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INSIDE THE ARCHIVE

TROUBLESHOOTING THE CIMARRON MODEL 1872 OPEN- TOP REVOLVER

FAILED 'ASSAULT WEAPON' BAN ENDS • WORKING THE HENRY BIG BOY RIFLE • REPLACE THOSE FRAGILE FLAT SPRING...

ORIGINAL METHODS. MODERN ACCESS.

ARCHIVE EDITION 012

DIGITAL ARCHIVE EDITION

Preserved for the bench.

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SAFETY & COMPLIANCE

Failed 'Assault Weapon' Ban Ends

BY AMERICAN GUNSMITH EDITORS NOVEMBER 2004

ORIGINAL PP. 2

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According to the National Shooting Sports Foundation's "Bullet Points" online news service, the Justice Department says that the violent crime rate fell 54 percent in the last 10 years despite an increased supply of semi-automatic firearms. During the last decade, manufacturers continued to make and sell semi-autos, in full compliance with provisions of the 1994 Crime Bill some mistakenly refer to as a "ban" on such guns.

There was no federal prohibition on owning, buying, or selling the firearms Congress defined as "assault weapons" simply because the target or hunting guns shared cosmetic features with military arms. A Justice Department report estimates that approximately 1.5 million firearms fitting the "assault weapon" description were made and available for sale before the "ban" put restrictions on further manufacture of guns with cosmetic features resembling military machine guns.

These are only ornamental differences, of course, not functional differences. Congress did the equivalent of ordering that hood ornaments be removed from cars in order to prevent people from breaking the speed limit. Manufacturers have been wrongly accused of exploiting a "loophole" in the law to continue making semi-autos. To carry the car comparison even further, that amounts to exploiting a loophole to avoid getting a ticket by driving below the speed limit.

Each year of the "ban," figures from the Bureau of Alcohol, Tobacco, Firearms and Explosives show that some 4,500,000 firearms were sold to Americans each year even as crime declined.

These include semi-autos which operate identically to "assault weapons." Last year, an analysis by the Centers for Disease Control concluded: "During 2000 to 2002, the Task Force on Community Preventive Services, an independent nonfederal task force, conducted a systematic review of scientific evidence regarding the effectiveness

of firearms laws in preventing violence, including violent crimes, suicide, and unintentional injury.

The following laws were evaluated: bans on specified firearms or ammunition, restrictions on firearm acquisition, waiting periods for firearm acquisition, firearm registration and licensing of firearm owners, "shall issue" concealed-carry laws, child-access prevention laws, zero tolerance laws for firearms in schools, and combinations of firearms laws. The task force found insufficient evidence to determine the effectiveness of any of the firearms laws or combinations of laws reviewed on violent outcomes.

As we go to press, the assault-weapons ban will end on Monday, September 13. "It will expire Monday, and that's that," House Majority Leader Tom De Lay, Texas Republican, told reporters, and Senate Majority Leader Bill Frist, Tennessee Republican, said the Senate would not consider a renewal. Editor Keith Lawrence Technical

RIFLES

Working the Henry Big Boy Rifle

There are major differences between this rifle and the small-bore Golden Boy we covered in the February 2004 issue.

BY CHICK BLOOD NOVEMBER 2004

ORIGINAL PP. 3-6

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Not the least among the differences between the Big Boy and the Golden Boy are the calibers and receivers. The Golden Boy's small-bore receiver is hidden under a brass-plated zinc cover. Its .44 Magnum/.44 Special big brother's receiver is solid brass. In fact, no American-made rifle has worn this much brass since the original Henry of 1860. The Henry Big Boy sure is pretty, but it isn't very tough. You must use screwdrivers with hollow-ground blades that fit screw slots like they were custom made to fit them.

Otherwise, one slip and you'll be looking at a deeply scratched receiver—in addition to a beaten-up screw head and a ticked-off gun owner. Speaking of which, there are a few things in the Big Boy owner's manual you should be aware of, because owners rarely study the manuals and often don't even keep them. Under the topic "Safety," the manual describes the patented Transfer Bar Safety System the Henry employs. It prevents the rifle's being fired except when the hammer is fully cocked and the trigger is pulled.

There is no half-cock notch or cross-bolt safety. Nor will you see the more familiar hammer block in the Big Boy. It is, instead, seated within the body of the hammer itself, and don't bother looking for it on the com-

plete gun schematic which identifies the transfer bar pin (#14) but does not show the transfer bar itself (#13).

Related to safety and appearing under the heading "Ammunition" the owner is informed—if he bothers to read it—that the rifle is chambered specifically for the Remington .44 Magnum and the S&W .44 Special—and no other cartridges. Noted in the manual, probably because the presence of an elevator under the rear sight is so obvious, is how to make height adjustments. Not noted is the white diamond insert on the rear sight.

Held in place by a screw, the insert is reversible to provide either a Uor V-shaped notch, which is raised or lowered to fine tune adjustments made with the elevator. It is when the manual initially advises how to clean the rifle that it errs. In our opinion, no rifled firearm should ever be cleaned from muzzle to breech as the printed words state.

Almost immediately thereafter, it appears wiser heads prevailed, and the following method of cleaning the Big Boy is paraphrased from the manual: Open the lever (#23) and back out the lever screw (#12). Pull the bolt (#16) from the receiver. With the bolt out of the way, the ejector (#31) and its attached spring (#32) may or may not fall from their

WORKING THE HENRY BIG BOY RIFLE CONTINUED

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Original caption: Left top: This photo shows a bottom view of the stripped receiver with the triggerplate assembly removed. The arrow indicates the magazine-retaining screw.

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Original caption: Left bottom: In this photo of the trigger mechanism, the transfer-bar safety is visible within the body of the hammer. The system prevents the rifle from being fired except when the hammer is fully cocked and the trigger is pulled. lifting. Turn the receiver on its side and remove the carrier screw (#46). I found reaching in through the ejection port with an active finger freed the carrier with little anguish. With the carrier will come its dog (#28), dog pin (#29), and spring (#30).

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receiver slot. If not, reach in with tweezers, pluck out the assembly, and don't lose it. Now there's nothing to get in the way, and the gun can be cleaned the right way—breech to muzzle. Field Stripping Plus... Before going further, here are a couple of advisories about the schematic drawings. In the factory opinion and my own, the main overall drawing doesn't show the entire triggerplate group in proper detail. The secondary schematic does, and for that reason is included here.

Parts numbers on both drawings coincide, with the "BB" prefix on the trigger-group drawing being the only difference. What the prefix stands for, if you haven't already guessed, is Big Boy. In addition, Henry has provided detailed drawings showing both sides of the completed assembly for your reference. All manufacturers should be so considerate of gunsmiths. Ease the hammer into its fired position. Remove the tang screw (#49). Pull the stock (#54) off to the rear.

To take the pressure off the main spring (hammer spring, part #50) and remove the spring seat (#31), insert a screwdriver blade under the rear end of the yoke assembly (#33) and pry it away from the triggerguard plate (#2). Open the lever (#23) half way, back out the lever screw (#12), and pull the lever from the bottom of the receiver. The bolt is taken out as described previously, as is the ejector. Going Further There are two triggerguard plate screws, #47 and #48.

