design is expected to be used in all future Kahr pistols.

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expensive to be treated roughly. Brownells offers several sight pushers, including a fairly expensive one intended expressly for moving delicate night sights. If you do much work for law enforcement and on personal-defense handguns, though, the investment ought to be recovered in short order. Detail Stripping the Slide A little bit after getting into this phase, your slide will begin to resemble a porcupine.

Turn the piece upside down and slip a small tool between the backplate (#4) and the rear of the striker-spring guide (#23). Push the guide forward to clear it from its plate recess, and leave the tool in place to hold it forward. The extractor's rear pin (#27) rides in a hole about one-third the way up on the right end of the slide. With a jeweler's screwdriver, insert it in the opening and depress the rear pin.

It won't move much and it doesn't have to in order for you to start moving the back plate up enough to trap the pin and recoil-spring guide. Get your thumb over

the back plate and keep it there as you remove your tools and push the plate out of the slide.

This will not Kahr P-Series Semi-Auto DAO Pistol (Specifications subject to change without notice) 1 Polymer Frame 2 Barrel 3 Slide 4 Back Plate 5 Recoil Spring 6 Recoil Spring Guide 7 Striker Block 8 Striker Block Spring 9 Trigger 10 Trigger Spring 11 Trigger Spacer 12 Trigger Pivot Pin 13 Trigger Bar 14 Trigger Bar Spring 15 Cocking Cam 16 Cocking Cam Spring 17 Magazine Catch Body 18 Magazine Catch Leaf Spring 20 Striker 21 Striker Spacer 22 Striker Spring 23 Striker Spring Guide 24 Extractor 25 Extractor Pin (front) 26 Extractor Spring 27 Extractor Pin (rear) 28 Slide Stop 29 Slide Stop Spring 30 Slide Stop Spg.

Screw/Washer 31 Ejector 32 Cocking Cam Pivot Pin 33 Rear Sight 34 Front Sight 35 Magazine Body 36 Magazine Spring 37 Magazine Base Lock 38 Magazine Base 39 Magazine Follower 40 Side Plate 41 Side Plate Pin

DISASSEMBLY/REASSEMBLY OF THE KAHR P45 PISTOL CONTINUED

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The slide should never be forced to its fully rearward position. Only serve to prevent the loss of parts, it will definitely keep them from gashing your face. The striker block (#7) is located a little forward of the back-plate slot. Depress the striker block and pull out the striker (#20). Sharply tilt the rear of the slide and tap it on your bench. The front extractor pin (#25), spring (#26), and rear extractor pin should drop out. If they don't, depress the striker block and try the tapping act again.

Still nothing? (You have a really dirty Kahr pistol there, amigo.) You may have to carefully detach the extractor (#24) from the front pin and give the pin a nudge with a dental pick toward the back end of the slide. Eventually, with some solvent added to the tap dancing, all extractor parts will be free. Now turn the slide rightside up, tap again on the bench, and the striker block will fall out. Or should, at any rate.

Detail Stripping the Frame You'll need a 1/16-inch cup-pin punch, a jeweler's screwdriver, dental picks or similar, small smooth-jaw long-nose pliers, a thin/strong length of shim stock or a tongue depressor, a special

screwdriver or two (which you will make). And keep reminding yourself that the P45 here has a polymer frame, not a steel one. A steel frame wears grips; a polymer frame doesn't. If it did, all you'd have to do to get inside the pistol would be to remove the grips.

In this case, you have to remove the side plate (#40) and side-plate pin (#41). Here, you might want to stop and make one of those special screwdrivers. A thin blade is needed into which you will cut or grind a groove wide enough to encompass the shaft of the side-plate pin and bent slightly to fit under the head of the same pin. Look on the left rear side of the frame opposite the side-plate pin. A very small dimple will be visible. Not the end of the pin, folks, just a dimple.

Center your cup-pin punch exactly over the dimple and tap two or three times. Check the opposite end of the side-plate pin. If it has separated from the side plate enough to get your forked screwdriver under it, stop tapping. Carefully pull the pin free of the frame. This should allow the side plate to show you a gap between it and the frame. Slip the shim

or tongue depressor under the side plate to about x its mid-point. The plate is held in by two polymer tabs.

Rocking the flat piece in a mild twisting manner will encourage the tabs to release from the frame and the plate can be lifted off unharmed. This will give you a look at what awaits you. Memorize it, because that's the way things will have to be after you reassemble the pistol. Remove the trigger-bar spring (#14) by reaching under it with a dental pick and freeing it from its position in the frame. The trigger (#9) is held to its spring (#10) and spacer (#11) by the trigger-pivot pin (#12).

About that pivot pin just mentioned: On steel-frame pistols, it was made to fit tightly and never shoot loose. On polymer-frame pistols, it showed a tendency to do so occasionally. A corrective measure in the form of a tiny, tiny pin which is seated in an equally tiny groove next to the trigger eliminated the problem with one caveat: The trigger pin must be driven. The hole indicates that the front sight is pinned in and cannot be drifted right or left until what's under the hole has been compressed.

DISASSEMBLY/REASSEMBLY OF THE KAHR P45 PISTOL CONTINUED

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straight out left to right and straight back in from right to left. The trigger spring and spacer will probably free up once the pin is removed, and here's where you'll need another of those special screwdrivers. Choose one with a blade wider than the entire spacer, then grind an arc in the blade to just fit over the spacer's raised collar. A magnetic tip would be best if you can manage to part with one.

Once the trigger and its associated parts have been separated from their respective places, remove the trigger bar rearward from the right side of the frame. The cocking cam (#15), cocking-cam spring (#16), ejector (#31), and cocking-cam pivot pin (#32) still face you. The latter is seated in a blind hole, but you can get under the head of the pin with a jeweler's screwdriver've ry carefully and pull it out. The cam, its spring, and the ejector will fall free.

The pin, by the way, is a slip fit. (We should all be thankful it isn't pressed in or permanently anchored one way or another in the frame.) The magazine catch in steel-frame Kahr pistols comes apart and goes together like an M1911. The magazine catch in this polymer-frame version is approached in the same manner as the Glock. Reach up inside the magazine well with a dental pick and detach the magazine-catch spring (#18) from the catch (#17). The catch can then be pushed out, but don't remove the spring.

Reassembly Tips The striker block is reinstalled before the extractor assembly and is held in place by that assembly and the striker. The front extractor pin has a beveled end which must face away from the slide. For re-

installation of the trigger assembly, I strongly suggest using both the screwdriver with the cut radius in its blade and a slave pin just smaller than the diameter of the trigger pin. Insert the trigger up through the trigger guard and position it in the frame.

Start in the slave pin from the left to hold it in place. Connect the front of You'll need a special tool, which can be made from a small straightblade screwdriver, to get the spring seated properly. the trigger bar to the trigger after capturing the spacer and trigger spring with the slave pin. The flat of the spacer seats on the bottom of the trigger and the straight leg of the trigger spring points upward.

The driver blade with the radius you ground in will be used to lightly press down upon and align the spring and spacer with the trigger-pin hole (see Figure 1). Push the slave pin to be flush with the right side of the frame. Grasp the trigger bar between two fingers of one hand. With free fingers, install one leg of the trigger-bar spring under the end of the bar and the other leg of the spring into its slot in the frame.

Place apiece of tape over both ends of the slave pin and another piece over the trigger bar to hold everything in. If you have one handy, an alligator clip makes a reliable improvised tool for retaining the trigger bar while you go to work on the cocking cam/spring/ ejector rebuild. The Kahr's cocking cam has a small hole on one side. The end of the cocking-cam spring has to fit in that hole or the gun won't go back together without damaging the spring.

After the union has been completed, lineup the cocking cam and spring with the ejector, push the pivot pin through them, and reseal the assembly in the frame. Remove the tape and whatever else Figure 1. you've used to retain the slave pin and trigger bar, push out the slave with the trigger-pivot pin, snap on the side plate, and reinsert its pin. All of this inside work is easier with a steel frame because you can secure it in protected vise jaws, leaving both hands free for the tricky stuff.

Using a vise on a polymer frame can be very risky. The P45, however, does have two steel rails inside the frame forward of the trigger guard. These rails would handle a gentle squeeze that's just enough to keep the frame in one position while you were reconstructing its innards. When you're putting the slide back on the frame, it may come to a sudden, unexplained halt. What's happened? It has run into the nose of the ejector. Press down on the ejector and the problem will disappear.

Because of the slight basic disassembly idiosyncrasies from one Kahr pistol to another, I'll repeat my earlier suggestion about downloading Kahr owner's manuals. These Kahr pistols are precision self-loaders. They all perform very well out of the box, but they all approach excellence after a 200-round break-in period. Regardless of caliber, I've never met a Kahr with a feeding, extraction, or ejection problem after it's been through the breakin period. I

PEOPLE & COMPANIES

Installing a Forend Barrel-Tuning Device

Various forms of controlling barrel vibrations or harmonics can be used to enhance rifle accuracy, including methods of adjusting forend-to-barrel pressure. This method proved to be simple and effective.

BY NORMAN E. JOHNSON SEPTEMBER 2006

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In carefully controlled tests with rifles capable of sub-half-minute-of-angle accuracy, I found the stock-forend barrel-tuning device to be a definite aid to improving performance. In no case did such a device worsen accuracy. These tests were conducted using Remington Model 40X rifles, factory equipped with these devices. These included calibers ranging from .222 Remington through 6mm and some larger calibers.

This article will cover installation of triangularly positioned, adjustable bedding screws placed in the forend of a Remington Model

504 in .22 LR caliber. Five different barrels were The smaller, secondary holes for the adjusting screws are cut later. Below center: This inside view of the stock forend shows the barrel-tuning devices installed. This view and the inside view clearly show the necessary angle of the tuning devices for proper barrel contact.

Properly sized endmills or piloted countersinks do a perfect job in fitting the parts. fitted to the action of this rifle used in testing. For bedding screws, I used a pair removed from a Model 40X Remington which were re-

duced in diameter at the internally threaded sleeve that retains the screws. The 5/16-inch screws have 32 threads per inch, which provides a thrust of 0.031 inch per turn of the screw.

The tuning screws are positioned about an inch back from the forend tip and 9 inches forward of the barrel/receiver juncture. In actual use with match ammunition, a half turn on each of the tuning screws, after barrel/screw contact, moved the bullet's point of impact upward 3 inches at 50 yards. A

INSTALLING A FOREND BARREL-TUNING DEVICE CONTINUED

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full screw turn moved it up 5 inches. The target included shows how bullet point-of-impact and accuracy responded to the use of the tuning screws in this instance, which is quite representative of other barrels and bullets used. Careful attention must be exercised in positioning the threaded sleeves that retain the tuning screws. You must be sure the thrust angle is correct, and that ample space in the stock is available. Most target-type stocks pose no problem, while many sporter-type stocks may.

I was able to position the screws at a near 45-degree angle in the Remington 504, resting square with the barrel and spaced outside at 1-3/8 inches. Inside the stock forend, the screws are spaced about an inch from center to center. I used endmills to make the holes, which cut perfectly clean holes. This involves a two-diameter hole—one inside the stock for the screw sleeve, and one for the extended adjusting screw which passes through the outside of the stock. The correct size endmill must be used for each hole.