Take them both out and separate the plate from the receiver. I found the fit snug, but excessive force was not necessary to remove the plate. Looking down into the vacated receiver you can see the locking bolt (#35). Lift it out, but don't lose its spring (#59) in the

Unless one or more of the carrier parts has been damaged and needs replacement, you might as well leave it as is. Consider that a suggestion, not a warning. The same can be said of the hammer assembly because of the

transfer-bar safety system. At least for now. Meanwhile, let's move to the front end of the rifle. A twist to the right and a gentle pull as you look down on the magazine tubes with the muzzle facing away from you will remove the inner mag tube (#34).

There is no further disassembly of that particular element. It is available and sold only as a complete unit. After setting aside the inner tube, back out the barrel-band screw (#53), and slide the band (#52) off the forend and remove the wood. The band itself slips over the front sight and off the rifle. The outer magazine tube is held to the barrel by its tube support (#42). The support is dovetailed and pinned to the barrel.

Before the support can be drifted from the Opposite page: There is no numerical difference between the overall schematic (top) and the detailed triggerguard plate drawing (bottom) except for the use of the prefix "BB" in the detail drawing.

WORKING THE HENRY BIG BOY RIFLE CONTINUED

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Henry Big Boy Lever-Action Rifle (Specificationssub-
jectto changewithoutnotice) 1 Receiver 2 Triggerguard
Plate 3 Hammer 4 Trigger 5 Sear 6 Rocker 7 Trigger
Lock 8 Sear/Rocker Spring 9 Trigger Lock Spring 45
Hammer Screw 54 Buttstock Assembly 10 Sear/Trigger
Spring 46 Carrier Screw 55 Forearm 11 Lock Pin 47
Triggerguard Plate Screw 57 Extractor Plunger 12 Lever
Screw 48 Triggerguard Plate Support Screw 58
Extractor Spring 13 Transfer Bar 49 Tang Screw 59
Locking Bolt Spring 14 Transfer Bar Pin 50 Mainspring
60 Mainspring Yoke Pin 15 Trigger/Rocker Link 51
Mainspring Seat 61 Front Sight 16 Bolt 52 Barrel Band
62 Rear Sight 17 Firing Pin, Front 53 Barrel Band Screw

63 Rear Sight Elevator 18 Firing Pin, Rear 19 Extractor
Triggerguard Plate Assembly 20 Firing Pin Spring 21
Firing Pin Retaining Pin, Front 22 Firing Pin Retaining
Pin, Rear 14,60 23 Lever 24 Lever Plunger 3 25 Lever
Plunger Spring 26 Lever Plunger Pin 27 Carrier 28
Carrier Dog 29 Carrier Dog Pin 33 30 Carrier Dog
Spring 31 Ejector 32 Ejector Spring 33 Mainspring Yoke
Assembly 34 Inner Magazine Tube 35 Locking Bolt 36
Barrel 37 Outer Magazine Tube 38 Magazine Tube
Follower 39 Magazine Tube Spring 40 Magazine Tube
Knob 41 Magazine Tube Knob Pin 42 Magazine Tube
Support 43 Magazine Tube Support Pin 44 Magazine
Tube Retaining Screw

WORKING THE HENRY BIG BOY RIFLE CONTINUED

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Original caption: Below top: When removing the mainspring seat, a screwdriver is slipped under the yoke assembly (arrow) to lift it free from the guard plate. The spring and upper tang are omitted here for clarity. Below bottom: The right-hand side of the triggerplate is shown here.

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dovetail, the magazine-support pin (#43) has to be driven out from the left side. That means from your left to your right when the muzzle faces away from you. Hmmm. The outer tube still won't let loose. The reason is an 8x32, conical-point set screw (#44) located in the receiver under the front end of the now absent triggerplate. The screw is secured with blue Lok Tite, so you might have to apply a little heat to break the bond.

Rather than using an open flame, I recommend you apply the tip of a electric soldering iron to the head of the screw until it can be backed out easily.

Note that the triggerlock link (arrow) must be reinstalled flush in reassembly, along with the different diameter retaining pins in the guard body. Don't forget to freshen up the blue stuff when reinstalling the screw. Additional Disassembly Working from front to back seems the best way to go. The hammer is loose because you backed out the hammer screw. Pull the hammer out. Remove the trigger/rocker link (#BB15), the transfer-bar pin (#BB14), and the mainspring-yoke pin (#60).

Pick the transfer bar (#BB13) from the hammer. Next come the rocker (#BB6) and rocker spring (#BB8). There are two different diameter pins used in the trigger/sear/lever detent assembly. The trigger and sear pins are .094 inch, while the lever-detent/trigger-lock pins are .078. Remove the trigger pin (#BB10) and separate the trigger (#BB4) from the sear (#BB5). The sear pin comes out followed by the sear and the trigger-lock/lever-detent pin (#BB11). The trigger lock (#BB7) and its spring (#BB9) are next.

The lever-detent pin secures the lever in its closed bolt position by exerting pressure on the lever plunger (#24) and lever spring (#25). Those parts are held in the lever by the plunger pin (#26). Reassembly is undertaken in reverse order. Speaking of reverse, you may have to flip the trigger/rocker link end to end. It must seat fully in the assembly to avoid interference between the guard plate and receiver.

I don't know exactly why this flipping might become necessary, but try it if the link fights you going all the way back in. Also note that the tab on the lower front of

the hammer must fit underneath the rocker, and note that the transfer bar only fits inside the hammer body one way. It can't be installed backwards. That's good, because it has to seat in the hammer below the centerline of the rear firing pin.

When the trigger is pulled, and only when the trigger is pulled, the bar raises up allowing the hammer to make contact. This brings us to bolt disassembly/reassembly. Pins #21 and #22 retain the front and rear firing-pin halves respectively. Both are factory installed from the bottom of the bolt. They are driven out in the same direction. This will free both firing-pin halves, #17 and #18, plus the firing-pin spring (#20), the extractor (#19), extractor plunger (#57), and spring (#58).

When they go back into the bolt, those firing-pin halves and their spring must be in line. The forward half has a flat on its front end. Don't let it rotate during reinstallation. I prevented it from turning with a wedge fashioned from a tongue depressor and slipped into the receiver slot where the lever enters and exits. Say "ahh." ■

MAINTENANCE & REPAIR

Replace Those Fragile Flat Springs in SAA Copies

It's a relatively simple job to replace those prone-to-break flat springs with springs made of round music wire.

BY RUSSELL CORBITT NOVEMBER 2004

ORIGINAL PP. 7

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If you've spent any time at all trying to repair one of the imported Single Action Army (SAA) copies with a broken hand spring or broken trigger/bolt spring, take heart; there's an easy way to replace those springs that will almost eliminate breakage completely. If you're like me, you've had several of the different imported copies of Colt's Model Pin for repairs. Usually, it's for a broken hand spring or a broken trigger/bolt spring—two of the most fragile springs I've ever run across.

While Colt parts will fit some of these copies, often the new springs will require some "adjustment" to fit and work properly. Then, the

owner takes the revolver back out and abuses it some more, until the new spring breaks. What can you do? The answer is to replace the flat springs with music-wire springs. Wire springs are not as subject to stress riser pinning and subsequent fracture as flat springs. But don't get the wrong idea; I'm not talking about coiled springs.