Be sure the sleeve hole is cut to the correct depth so the surface of the sleeve clears the barrel channel inside. Normally, free-floating barrels provide ample space here. The bottom of the sleeve will rest firmly on the clean-cut hole made by the endmill or other

hole cutter, and if the sleeve is knurled, a slight tapping will hold it in place. Where the hole is a bit larger than the sleeve, some form of bonding agent may be required to hold it securely.

A small amount of silicone adhesive will do as a more permanent bond would make removal of the sleeve quite difficult. I chose to mill out a channel 1/2 by 1/2 inch at the bottom of the forend from the adjusting screws back to near the receiver ring. This slot is for a piece of metal to stiffen the forend, which is bonded into place with stockbedding material or the like. I used Brownells Accu-Bond, which hardens solidly with no appreciable shrinkage.

Cleaning up the edges of the stock. An equally effective method is to turn each screw-to-barrel contact, and then advance the screws the number of turns required for best accuracy, where the adjusting screws are positioned may be required, including a bit of stock finish. Adjusting the tuning screws is simple, although each rifle and barrel, along with its load, is likely to respond somewhat differently to screw-to-barrel pressure.

However, in the case of the Remington Model 504, setup with the tuning screws about 9 inches forward of the receiver, from

one-half to a full turn showed the optimal accuracy improvement. This may vary somewhat with installation application, as well as with different rifles, barrels, and ammunition. To determine barrel-screw contact, a thin feeler gauge can be placed between the screw and barrel. As a slight resistance is felt, this will represent the starting point of adjustment.

As I have found, a tactile approach works perfectly well, too. Grasp the barrel and forend in such away that the thumb touches both parts. Advance one screw until perceptible movement is felt, and stop there. Then do the same with the other tuning screw. From there, simply advance the screws against the barrel uniformly. A quarter or half turn will show a significant change in bullet impact on target.

Installation of the forend barrel-tuning screws shows a definite accuracy improvement in the Model 504 Remington, as it has in other rifles where these devices were installed. The adjusting screws are easy to install with common shop tools, and the cost is minimal. Such adjusting screws can readily be manufactured as custom parts using a 1/4-inch fine thread into a knurled and threaded sleeve. In any case where improved accuracy is sought, this approach should be considered. I

PISTOLS

M1911 Safety: Thoughts on Triggers and Firing-Pin Blocks

In any business, “the customer is always right.” In ours, however, we must also make sure he is well informed first, and right second.

BY ROBERT K. CAMPBELL SEPTEMBER 2006

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There are some things that have no business on a personal-defense handgun, and, in my opinion, adjustable triggers are one of them. Nevertheless, adjustable triggers have become popular with a many 1911 owners, and giving them the benefit of the doubt must come first. As professionals, we must be able to discuss the merits of a modification without rendering opinion, but persuading by clear logic. Still, I can see adjustable triggers leading to trouble.

First, many shooters seem to believe an adjustable trigger can be used to adjust the trigger-pull weight. The adjustment, of course, is in trigger takeup and nothing more. No trigger action is truly set in stone, and we can carefully polish and hone the action of practically any pistol. But for the purpose of this discussion, I'll refer to triggers that offer adjustment by mechanical means. In the common type, engagement of the sear and trigger overtravel are adjusted by a set screw in the trigger.

The first pistols offered with a set screw adjustment, to the best of my knowledge, were the original National Match and Gold Cup pistols. Much has been written concerning the workings of the 1911 trigger, and many hands both good and bad have attempted to achieve a crisp trigger break on the 1911 pistol. The process is not complicated, and most of us can safely improve the factory trigger action found on 1911s.

The 1911's advantage, mechanically, in my opinion, is that the trigger rides in grooves in the frame that allow a straight-to-the-rear compression; it's not on a tangent like the Luger and there's none of the impossible drawbar technology found on double-action pistols. The trigger compresses straight to the rear, allowing for excellent trigger control. When the trigger is well fitted, it will be free of excess sloppiness. Excess sloppiness leads to eccentric wear and a poor trigger action.

The trigger presses straight to the rear, pressing the sear and causing the sear to fall away from the hammer. At this point, the hammer falls and the piece fires. It's quite simple, and all usually works well enough. What Is an “Adjustable” Trigger? It is quite interesting that more than a few of the adjustable triggers encountered are set at the factory and then sealed in place with some type of epoxy or heavy glue. The setscrew protrudes enough from the trigger body to contact the magazine catch.

This screw limits the travel of the trigger, giving a better trigger compression. The compression is shorter, smoother, and the trigger resets more quickly at least in theory. The set screw allows the gunsmith assembling the piece at the factory to set a nice trigger break. I have to admit that many of the Kimbers so fitted have a This Century Arms Scout features along, lightened trigger that is nonadjustable.

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very nice, more than acceptable trigger break. Adjustable triggers, then, are not necessarily meant to remain adjustable. They are meant to be adjusted for the proper travel and never adjusted again. This is a viable option and is what I would recommend to the owner of a pistol destined for personal defense use. Sometimes, we can run into trouble installing the adjustable trigger on certain types of handguns.

In the past, I never recommended removing the Series-80 firing-pin block for any reason, but if the owner insists on an adjustable trigger, then you may need to do an overhaul of other parts and scrap the Series-80 parts as well. There are two problems encountered with the screw in the adjustable trigger. One is that the screw may not be adjusted correctly when installed. The second is that the screw loosens under the hammering of recoil. Each results in the same problem.

The trigger may not be allowed to travel sufficiently to release the sear. You can release the sear but perhaps not press the trigger enough to release the Series-80 firing-pin block. This is an issue because the majority of Colts I see today are Series-80-

type pistols. I am not saying a pistol without the Series-80 block is not safe; we used the pistols safely for years.

Currently, I deploy Rock Island Armory pistols in confidence, and my son, a former Army sergeant and now a cadet in officer training, considers a stainless Springfield to be his "alarms and excursions" handgun. True safety is between the ears, but modern pistols are safer in mechanical terms. The firing-pin block holds the firing pin captive until the trigger is pressed fully to the rear. When the trigger is pressed fully to the rear, the plunger drops, allowing the firing pin to move forward.

In other words, the hammer and the firing-pin block are released at the same time. I recently examined a Series-80 Colt with light firing-pin hits that was fitted with an adjustable trigger.

I'm certain the adjustable trigger was at fault, but the owner merely showed me the cases, the pistol, listened to my postulation, and left my shop. (He's a pretty bright fellow and probably was able to cure the problem once it was pointed out to him.) The forward run of the firing pin was impeded by the incomplete drop of the firing-

pin block plunger, a problem inherited from the adjustable trigger installed, or so I thought.

He did start the ball rolling on this report, however, and hopefully others will profit from it. We really need a few problem pistols to perfect our technique, but I've been able to isolate an inspection sequence for the problem. This test may apply to pistols fitted with any trigger, but is specific to 1911s fitted with adjustable triggers. First, carefully check the pistol to be certain it is unloaded. Lower the slide after clearing and checking the chamber. The hammer should be cocked.

You'll want to depress the grip safety, taking the pistol in a firing grip. Next, very slowly compress the trigger. Feel for smoothness as the trigger moves to the rear. Does the trigger feel normal, as smooth as it should be? If there's a catch or tightness, there's a problem. If the trigger travels after dropping the hammer, then it is defeating its purpose and needs to be adjusted. Most adjustable trigger screws have right-hand threads. Turning to the left allows for rearward movement.

The problem with even properly adjusted set screws is that after hard use they may work loose. "

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Original caption: Left top: Mishaps can occur with too-light triggers and standard hammers. This Chip Mc Cormack is a good design for those preferring an adjustable trigger Left bottom: The Chip Mc Cormack trigger has been used by the author on several competition-type pistols with excellent results. Note the screw adjustment and lightened body with plenty of surface for trigger control. inertia or being thrown forward when the pistol is dropped.

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they will work is unprethe screw becomes loose, then the trigger is not good and tight; if it goes too far in the other direction, the trigger may not engage at all. Opinions differ as to the proper adjustment of a set trigger. The most common advice is for the trigger to have about 2 mms of travel after the sear breaks. Too far in can damage the sear nose, something to be avoided.

I've found that the subject of adjustable triggers and safety blocks often comes up in the same discussion, and it certainly is related as we have discussed. Let's take a look at drop safeties. A Hard Look at Safety Blocks The safety block that we hear condemned so many times by shooters who cling to the Series-70 Colt came about by market pressure. Among the first service handguns to incorporate a firing-pin block or drop safety was the SIG P220.

Once the SIG was available and issued in America, it was an even bet all competitors would adopt some type of firing-pin block safety. And they did. Today, all the major European manufactures and FM of Argentina use the firing-pin block in their semi-auto pistols. I'm pretty certain the military began to be concerned with firing-

pin blocks shortly after the adoption of the M1 Garand semi-auto rifle. This was the first semiauto rifle adopted by the U.

S., and firing pin travel when the bolt slammed forward was a concern. While rare, slam fires can occur with the Garand, especially with a high primer. On the other hand, the 1911 could be carried with the chamber empty, and this problem never came up with bolt-action rifles. Logically, with the adoption of semi-automatic rifles, and with nations moving to the double-action pistol that purported to have the advantage of carry with a loaded chamber, the firing-pin block became more important.

A FIRING-PIN BLOCK PREVENTS THE FIRING PIN FROM MOVING FORWARD UNDER

Colt found that when the pistol is dropped dead on the muzzle from sufficient height, there's a chance the firing pin will run forward against the firing-pin spring with sufficient force to strike the primer. Even though the inertia firing pin is shorter than the firing-pin channel and the hammer is fully locked to the rear, this type of discharge could occur. Colt developed and patented the Series-80 firing-pin block. Some makers of 1911s pay a license fee and use the Series-80 system.

An alternative used by several makers is the light firing pin with a heavy-duty firingpin spring. This seems to ensure that the firing pin will not take a run against a primer when dropped. Only a hammer blow will drive a lightweight firing pin forward against a heavy spring. This seems ideal, maintaining the original 1911 lockwork while increasing safety. I have fired several Wilson Combat pistols so fitted with excellent results, and went the same route with a personal custom pistol using a Caspian slide.

However, another maker who adopted the light firing pin and heavy spring suffered several problems. I've examined half a dozen of these pistols that managed to lock the firing pin forward in dry fire. I called the factory and was told that it wouldn't happen when the pistol fired for realthe fired case would slam the firing pin back in place every time. Well, it did most of the time, but I experienced a number of firing-pin forward problems during live fire with one example.

NEVER DID A FORWARD FIRING PIN EXPLODE A (CONTINUED ON PAGE 16)

M1911 SAFETY: THOUGHTS ON TRIGGERS AND FIRING-PIN BLOCKS CONTINUED

ORIGINAL PAGE 16

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lightweight firing pin and heavy spring combination. Available from Wilson Combat, this is an inexpensive precaution that could save a life or a lawsuit. case, but it was a possibility. These pistols have been quietly repaired or replaced. What made matters worse was a nonstandard firing-pin tunnel. So, the best solutions are sometimes not perfect. My conclusion after much experience and thought is that the Series-80 firing-pin block works just fine.

But never couple an adjustable trigger with a Series-80 pistol if the pistol will be used for critical applications. By the same token, any

pistol that will be used off a secure range should have a firing-pin block or the proper modern I A note on firing-pin spring replacement: In dry fire, the firing-pin spring actually takes more wear than in live fire. The firing-pin blow is not cushioned by the primer and the pin is completely run forward with each pull of the trigger.