The best example I can think of right off the top of my head is the replacement trigger/bolt springs for SAAs and copies that appear in the Brownells catalog. If you work on these revolvers frequently, it would probably be easier to buy the trigger/bolt springs. However, if you don't see them very often or

are confronted with one of the German or oddball-sized Italian SAA revolvers, you may be better off making your own.

As far as I know, no one offers a replacement hand spring in any type other than the original—and fragile—flat leaf. I've replaced several flat hand springs with my own round-wire springs over the last 10 years, and none of the revolvers have come back for spring replacement. One note of caution here: If the spring in question rides on a soft surface (such as a hand spring in an alloy-framed SAA knock-off) it might (continued on page 21)



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be prudent to attach a flat “slider” to the spring where it contacts the frame. This will keep the round spring from digging a trench in the frame. The slider can be fashioned from brass or steel shim stock. Soft-solder or silver-solder the slider in place with the rest of the spring clamped in a smooth-jawed vise (and with maybe a bit of heat-absorbing paste) to keep the stressed part of the spring (the sharp bend) from be-

coming either brittle or too soft. Be sure to break all sharp edges on the slider. Burrs will cause roughness in the action and undue wear on the frame.

With a little bit of tooling and some ingenuity, you can replace many smaller flat springs in a wide variety of applications with around music-wire spring that will be virtually unbreakable. This fix is presented for the SAA copies, but it can be applied almost anywhere a fragile leaf spring is encountered.

MEASUREMENT & INSPECTION

Why Doesn't This 12-Gauge Kick Like a 12-Gauge?

Our field testing shows the Knoxx Comp Stock system is capable of reducing actual recoil.

BY CHICK BLOOD NOVEMBER 2004

ORIGINAL PP. 8-9

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Yes, I'm talking about actual recoil, not felt recoil. Felt recoil reduction and the means to achieve it were addressed in the April 2003 issue. In that same article, I put forth the argument that the only way to reduce actual recoil required lower velocity from the muzzle and lighter loads in the chamber. In light of a newly patented stock system being offered by Knoxx Industries, it's possible I was wrong.

The Knoxx Comp Stock system employs an extension spring, cam lever, plunger, and roller entirely housed within the buttstock. These elements serve to expend actual recoil energy, and use what's left over to reset the spring for the next shot. They also slow down the recoil process. For example, a 12-gauge hunting load delivers its normal peak in 4 milliseconds. With the Knoxx Comp Stock installed, it peaks in 20 milliseconds.

Independent laboratory test results point to a reduction in actual recoil of 50 percent, and some Knoxx customers say they've experienced as much as 90-percent felt-recoil reduction with all loads—all loads include

Magnums. Did I take the independent laboratory tests and customer testimonials at face value? Heck no! Instead, I set up my own test after installing a Comp Stock on a well-used and faithful Mossberg 500—a shotgun that I knew, for sure, delivered the actual recoil of a 12 gauge.

I also knew of a shooting club that was holding its second "Ladies Day at the Range" event. The first event had been a great success, with every indication of attendance improving for subsequent events. Since my home state is among the states that don't yet issue concealed-carry permits to ordinary law-abiding citizens, the shooting club's administrators recognized the force that female voices can bring to bear upon the politicians who were about to cast a legislative vote.

The club's strategy of getting more women involved in shooting and shooting sports is a wise one. Knoxx contracts with Hogue, the well-known maker of grips, to manufacture the Comp Stock System. To install it on the Mossberg, I removed the original

buttstock and recoil pad before turning my attention to the Comp Stock, which has to be disassembled before it can be mounted.

Its recoil pad was removed after dipping a Phillips-head screwdriver with 1/4-inch-diameter shaft into light grease, inserting it into the pad, and backing out both screws. The grease helps prevent damage to the recoil pad. Removal of the butt pad exposes the back plate of the recoil device, which is held to the Comp Stock by two decking screws. These are easily taken out to separate the device and the hard sleeve that protects it from the body of the buttstock.

The Comp Stock is attached to the Mossberg in reverse order. With some shotgun models, you may need a different-length stock bolt. If so, one can usually be turned up at a hardware store, but this was not necessary with the Mossberg. I merely placed the washer supplied with the Comp Stock under the head of the factory stock bolt, started the The shotgun does not have to be taken down beyond stock removal and basic field stripping to make the conversion.

WHY DOESN'T THIS 12-GAUGE KICK LIKE A 12-GAUGE? CONTINUED

ORIGINAL PAGE 9

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bolt into the receiver, tightened it securely, and reassembled the Comp Stock. The forend is removed by taking off its retaining nut and separating the barrel from the receiver. Disassembly of the forend must be done with a wrench designed specifically for the purpose. The best one I've found for the job is made by Menck, available from Brownells, and can be used on dozens of different scatterguns. Once the retainer is off, slide the forend off the magazine tube.

This detaches it from the action slide so you can slip on the new forend (supplied), and tighten it in place with the retaining nut. When I was finished, the Mossberg still looked like a Mossberg that had been fitted up with a black, textured buttstock and black forend. Its barrel remained its original flat olive-drab color. I could have sprayed the barrel with a flat-black baked-on finish from Brownells, but this was no beauty contest. The Model 500 would do just fine as it stood.

Visitors to "Ladies Day at the Range" receive about two hours of safety/familiarization classroom instruction before heading outdoors to fire their choice of handguns, rifles, and shotguns provided for their use

by club members under the close supervision of certified instructors. (The maximum number of shooters per instructor is two.) Having my double purpose in mind, I volunteered to work the trap range.

I must admit my twotone Mossberg looked more than a little out of place next to the high-end Krieghoff, Perazzi, Browning, Remington, and Beretta shotguns. But never mind how it looked. Did the Comp Stock reduce the actual recoil of the Model 500? Despite a barrel length that was too short for serious trap, I talked several ladies into trying it out before they shouldered one of the other twelves. "Just to get the feel of a 12 gauge shotgun," was the way I put it. And several did.

Every one of the women wanted to know why "these other guns kick more." I responded with a highly non-technical explanation, during which I explained that the same system was presently available for the The wrench is available from Brownells. Winchester 1300-Series, the Remington 870-Series, and a kit was coming from Knoxx that would convert any shotgun stock not housing a recoil spring.

True, we were only using target loads, but when the day at the range was over, a club member who had not tried the Model 500 wanted to check it out with a game load. He did, and was as surprised as the female visitors. He offered the opinion that the lowered recoil would be even more noticeable when still heavier charges were chambered. So the system works. And when Knoxx says "the only thing that gets hammered is the target," my little independent test says they're not just blowing smoke.

Though I didn't try a Remington, Ruger, Winchester, or Mauser bolt-action rifle, there are Comp Stocks available to fit them, and I have no reason to doubt they'd be just as effective reducing actual recoil in those rifles as they were with the Mossberg 500. Comp Stock prices are set up well for a profit, too. The shotgun version retails for \$119.95; the rifle version is \$249.95 to \$389.95; with a dealer discount of 30 percent.

For more information, you can call Knoxx at or take a peek at their full product line at

■

METALWORKING

A Second Life for the Remington 32

The transplantation of Krieghoff parts can give the retired Remington 32 a long and productive second life.

BY SERGEY LYALKO NOVEMBER 2004

ORIGINAL PP. 10-15

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The Remington 32 was developed by Crawford Loomis in 1930- 1932 and quickly became very popular among American shooters. From the technical standpoint, it had some interesting features such as atop sliding bolt and mechanical selective single trigger of anew type. The steel receiver of this gun promised considerable strength and reliability. Despite these nice features, the gun had a number of weak points. The manufacturing was expensive and cumbersome.

The action did not have any reasonable means of blocking the intermediate "third pull," hence these guns often suffered from "doubling," or shooting both shells after the first pull. This forced gunsmiths who attempted to fix this problem to increase tension of the sear springs beyond the normal limits, creating a trigger pull of 7 pounds and more. Needless to say that many skeet and trap shooters, sensitive to heavy trigger pull, became quite unhappy.

The other weakness of this action is the considerable interdependency among the parts. For example, any trigger job changes the sear-hammer engagement, which immediate-

ly affects the position of the sear, which in turn affects the timing of the trigger pull and often creates a problem for proper functioning of the switchover from barrel to barrel. Finally, the whole group of internal parts is assembled between two thin plates made with soft steel.

This makes maintenance of this gun even more difficult, since after disassembling these parts several times they become loose and change tolerances. The production of the Remington 32 was terminated in 1942. In the early 1950s, a group of designers from the German gunmaker Krieghoff recognized the advantages of this gun, and found a way to solve most of the aforementioned problems. The result of this work was the well-known K-32.

Today, American clay-target shooters enjoy the most versatile shotguns made by Krieghoff. Although there are a number of shotgun models, their basic principles stem from the Remington 32, Figure 1. Figure 2. and despite the difference in parts and quality of manufacturing, the receivers of the Remington M32 and the Krieghoff K-32 are almost identical. Practically no parts exist for

the original Remington. This means that in difficult cases the Remington 32 can be repaired with parts from the Krieghoff.

Moreover, if the Remington's frame is in good condition, installing these parts can essentially give you a gun with the Krieghoff's reliability, block of the third pull, as well as other advantages. The installation of those parts, however, is not straightforward, and some of the steps can create challenges. In this article, I'll share my experience with those who may want to give a second life to the Remington 32 by transplanting parts from its descendants, the Krieghoff K-32 and K-80. What To Do with the Old 32?

The story I want to tell here began when I received an old Remington 32 (a later R-32) for repair. The gun was doubling and often misfiring. The condition, which I call "low hammer," resulted in the barrels springing back at every opening of the breech. The gun had been retired along time ago after several repair attempts. The action (Figure 1) carried clear signs of these previous, intensive repairs.

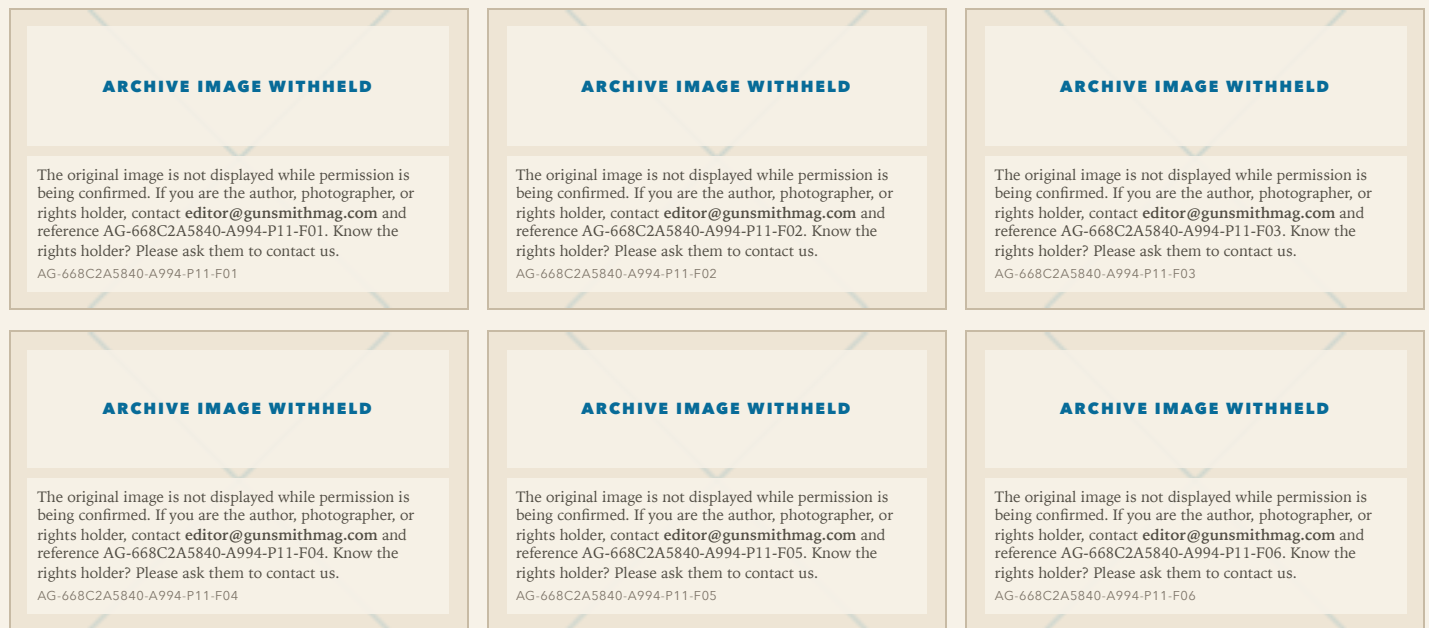


Figure 2 shows Krieghoff's K-80 action for comparison. This action provides an example to follow for the conversion of R-32. Later in this article I will refer to numbers on this photo. The problems on the Remington turned out to be difficult to eliminate. Some parts had been heavily filed and, of course, had to be retired. All my attempts to find spare parts for this gun were unsuccessful, except for a few parts that were too expensive available through the network of gunsmiths.

In such cases, I usually go to the milling machine and make new parts. This case, however, was different, since the simple reproduction of original parts would not eliminate the design problems mentioned above. In other words, after all my efforts in making new parts, I might still face the same problems. This thought just would not let me work on this gun. Then, a few days later, I was fixing a Krieghoff and started thinking about the similarities between the two actions.

I asked myself: "Why couldn't I install the Krieghoff parts into the Remington and end its problems?" This solution seemed so obvi-

ous that I was surprised the Figure 6. Figure 3. Figure 4. idea had not occurred to me earlier. The only obstacle might be that the customer would not want to pay for such expensive parts. Fortunately, the chances of a successful operation seemed so promising that customer agreed. I should mention here that the receiver was in a very good condition despite the age of the gun.

Quite often this means that mechanical problems limited the usage of the gun. This transplant project completely changed my attitude toward the old Remington, and I became enthusiastic about giving it anew and better life. Preparation of the Frame I started with installing sideplates. Two recesses should be milled out on each side—not difficult, but quite a job that requires precision. The bottoms of the recesses have to be absolutely parallel with the sides of the action.