I have a few testprogram pistols I keep good records on, and some have reached 10,000 rounds. Probably about that number of trigger compressions have been achieved in dry-fire practice. That's 20,000 firing-pin spring compressions. I think it's safe to say the fir-

ingpin spring should be replaced about as often as the recoil spring, every 4,000-5,000 rounds. I hope these few words on the internal workings of the 1911 are well taken.

So many of these handguns go in harm's way, we simply can't afford to send any out with anything less than 100-percent reliable function.

PISTOLS

Stippling: Checkering's Ugly Cousin

Hand checkering and serration can be difficult, time-consuming, and expensive, but there is a simpler and equally effective alternative.

BY RUSSELL CORBITT SEPTEMBER 2006

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For many, the expense of checkering on gripping areas of an arm is not justified because of the intended use of the firearm, as in the case of a rough-and-tumble field shotgun or a daily-carry handgun. Others, such as myself, don't like cheesy-looking alternatives like sandpaper or skateboard tape. Well, meet the process called stippling. It provides a secure gripping surface, takes far less time to produce, requires vastly less experience and much cheaper tools. What's not to like?

Well, some might call it ugly, and, true, its appearance isn't for everyone. But if function is more important than esthetics, your customer will definitely like stippling. Just what is stippling, anyway? It's a process of creating a roughened surface to improve gripping qualities using shaped punches instead of checkering files. The punches raise small burrs on the surface in whatever fashion is desired, be it random or carefully spaced, and anywhere from deep and sharp to a light dusting of marks.

Stippling can be done on wood, synthetics, or metal. It is (naturally enough) far more durable when done on metal, but will provide perfectly acceptable results on other surfaces. I'm addressing metal stippling in this article, but most of this applies to non-metallic substances as well. You'll need a vise with padded jaws, a small 4- or 6-ounce ball-peen hammer, and one or more stippling punches. Metal-stippling punches can be easily fabricated from a prick punch or a 1/8- to 5/32-inch starting punch.

The punch tip is carefully filed to the desired shape. (Don't use a grinder or belt sander or you're likely to soften the punch's tip such that it will not hold its point.) The most common shapes are round, linear (chisel), and triangular. I've also seen some square punch points, but I was not impressed with their results. In my experience, the triangular point gives the sharpest stippling.

You can buy wood-stippling punches from Brownells (080-061- 012, -016, -020 for 12, 16, and 20 lineper-inch punches, respectively). These punches are used to create

"impressed checkering" patterns similar to those found on some less-expensive long arms. You can also use metal-stippling punches to create your designs in wood, but you must be careful to avoid splintering. The process of stippling is fairly simple, but requires a bit of patience and practice.

It's a good idea to do some practicing on various shaped surfaces before trying it on something valuable. I learned by practicing on pieces of unserviceable firearms which had been destroyed, and then graduating to some of my own firearms. I also recommend experimenting with various surfaces, because different material yield differing results. Softer metals require less power to raise burrs than harder metals, and both are quite different from wood or plastic.

To change the amount of "grip" the stippled surface provides, change the depth of the impact dimples and/ or the angle the punch is applied to the surface. The closer to 90 degrees This was done with a triangular punch, which gives the most aggressive texture.

STIPPLING: CHECKERING'S UGLY COUSIN CONTINUED

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The chisel punch can be used for witness marks as well. the punch is applied to the surface, the sharper and higher the resulting burrs will be. By the way, it's imperative that the punch's cutting point or edge be kept sharp to prevent the punch from failing to "bite" and just skipping across the textured area. This will often leave a large and visible scar on a surface which you did not intend to mark' usually far deeper than the stippling marks you're trying to make.

When your stippled surface is finished to the desired level, you need to address any refinishing necessary. A dollop of cold blue, a spritz of paint, a dab of touch-up plating, or whatever other care needs to be exercised to preserve the raw material exposed by the stippling is now in order. A bit of advice from experience: Target and match guns that are not carried concealed under clothing can have any degree of stippling desired on the gripping surfaces.

Carry pistols, police and duty pistols, and hardkicking firearms will definitely be much easier to deal with if the stippling is not as sharp or is applied sparingly. Should your stippled surface be too sharp, the easiest way to correct it is a very gentle peening with the same hammer used on the stippling punch. It takes only a light touch. Over-sharp stippling on pistols that are regularly carried can catch on clothing, destroy upholstery and furniture, and can scratch holes in your customer's skin. I

PISTOLS

Making Blackpowder Revolvers More User-Friendly

Some simple mods, shown here on a Colt 2nd Dragoon, can improve accuracy and make cleanup a snap.

BY RAY ORDORICA SEPTEMBER 2006

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Preparing a blackpowder cap-and-ball revolver for easy cleanup and optimal shooting is a thoroughly satisfying task, with long-term rewards that far outweigh the cost of the work. Once the gun is set up, the owner can shoot to his heart's content, without the need for constant swabbing or for major disassembly following every shooting session. I've used the procedure outlined here on all my cap-and-ball revolvers, and to blackpowder rifles as well, and it works.

I use only real blackpowder, with which my guns work their best, and cannot vouch for the long-term results with Pyrodex or Triple-Seven, although my methods of preparation seem to work well with those as well. Cap-and-ball revolvers can also benefit from a touch of tinkering along the way, as you'll see. For this example, I'm using a revolver of mine that has seen little use in the dozen or so years I've owned it, for the simple reason that I couldn't get percussion caps for it.

It's a 2nd Generation Colt 2nd Dragoon, one made back in 1981 or 82 and marketed by Colt as a continuation of the same serial numbers used on the originals. Fortunately, I also had on hand two recently made 2nd Dragoons, both from Uberti and imported by EMF and Cimarron. The EMF had a distressed "antique" finish, and the Cimarron was in the normal bluing with case coloring. Both importers offer both types.