Figure 3 shows the process of testing to ensure the action is horizontal in the milling vise prior to cutting the recesses. Figure 4 shows the setup of the mill for this operation. The Krieghoff's sideplates are precisely made, Figure 7. Figure 5. and are 2 mm thick,

while the original sideplates of the Remington are quite soft and 1.32 mm thick. This means that the original slots on the bottom strap of the frame should be enlarged to accept the new sideplates. The process of doing that is shown in Figure 5.

The correct installation of these plates is very important, since all the other parts except the hammers are attached to them. In other words, the position of the plates determines the critical distances between hammers and sears as well as trigger and sears. In addition, the pin shafts with C-clips have to be square with both plates. These considerations forced me to fix the top of the plates with screws rather than the pins used in the K-80.

This had to be done to avoid potential drift of the hole when drilling for the pin through the action. The screws, on other hand, were installed in independent holes (Figure 6, #1) after completing the adjustment of the plates. The original two holes at the bottom of each side were perfectly positioned for the new plates, but securing them with standard K-80 pin-screws created the first surprise. There was not enough metal around Figure 8.

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Figure 9. the holes (Figure 6, #2) to cut the 3 mm threads the Krieghoff's screws have. Therefore, I made new ones out of 3-56 fillister-head screws, which are 2.5 mm thick. The diameter of the shaft part of both the original and these new screws is 2 mm (Figure 7). Cocking Levers and Rods The installation of the main springs, cocking rods, and hammers did not present any problems.

However, later it turned out that the slightly thinner noses of the K-80 rods (Figure 8, #2) did not trip the ejectors, so I installed original ones (Figure 8, #1), which eliminated this problem. I was unable to install K-80 cocking levers, since their holes and pins were of much smaller diameter than that of the Remington. The original levers, however, did not push the hammers far enough to engage them with the sears.

The natural solution would be to make new levers with increased shoulders (shown with the arrow in Figure 9) to push the hammers further, which I did. However, the internal housing for the levers inside the action did not have space to increase the shoulders enough. Figure 12. Figure 13. Figure 10. This matter required more adjustment than I

would have expected. Finally, I had to add a bit of steel approximately 1 mm thick to the step of the cocking rod (Figure 10) to completely solve this problem.

Top Lever Spring Support The top lever rod and spring were easy to replace; however, the small support block (#6) of the K-80 has different post dimensions than the one for the R-32, and could not have been installed on the action. I used the original one. It also did not go easy, since holes for the sear-plungers in the original support block had inappropriate angles. Figure 11 shows the R-32 (left) and K-80 (right) blocks. The thin rods are inserted into holes to show the difference in angles.

This turned out to be important, because with this configuration the sears didn't have enough movement to engage with the hammers. So, I had to braze those holes and drill the other ones with the proper angle. **Selector Pear/Sear Adjustment** The selector pear (#9) is responsible for switching from barrel to barrel Figure 11. by moving from the used sear to the unused one. It also responds to selector position by moving under the specified sear.

In general, this mechanism is quite reliable, but requires some adjustments. There are two variables to adjust. One is the distance (d) from pear to each sear (Figure 12). This distance has some tolerance within which it works reliably, but cannot be greater or smaller than this tolerance. In the first case, the trigger will have too long an idle travel and the inertia block or sears may interfere with the safety parts.

In the case of too short a distance between pear and sears, the switch from barrel to barrel and selector would not work. In my case, the best distance found was about 1 mm, which enabled the free movement of the pear under both sears. The other variable to adjust is the pair of angles of the pear's turn in traveling from sear to sear. These angles can be adjusted by the small cross-pin (11) holding the pear in place.

By regulating the length of the left and right shoulders of the pin, the turn of the pear should be adjusted to satisfy the following Figure 14.

A SECOND LIFE FOR THE REMINGTON 32 CONTINUED

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Figure 15. Figure 16. conditions. First, the pear must reliably engage with the sear and not slip toward the other sear during the trigger pull. This means that the angle should be no less than required. Second, the pear cannot go too far under the first sear, which results in an inability to switch to the other sear after the shot. Safety Inertia Block Installation of the safety button on the R-32 had to overcome several obstacles.

First, the original slot in the frame was too narrow, and I had to make it wider by milling (Figure 13). Second, the frame itself in this area was too thick, and I had to mill it out. You can see it on Figure 17. Third, the spur of the safety button was too short and did not engage with the spur on the inertia block, and I had to extend it by brazing on a piece of steel (Figure 14). The inertia block on the Krieghoff plays two very important roles. First, it blocks the "third pull," which prevents doubling.

Problems with the third pull have been ongoing since the first single triggers on shotguns. The third pull happens unwillingly during

counter-recoil, when the gun moves forward, and the finger just pulls the same trigger again. It cannot be controlled by the shooter. The logic of this device is easy to understand. Before the shot, the inertia block is resting between the safety-button spur (8) and the post (5).

When, after the first shot, the gun moves back, this inertia block stays still leaning against the safety-button spur. When the gun moves forward into counter-recoil, the inertia block Figure 17. goes underneath the post (5) and locks the trigger. Figure 15 illustrates this situation. For reliable functioning, the distance between the inertia block and the post should be minimal, usually about 0.01 inch (0.25 mm); otherwise the trigger is not locked completely and may not have enough motion to drop the hammer.

Periodically, I have to deal with Krieghoff shotguns having this problem of block-post adjustment. Usually it results in doubling. I turned the post on the lathe. For rigid attachment, the tight hole was drilled for the post through the frame. Finally, the post beside

the screw was secured by a roll pin. The other role of the inertia block is to work as an element of the safety device. When the safety button is manually moved back (Figure 16), the block goes under the post and locks the trigger.

It also performs another safety action when the top lever is turned right for opening the gun. In this case, the rod (7) pushes the inertia block under the post, disabling the trigger for the period of reloading. Notice that it does not move the safety button. The ready action of the Remington 32 after transplantation of the new parts is shown in Figure 17. Conclusions Some time ago, The Remington Model 32 gave life to the Krieghoff designs.

Now Krieghoff can give life to old Remingtons by providing new and improved parts. Some shooters have asked me if it's worth doing. I think it's a worthwhile modification, since after the transplantation of new parts, the old Remington essentially becomes identical to the Krieghoff. ■

PEOPLE & COMPANIES

Troubleshooting the Cimarron Model 1872 Open-Top Revolver

These instructions will help you work with original Colt Open-Top revolvers as well as the modern Uberti-made replicas thereof.

BY DAVID R. CHICOINE NOVEMBER 2004

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The revolver that is now commonly known as the “Open- Top” was Colt’s first mass-produced revolver that was specifically designed to accept metallic cartridges. This model came along in 1872, and is highly prized by collectors because it was the immediate forerunner of the famous Single Action Army.

Even though Open-Tops look very much like earlier percussion revolvers with the barrel fastened by a wedge, they were not converted cap-and-ball revolvers; they used a frame that was specifically intended for metallic cartridges. The Open- Top frame was machined to accept .44 Smith & Wesson caliber. Above and This gun is chambered in readily available .44 Smith & Wesson caliber. Although it appears very similar to a Colt percussion or cartridge conversion revolver, the Open-Top was the first real metallic cartridge revolver to be produced by Colt.