According to Elmer Keith, original Dragoons were set up for #12 percussion caps, as was my 2nd Generation Colt. Twenty or 30 years ago, when my Dragoon was made, you could buy #12 caps, but not today. To the best of my knowledge, all you can get now are #10 and 11, and they come from several sources including CCI and Remington. Because of the lack of #12 caps, I tried to replace the nipples with stainless ones, but could not find any. The thread size was 1/4-28.

As I later found out, the threads on the recent Uberti-made Dragoons are also 1/4-28, and those nipples take number 10 caps, so I could have tried to get a set of those. Instead, I turned the existing nipples down to accept #11 caps. I did this with a simple jig made by drilling and tapping the end of a brass rod to Ox-Yoke's Competition Bore Cleaner is shown, but is no longer available. Eastern Maine Shooting Supplies' Concentrated Bore Cleaner works equally well. take the 1/4-28 thread of the nipple.

I screwed each cap in turn firmly into this jig, and with the lathe compound set at 5 degrees, it was a simple matter to carefully cut along the existing taper on the old nipples until they just accepted #11 caps. I used a carbide bit, because the nipples were pretty hard. Perhaps I should have mentioned this right at the beginning, but the first step in the process of preparing the gun for easy cleanup is to equip yourself with the proper grease. In the

MAKING BLACKPOWDER REVOLVERS MORE USER-FRIENDLY CONTINUED

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past, this was Ox-Yoke Originals Wonder Lube 1000 Plus, but Ox-Yoke is out of business. Fear not, some of the former employees created anew company, Eastern Maine Shooting Supplies, Inc. (www.emshooting.com), and they are producing a nearly identical product called Premium Lube. Eastern Maine Shooting Supplies (EMSS) has a replacement for the Wonder Wads that I previously used over the powder charge, now called Premium Lube 100% "Wool" Wads.

One more product you'll find necessary for clean-up is Concentrated Bore Cleaner which, with the grease, is all you really need to make the gun right for blackpowder shooting. The former Ox-Yoke product was Liquid Wonder Competition Bore Cleaner. These water-consistency cleaners cut blackpowder residue like nothing you've ever seen, and they're easy on the hands. With the grease, wads (for shooting), and bore cleaner on hand, disassemble the revolver down to its last component and degrease everything thoroughly.

Then, heat the cleaned and dried parts gently. An easy way to heat the parts is in the kitchen oven, set to about 200 degrees. When the parts are nearly too hot to touch, take them out of the oven and, while they are warm, anoint them all with Premium Lube. The heat lets the grease permeate the metal, and this will provide long-term protection from corrosion even if you don't see or feel any lube on the surface. Let the greased parts cool and you're ready to put the gun back together again.

However, before you fully reassemble the revolver, be sure to check several areas. First, the latch setup on old 2nd Generation Colt Dragoons is faulty, and the same condition exists on new Uberti Dragoons. The engaging surfaces are slanted, which will allow the latch to fly open every shot, which I find very annoying. The solution was twofold. First, make the engaging surfaces parallel to the barrel. I used files and a graver to accomplish this.

That will stop most problems with the newer guns, which have a strong latch spring, but I found it was not enough on the older gun with its weaker spring. I drove out the latch retaining pin and removed the spring. Because I didn't have a stronger one on hand, I just stretched the existing one and then installed a brass filler plug in the bottom of the hole in the lever. The hole diameter was 0.180 inch.

A touch with the lathe on the outside of a 3/16-inch brass rod gave the right diameter, and then I cut a plug about 3/16 inch long and put it under the spring. However, the latch's These are most of the Colt's parts. They need to be degreased (except for the wood), heated, and anointed with Premium Lube from Eastern Maine Shooting Supplies, or with the old Ox-Yoke Wonder Lube 1000. This makes cleanup a snap. integral extension pin, which goes into and centers the spring, bottomed on the new plug.

The latch was thus unable to move far enough to release. The simple fix was to grind off the extension pin, which was plenty long anyway. This ensured the latch could move enough to work properly. This finally solved the problem of the latch flying open on recoil. I like guns that shoot well, and my old Colt 2nd Dragoon didn't. I had two other 2nd Generation Colts on hand, an 1851 Navy and an 1860 Army, and they both give very good accuracy.

I decided to measure them carefully to find out something about the dynamics of cap-and-ball revolvers. The chamber has to be small enough that the ball fits tightly over the compressed powder charge and wad, and stays in place under recoil. Chamber diameter is dictated by the size of balls you can conveniently buy in swaged, pure-lead form over the counter, commonly offered by Speer and Hornady. In ".44 caliber", both companies offer 0.457-inch balls. The next jump up is to 0.490-inch diameter. Mark that well.

I found that a chamber of 7 to 10 thousandths smaller than the swaged ball would give the required tight fit. I generally chamfer the chamber mouths so the ball is more swaged than clipped during loading. Chamber measurements of my Colt 2nd Dragoon indicated an oval condition, varying from 0.445 to 0.449 inch, or about 0.447 inch on average. This ten-thousandths of wedging gave the necessary tight fit with 0.457-inch balls. But to my consternation, this Colt Dragoon had a groove diameter

MAKING BLACKPOWDER REVOLVERS MORE USER-FRIENDLY CONTINUED

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some 0.016 inch larger, or 0.463 inch. How could I expect it to shoot? The cause of the Dragoon's accuracy problem seemed obvious, once I knew its dimensions. I measured the dimensions on my 2nd Generation Colt 1860 Army, which, as noted, is very accurate. Its chamber mouths were extremely oval, from 0.440 to 0.460 inch, and the flattening was from the outside in, as though the cylinder markings had been rolled onto the surface after the chambers had been cut.

The groove diameter of the 1860 was identical to the Dragoon. Hmmm. I suspected the oval shape was the key, because part of the bullet was mighty close to the groove diameter. My first thought was that the bore and chamber dimensions of blackpowder revolvers were contrary to good modern-revolver practice. But I was wrong. I found the Cimarron 2nd Dragoon on hand shot like a house afire, so I measured its dimensions.