The close-up view of the Cimarron Open-Top shows the great attention to detail given by the Italian gun manufacturer, Aldo Uberti. The loading gate that pivoted

on a screw, and it did not use a separate conversion plate like the one previous converted Colts had. Still, it appeared to be a throwback with its open-top-type frame, along with the barrel held with a wedge like Colt’s percussion pistols.

The Richards and Richards-Mason conversion revolvers made by Colt during this same time were chambered to fire the .44 Colt centerfire, but all of the 7,000 Colt Open-Tops were chambered for the .44 Rimfire cartridge. William Mason’s newly patented rod-ejector was also used with Open-Tops, and it fastened through the barrel’s underlug exactly as it did with the Richards-Mason conversion revolvers. This rare and unusual .44 Rimfire revolver is not likely to turn up in repair shops these days.

Nevertheless, the modern replica made by Uberti and marketed by Cimarron Firearms will be showing up. In fact, Cimarron’s Open- Top is becoming a familiar sight at cowboy-action matches. Most

TROUBLESHOOTING THE CIMARRON MODEL 1872 OPEN-TOP REVOLVER CONTINUED

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Far collectors and shooters will quickly agree, Colt's Open-Top was a real classic revolver with exceptionally beautiful lines, and if a gun can have such a thing, the Open-Top has "sex appeal." Aldo Uberti's company has kept the original graceful lines of the replica very much the same as the original.

The real benefit for today's shooters comes from the fact that the modern-made version is available in off-the-shelf calibers such as .38 Colt and .38 Special, .44 Colt BHA, .44 Russian, .44 Special, and .45 S&W Schofield. Both the original and the reproduction Open-Top revolvers were available with either the Navy size (Single Action Army size) grip, or the longer 1860 Army grip. Cimarron Firearm's new O-Tis available with either 5-1/2- or 7-1/2-inch barrel lengths and in several choices of finishes.

On a personal note, I have been having a great time shooting my .44 Special caliber Open-Top (pictured); this thing is a real pleasure to shoot. Moreover, the gun is wonderfully accurate. Using Winchester's Cowboy Action loads, the revolver gives me five-shot groups as small as 3/4 inch at 25 feet—that is, if I do my part.

Just like the Colt, Cimarron's 1872 has a rear sight that's integral with the barrel, so even though the sight radius is relatively short, a much steadier sight picture is possible than with percussion Colts, whose rear sight was a notch in a wobbly hammer. Uberti has added an unusual safety device to the hammer that can only be seen or operated when the hammer is pulled to the rear. This is mounted about two-thirds of the way up on the hammer face.

Just under the firing pin is a small screw which when turned, rotates a solid-steel block forward. When the safety bar is in this position, it prevents the hammer from falling all the way down. Mechanically, the safety is quite effective, but on the practical side it is very slow to use and too cumbersome to be used effectively for anything except to provide an excellent safety method during storage. One other feature of Open-Tops, both old and new, are the cylinder gas rings.

On this revolver, the gas ring performs two important tasks: One, it keeps the cylinder pushed to the rear so constant headspace is maintained; and two, the gas ring helps to keep high-pressure blackpowder gases from

entering the base-pin area, where they would eventually foul the cylinder and interfere with its rotation.

Percussion Colts and conversion Colt revolvers did not have this excellent feature (actually an 1870 S&W innovation.) The fact that the Open-Top cylinder does have a gas ring will allow shooters to fire blackpowder loads successfully, without the annoyance of the cylinder binding because of powder fouling. Takedown Instructions These instructions will work with original Colt Open-Top and modern Uberti-made replicas thereof that are based on the traditional Colt design.

For purposes of clarity, I use the Uberti parts nomenclature in these instructions. 1) Before we begin, let us be certain the weapon is unloaded. Always point and hold the muzzle in a safe direction, a direction that would be facing away from any person, pet, vehicle, or dwelling. Remember, bullets can go through plaster walls. Keep your fingers away from the trigger during this entire operation.

Check to make absolutely sure this weapon is unloaded by opening the gate (#142), now pull the hammer (#2) slowly to the rear until you have heard one audible

TROUBLESHOOTING THE CIMARRON MODEL 1872 OPEN-TOP REVOLVER CONTINUED

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The front screw (#144) is what holds the ejector rod tube onto the barrel. The rear screw (#33) is the wedge screw. click. This places the hammer in the half-cock or what is called the "loading position" and the cylinder (#5) should now spin freely in a clockwise direction.

Slowly rotate the cylinder two full revolutions by hand, all the while examining the cylinder's chambers through the opening presented by the opened gate at the rear of the frame (#1) to make absolutely certain that the cylinder chambers have no cartridges in them. What should you do if the cylinder has cartridges in it? Be aware that this is a loaded gun! Proceed by pointing and holding the muzzle in a safe direction as discussed above.

Leave the hammer exactly where it is—in the half-cock or loading position and with the gate still open. Use your left hand to hold the revolver securely by its grip, and still keeping your fingers away from that trigger, tilt the

revolver so the muzzle is facing away from you and upwards. Next, use your right hand to rotate that cylinder slowly, one chamber at a time.

You should For normal cleaning purposes, this is as far as you will need to disassemble the revolver. pause at each click and allow each successive cartridge to fall out of its chamber and onto the workbench. If a cartridge will not fall out by its own weight, you should manually operate the ejector by pushing the ejector rod head—Uberti calls this the ejector rod nut (#164)—which is located under the front of the barrel.

Push it to the rear with your right hand, and the ejector rod will force that cartridge out of the chamber. When you are sure that there are no more cartridges left in the cylinder chambers, you can continue with the disassembly procedure below. 2) To remove the barrel and cylinder, the hammer should still be resting in the loading or half-cocked posi-

tion and the gate should still be open. Unscrew and remove the ejector-rod tube screw (#144) from the left side of the barrel (#3). This is the front screw of the two.

The ejector-rod assembly (#143) is now loose and can be removed from the right side of the barrel. Loosen the wedge screw (#33), the rear one of the two screws on the left side of the barrel, until the flat portion of the screw head is facing down. Drive out the wedge (#4) from right to left using a soft drift punch and hammer, and remove the wedge from the barrel, make note of its position for reassembly. The barrel can be pulled straight forward and off the frame.

If the barrel is stuck in place, try driving a small, tapered hardwood wedge between the lower front face of the cylinder and the barrel until the barrel breaks free. The cylinder (#5) can now be removed by pulling it straight forward and off the base pin (#21).

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Cimarron Firearms Model 1872 Open-Top Revolver 1 Frame 2 Hammer Assembly 3 Barrel 4 Wedge 5 Cylinder .38 Special 7 Hand Assembly 8 Backstrap 10 Trigger 11 Grip 12 Bolt 15 Sight 18 Hand Spring 3) The grip and grip strap are removed by unscrewing and removing the two back-strap screws (#32) from the top-rear of the back-strap (#8). Then remove the single butt screw, called the connect screw (#455), that faces up from the butt of the back-strap.