Then, with a carbide tool and the compound set to 5 degrees, he made the old #12 nipples accept #11 caps. In this photo, a nipple is in the jig and the cutter has just dressed it down. New Ubertis use #10 caps but have the same thread, so they're an alternative to this. The author found #11 Magnum caps would ignite Pyrodex Pvery well, but the #10s gave hangfires. Groove diameter is 0.463 inch, though originals (and modern Ubertis) are 0.454 inch.

This means the barrel is too big for the chamber outlets, and accuracy suffers. The solution is to open the chambers to match the groove diameter and use a custom bullet of the correct diameter (in this case, about 0.472 inch). Aha! I found very close correlation to modern-revolver practice. The chamber outlets were a very close match to the gun's 0.454-inch groove diameter. To further confound me, the modern Uberti-made Dragoons have a twist rate about five times as fast as my old 2nd Generation Colt.

Original Dragoons had gain-twist rifling and 0.454-inch groove diameter. This information comes from a collector who measured the bore of his original First-Model Dragoon. He told me his original 1860 Army had the same dimensions. My 2nd Generation Colt turned about 30 degrees in the full 7.5-inch barrel length, but the new ones turned the ball about 160 degrees in that length. My old gun had a twist rate of about one turn in 7.5 feet.

However, with much testing of all guns on hand, it turned out the twist rate didn't seem to matter a whole lot, so we can move right on past it. To review a few basics, I had determined that, for best accuracy, a cap-and-ball revolver must be tightly assembled with the barrel key driven in firmly, and with minimal fore-and-aft movement

to the cylinder. The grip screws must all be tight, too, and a rattling loading lever doesn't help things either.

With all these items in place, my Dragoon produced groups larger than 3 inches at 15 yards with my normal load of 50 grains of GOEX or KIK FFg, a lubed wad over that, and a Speer swaged-lead 0.457-inch ball on top, with no over-ball grease. That, I thought, was lousy accuracy. The 1860 cut one hole at that range. So how could I fix my Colt? Before I did any modifications that would change the gun forever, I decided to try something else first, and then see if I still wanted a reamer. I fire-lapped my 2nd Dragoon.

The bore looked great before I began, but there was a tight spot, felt during slugging. I used Neco's 220-grit and 400-grit pastes, rubbed into enough balls to get the bore truly slick. This helped very little, though the actual fire-lap rounds cut one ragged hole. I thought that FFFg might give enough added blast to cause the bullets to jump up and fill the grooves and thus give better accuracy. It didn't work, even when I tried Triple-Seven, which gave over 1200 fps out of the old boomer.

I was faced with a choice of either making the gun entirely right, or leaving it alone. Because I don't like unfinished situations, I decided to fix the problem once and for all. At this writing, I have a 0.462-inch

MAKING BLACKPOWDER REVOLVERS MORE USER-FRIENDLY CONTINUED

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Clearly, the recoiling barrel will pull the lever out of engagement with this setup. The barrel lug just cams the latch back and the lever flops open, which is very annoying. This is a modern Uberti, but the 2nd Generation Colt was identical, with an even weaker spring. The mating surfaces are parallel to the barrel. He also put a plug under the latch spring within the lever to help keep it shut.

This gun's loading lever stays put after every shot. reamer on sand Machinery to enlarge the balls of about 0.470 to 0.472-inch diameter would give the required tight fit. Swaged balls of that size are not available (Corbin swaging tools are too costly for my needs), and neither Lyman nor Lee make ball molds in that size. I found a custom maker in England, JT Bullet Moulds (www.jt-bullet-moulds.co.uk) who will make me a custom mold of whatever size I want.

At this writing, I have one on order because that is clearly the easiest and longest-term way to a proper solution. The mold will stay with the Dragoon for all time, so the gun will shoot as well as can be expected for its entire life. However, I don't like casting bullets, so I'm still looking for a better solution. It's good to know the recent Uberti-made Dragoons don't have this problem.

By the way, they take #10 caps, not #11, and these smaller caps don't work so well with Pyrodex P. All the Dragoons I've tested print about 7 inches high at 15 yards, which was common for cap-and-ball revolvers made during the 1850s. The rear sight is simply a notch in the hammer nose. Rough calculations told me I'd have to grind off about 0.2 inch from the hammer to get the gun to print where it looks. Or I could raise the front sight to center my shots. I chose to leave it alone.

However, I raised the front sights on other cap-and-ball revolvers and can report it's mighty satisfying to have them shoot where they look. Concerning twist rates, my old gun makes a turn of about 30 degrees in its 7.5-inch barrel length (about one turn in 7.5 feet), while the new Ubertis turn a bullet about 160 degrees in the same length (one turn in about 1.4 feet). The new guns' grooves are nowhere near as deep as those in the older Colt. Both old and new versions have seven grooves in a left-hand twist.

As mentioned, I had two Uberti-made guns on hand. One was from EMF with an acid-dipped "distressed" finish. The other, from Cimarron, had a normal blued and case-colored finish and a perfect bore. The distressed gun had had its bore acid-dipped along with the rest of the gun, a foolish move if I ever saw one. Why they didn't plug the bore is beyond me. That would have given a great look-

PEOPLE & COMPANIES

Reader Forum

BY AMERICAN GUNSMITH EDITORS SEPTEMBER 2006

ORIGINAL PP. 23-24

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Shotgun Tips I think a couple of suppliers and one association should get some publicity for helping me out recently. Several months ago, I got in a Winchester Model 24 on which the owner had removed a screw behind the top lever. What possessed him to do this, I will never know. He reported that all of the internal parts started rattling around. Needless to say, the gun didn't work anymore, and information on this gun isn't easy to come by. I slowly disassembled it and made drawings of everything as I went.