The back-strap and the one-piece grip (#11) are removed by pulling them down and to the rear as a unit. Once these parts are off the frame, the grip itself can be pulled straight forward off the back-strap. Unscrew 19 Trigger Bolt Spring 20 Main Spring 21 Base Pin 23 Barrel Pin 25 Roller 26 Triggerguard 30 Hammer Pin 31 Front Triggerguard Screw 32 Backstrap and Trigger Screw 33 Wedge Screw 35 Trigger Bolt Spring Screw and remove the mainspring screw (#36) from the inside-lower area of triggerguard (#26).

The mainspring (#20) is loose.

Unscrew and remove the two triggerguard screws (#32) and the front triggerguard screw (faces up, #31) and the triggerguard (#26) will fall straight off from the bottom of the frame. 4) To disassemble the action, first remove the trigger and bolt-spring screw (#35)—the only screw inside 143 Ejector Rod Tube 144 Ejector Rod Tube Screw 145 Gate Catch Screw 147 Hammer Safety Spring 149 Safety Spring 152 Hammer Safety Stop Screw 164 Ejector Rod and Head 455 Connect Screw 675 Gate Screw 36 Main Spring Screw 37 Hammer Screw 38 Trigger Screw 40 Bolt Screw 91 Hammer Safety Bar 98 Firing Pin 135 Ejector Spring 136 Gate Spring 142 Gate the frame that faces straight up—from the underside of the frame, and the trigger and bolt spring (#19) will fall out the bottom of the frame.

Unscrew and remove the forward-most of the three screws on the left side of the frame. This is called the bolt screw (#40), and it holds the bolt (#12) in place. With the screw out, the bolt can be removed from the bottom. Try to keep the bolt screw with the bolt while they are removed; this is because the trigger screw (#38) can

TROUBLESHOOTING THE CIMARRON MODEL 1872 OPEN-TOP REVOLVER CONTINUED

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OCT 04. Exploring the JUNE 04. Disassembly/ New Taurus PT24/7. Mak- Reassembly of the Browning an Action Wrench for ing Model 1885 High Wall. the Weatherby Mark V. Making a Smoke-Free FEB 04. Taking Down the Model 24/241 Rifles: A Fiction. Working the Beretta U22 NEOS. Using Parts Source Directory. Remington M8 and 81. Precision Measuring In- More Tooling from Mem- MAR 03. Disassembly of struments.

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easily be mistaken for the bolt screw (#40), although the trigger screw is slightly shorter. Unscrew and remove the trigger screw and the trigger (#10) will drop out the bottom. The hammer screw (#37) can now be removed, after which the hammer assembly (#2) can be rotated slightly to the rear, then pulled down and out of the frame. The hand assembly (#7 and #18) is connected to the hammer and will come out with it.

Once the hammer assembly is out, the hand assembly can be removed from the hammer by simply lifting it up out of its socket hole on the left side of the hammer. Further disassembly of the hammer is not recommended. 5) If desired, the ejector tube can be disassembled like this: Push the ejector-rod nut (head) rearward to expose more of the ejector rod at the rear of the tube. Grasp the rod with padded pliers, and unscrew the rod in a counter-clockwise direction.

When the rod is free of the nut, pull it out through the rear of the tube. Compress the ejector spring (#135) with the tip of a small screwdriver and lift out the ejection

rod nut through the front of the slot in the ejector rod tube. The ejector spring is now removed by pulling it out the front of the ejector rod tube.

The gate spring (#136) can be removed by unscrewing and removing the gate-catch screw (#145) and lift. This provides a seal against powder fouling and keeps the headspace measurement intact. Push the spring away from the frame. The gate can be removed by first unscrewing and removing the gate screw (#675.) The base pin should not be removed.

If a problem exists with it, the revolver should be returned to the importer. (Note: when you reinstall the gate screw, I recommend touching the threaded hole in the frame with a tiny drop of Loc Tite blue thread-locker to help prevent the screw from backing out. Use care to keep the Loc Tite only in the internal threads and not on the gate pivot. As always, you reassemble the revolver in the reverse order. ■

MAINTENANCE & REPAIR

Reader Forum

BY AMERICAN GUNSMITH EDITORS NOVEMBER 2004

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Source for Steyr Barrel? As along-satisfied subscriber I have a “last-resort request.” For the last three years, I’ve been trying to locate a replacement 9mm barrel for a Steyr Model GB semi-auto. I hope some of my fellow readers might have some additional insight on where I might obtain this long sought after item. Thank you for your assistance. Niel We’ve drawn a blank on this one. All we can do is to encourage any reader who can be of assistance to email Mr. Turrini directly.

Remington M742 Problems Can you help me? I have a customer’s Remington Model 742, and I am having problems finding what’s causing its problem. The gun will not set the hammer for the second round when fired, but will set every time when the bolt is pulled back by hand. The trigger housing is aluminum, as you know, and has slack in some of the pins. The hammer is also very loose by my standards, and I don’t know if it should have that much slack in it. Thank you.

Run this check: With action open, the hammer cocked, and the safety “off,” pull the trigger, and then close the action. The hammer shouldn’t fall. If it does, the dis-

connector is sitting on top of the connector in the trigger mechanism. If properly assembled, the disconnecter must be underneath the connector. The reason the gun cocks when manually cycled is due to how much slower manual operation is than when the firing system is reacting to an actual discharge.

Colt AR15 Bolt Carrier What’s the difference between the two Colt bolt carriers? And when is one used over the other? A drawing of both can be found on Brownells website (Gov. Carbine). I call one the “half moon” (#3) and the other a “full moon” (#1). Although I understand the drawings, I cannot define when to use either.

The underside is also different, causing the hammer to reset more quickly on the “full moon” than on the “half moon.” The point being, a customer brought in his AR15, an original Match Target with a 20-inch barrel. He bought anew upper with a 16-inch barrel. The 20-inch has the “halfmoon” carrier, and the 16-inch has the “full-moon” carrier. His complaint: it will not eject the spent round.

Taking it to the range, the 16-inch barrel (with the “full-moon” carrier) would only send the carrier back about halfway, failing to eject the round. I replaced the upper with his original and the AR worked fine. I decided to take the carrier (half moon) from the 20-inch barrel and put it in the 16-inch barrel and try it. It worked fine. So why does the “half-moon” carrier work and the “full-moon” carrier not work?

The only difference is the 1 ounce of weight, with the “half moon” being lighter and the bottom resetting the hammer later rather than sooner. My interpretation: A shorter barrel causes less gas to get to the carrier in a shorter period of time, thus not allowing the carrier to cycle all the way. And on top of that, the “full moon” is heavier. And on top of that because the bottom is different, timing also becomes an issue. Thanks. Joe Your interpretation is correct.

In the opinion of more than a few gunsmiths who work extensively with the AR15, the shorter barrel is a poor design. The ammo will generate the same high port pressure, but the propellant gas has to fight its way through a very tiny port. Result: less operating gas. Still, there are other possibilities. Clean the 16-inch upper thoroughly and check the gas-ring alignment. If it still doesn't work, change the gas tube.