In reassembly, I found the firing pins and their associated springs a bear to get right, but eventually I did. With this particular gun, you have to assemble the upper and lower halves separately. The bottom has to be assembled first. The top half of the boxlock has to be assembled upside down and put together with the sides on their sides, not attached bottom to top or top to bottom. And this takes a few tries. The halves will not go together vertically; stuff starts to fall out if it is done this way.

In the end, the gun went together and is back in service. I made step-bystep notes of the reassembly. If anyone needs them, I would be happy to provide them. Naturally, I had to take the gun apart a second time, and then reassemble it again to make sure my steps were correct. However, make sure to have a copy of an exploded view (available from Numrich) before attempting to work on one of these devils. I hope I never get another one to work on again. The next was a Remington 1894 with a broken top lever.

The customer bought it over the counter from Cabela's for \$125 and was told it would never shoot again. With the help of the Remington Collector's Association and the spectacular reproducy Wisner's this gun is Remington Collector's Association was able to provide me with the correct schematics and parts list at no charge.

Wisner's sold meanew manufactured top-lever spring at a very reasonable price with very fast delivery. Then an old Colt Agent came in with a weak main spring. Numrich

was all sold out, so I had to do a little research. Here, I was lucky enough to CX Antiques and was able to ured main spring for the Agent. A final note: The old shotguns were thoroughly checked before test firing.

I began all test firing with the lightest loads available, and worked up after progressive examinations of each gun before a step up to more pressure. Thanks for tips and sources, Mike. Luger Barrel/Sight Removal Any tricks to removing a 1935 "Gdate" Mauser Luger 4-inch barrel (i.e., heat or penetrating oil) aside from a proper vise? I want to replace it with anew 6-inch replacement barrel (offered by Numrich) for plinking and target shooting.

Also, any advice on removing a tight dovetail sight without having to buy some expensive tool? Thank you. There are no tricks. A proper vise with leather-padded jaws, along with an equally proper receiver wrench, is the way to go. Before you remove the

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(continued from previous page) barrel, though, consider the value of an original. A G-Date Luger in good condition that hasn't been reworked is worth about \$1400; if reworked, about \$800. Your intent to install a 6inch barrel falls in the "reworking" category. Beyond the lost value, keep in mind that the Luger has never been considered a target gun'let alone a competitive one. You didn't mention the type of pistol wearing the tight dovetail.

That's okay; there are a couple of ways you can tackle the dovetail problem on any pistol. Step one: Place a drop of penetrating oil on the dovetail seams and allow it to work overnight. Step two: If you want to save the existing sight, use a 4-ounce hammer and a brass rod or nylon-tipped drift. If you're going to discard the sight, use a 6-ounce hammer and a steel drift punch that engages the sight and clears the dovetail seams.

If the hammer and steel drift don't do the trick, use a jeweler's saw to cut the sight in half from side to side and push out the pieces. Once the sight has been removed, a fine triangular stone should be applied to smooth up the dovetail to make reinstallation or any future removal easier. Floating Revolver Cylinder? A friend has asked me to help identify why he is having a problem with the cylinder stopping during fast action.

The revolver is an S&W Model 29 .44 Magnum, and shoots fine in a clear and defined double-action pull for each individual shot. However, it seems to allow the cylinder to float between chambers during

rapid-fire shooting. The owner of the gun has told me that there have been many rounds put through it, but it doesn't appear to be loose or excessively worn. Someone suggested to the owner that the cylinder stop may not be coming up high enough or the spring behind it may have become weakened.

He told me he ordered and replaced the spring, and it seemed to work for awhile, but now does the floating thing again. I've tried to determine if there might be some sort of timing problem or if the hand is pushing up with enough force to make the cylinder rotate past its stop before it comes up, but I can't rightly tell. For informational purposes, the stopping walls of the cylinder stops appear to have some pinging, but not enough to create burrs or high spots. Do you have any ideas or suggestions?

Thanks for your time and consideration. The problem you describe as floating is called DCU (doesn't come up) by S&W. This usually indicates a timing problem wherein the cylinder fails to fully rotate into alignment with the barrel. More often than not, the hand has worn or its spring has weakened or there's a burr on the hand window in the frame creating drag on the hand.

In your friends' case, where the problem occurs only during "rapid fire, he probably isn't allowing the trigger to reset (return to its full forward position) before squeezing it again. More M1 Garand Questions What is the correct distance between the op-rod piston head and the back of the gas port?

What's the correct distance from the piston head and the gas-cylinder lock screw head? What is the correct diameter for the gas port for the standard rifle and for the Tanker conversion?

I would like extra op-props for Numrich's Tanker Conversion Kits. They say they don't sell them separately and have no idea where they got them. I am also interested in sources for M1 parts kits, M1 folding synthetic stock, and Browning BAR mags. Thank you very much. Because we have no Tanker model, we can't make comparisons between it and a standard M1, and since we have no blueprints we cannot respond accurately to your specification questions. Past experience has proven the U. S.

Army Ordnance Museum in Aberdeen, Maryland, has the information you seek, but is unwilling to share it. However, Badger Ordnance in Rapid City, South Dakota, carries tools and gauges and publishes reproductions of original Ordnance Department parts drawings. Arlington Ordnance (Winchester, Virginia) is a source for barrels, rebuilt gas cylinders, and op-props, while Fulton Armory (Savage, Maryland) carries M1 parts and accessories, as well as offering gunsmithing services.

Perhaps Fulton (www.fultonarmory.com) can provide answers to your specification questions. We also strongly recommend you secure a copy of Jerry Kuhnhausen's book, The U. S. .30-Caliber Gas-Operated Service Rifles, from either Brownells or VSP Publishers (Box 887, Mc Call, ID 83638).

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