If that doesn't solve the problem, perhaps the ejector plunger is weak or stuck, or the extractor is weak. Also, clean the buffer spring and check the bolt-carrier key for looseness. Parts Sources I hope you can give me some assistance in locating the following: For a Remington Model 58 Sportsman 12 gauge, I need a piston and ring. For a Stevens Model 240 410-gauge O/U. I need a right hammer assembly. And for a Winchester Model 1400 12 gauge, I need a forend. I've checked with Numrich; no help there.

Your help is appreciated. Thank you. Art For the Remington and Winchester, try Pennsylvania Gun Parts For the Stevens, call Savage Arms and ask about the best source of parts for out-of-production Savage/Stevens firearms. Rem 11-87 Lockup I have a Remington 11-87 that closes on the extractor and fails to lock up on an empty chamber. The gun works fine with ammunition. Any suggestions you have would be a big help.

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Remington said to send the gun to one of their warranty stations, but I thought I should be able to make the repair. Thank you. Joel Wood Hazen, North Dakota Conservatively speaking, there are over 20 possible causes for an 11-87 failure to lock up on a loaded chamber, but your gun apparently suffers from none of them. As we understand your complaint, your gun fails to lock up only when the chamber is empty, and works “fine” the rest of the time—meaning when it is loaded.

Give the entire bolt assembly a detailed cleaning with emphasis on the extractor plunger, spring, and plunger tunnel. Closely examine the extractor slot in the bolt for damage. Is the extractor slot in the barrel deformed? Is

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READER FORUM CONTINUED

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the extractor deformed or damaged? We don't think so, because you have no problems during the firing cycle. If the detailed cleaning fails to cure the problem, do as Remington says. You may be up against a seldom encountered defect requiring restricted parts. We do have to ask, though: All the gun's operations are in order except when it is empty, correct? You're not intending to dry fire it anyway, are you?

Remington Model 11 Forend I recently received a Remington Model 11 shotgun which has had the forend replaced. The problem is that the barrel will not stay in place. I know nothing about the forend which was installed. Could the forend be wrong, or was there an insert in the forend to contact the barrel and hold it in place? Any information you could give me concerning Model 11 forends would be most appreciated. Thanks. J. R. The possibilities boggle the mind.

There were many versions of the Model 11 produced between 1905 and 1948, when it was replaced by the M11-48. "Someone" may have tried to replace a broken M11 forend with one from a different M11, one from a M11-48, or even one from a Browning Auto 5. The M11-48 and the Auto 5 used a friction ring/spring in the magazine-tube support. The M11 did not. It employed a forend guide ring. Check over the schematics for the M11, M11-48, and Auto 5 and we think you'll discover where "someone" went wrong.

All this assumes there is nothing amiss with the barrel/receiver interface. Like, maybe, they're worn out? S&W Schematics I am just beginning to learn

the basics of gunsmithing and as yet know very little. A coworker of mine asked me to troubleshoot his S&W 910 for him, but I need to find an exploded parts diagram for the pistol. My financial resources are somewhat limited at this time. What's the easiest way to go about finding such a diagram? Thank you for your time. Nathan J.

You can get a copy of the owner's manual for your friends 910 by calling Smith & Wesson. It will contain a schematic. An article on troubleshooting S&W Tactical pistols appeared in the September 2002 issue. For a reprint, call And you can send your snail-mail address to Amgunsmith@aol.com for a photocopy of the article on Third Generation S&W pistols that appeared in the June 1993 issue, which is no longer available as a reprint. Werndl M1867 Parts?

Do you have a recommendation on where I may be able to locate the parts for the Werndl M1867 rifle? I have tried the large US sites (Gun Parts, SARCO, Springfield Sporters) without luck. Dolton G. Your Werndl rifle came into existence when certain politicians of the Austro-Hungarian variety decided the Remington Rolling Block was unsafe and invited in a design by two local boys. It was chambered for the 11mm x 42R. Over 500,000 were produced, and the last battlefield it saw was during WWI.

A small sectional drawing of the Werndl action appears in *Rifles of The World* by John Walter and published by Krause. If you have one original part, that drawing could be scaled up accordingly and those you are missing could be machined. Expensive? You bet.

More than the rifle is worth. So, call Brownells, get a free copy of their parts-source list for out-of-production guns, and then you'll have to start making phone calls. Savage Cartridge Stop I was given an old Savage 29A .22-caliber rifle to repair. (Another gunsmith had the gun for almost a year and said it couldn't be repaired.) After searching the parts list, I found the cartridge stop was missing. After many calls across the U. S., I found one at Western Gunparts in Edmonton, Canada.

Now my problem is where the heck does this stop fit in the rifle. (I haven't been able to find a breakdown on this gun yet). I only see one spot the stop fits. The hole in the stop is .060, and the spring pin on the lifter is the same diameter. Does the stop fit on the lifter to stop the movement of the breech bolt? If that's not the case, where does it fit? I'm hoping you can help me on this. Thank you. William You may be missing an additional part: #29A-394, which is a pin that secures the stop in place.

If so, contact the Small Arms Shop. This is the best source we know of for parts and information on old Savage firearms. You can find complete assembly/disassembly instructions for the 29A and 29B in the NRA Guide to Firearms Assembly, combined long gun/handgun hard-cover edition. S&W Hammer When I took a S&W 686 into the sheriff's department to register, the police officer showed me that the hammer could be placed in half cock,

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(continued from previous page) then pushed off by hand pressure. He claimed that many S&W revolvers exhibit this unsafe condition. Does the factory have a fix for this? Thanks. Terence Rybak Pinckney, Michigan According to the S&W Armorer's manual, "push-off" indicates a worn bevel on the trigger or worn cocking notch on the hammer. The remedy for both is replacement.

By the way, the only half-cock setups to appear in modern S&W revolvers were for single-action-only conversions and haven't been offered for over 20 years. M700 Clip-Slot Specs I work primarily on U. S. military bolt-action rifles—Krag, Enfield, Springfield, and Remington 700 M-40 USMC sniper rifles.

I am looking for the specs (blue prints or detailed drawings with measurements would be even better) for machining the Model 700 receivers for the "clip slots" specified in the USMC procurement documents presented to Remington in 1966. (The Marine Corps referred to them as "stripper clip charger guides" or "clip feeding slots.") In addition, I would like to pass on a little trick I devised that others who work on Enfield 1917s may find useful.

For anyone who has ever launched a firing-pin assembly across the shop while attempting to disassemble an Enfield bolt us-

ing the instructions found in old manuals that suggest using a string and a slotted coin, I have a far easier and safer method.

I purchased a Kleinendorst Remington 700 bolt-disassembly tool from Brownells, and widened out the slot where the cocking piece rides by making two light passes with an end mill. (The Enfield cocking piece is slightly wider than the Remington.) I also widened out the recess for the shroud with a ball-end mill, which is also a bit larger in diameter on the Enfield.

The operation to remove the firing-pin assembly is identical to that of the Remington, and after modification, the tool will disassemble both the Enfield and Remington bolts. From start to finish it took me less than half an hour to modify the tool. The finished tool is nothing more than a smaller, handier version of the bench-top ordnance tool used for the same purpose at the Eddystone factory.

Rick To respond to your question, we began with calls to the USA Ordnance Museum, the USMC Museum, and the USMC Rifle Team Equipment section. The latter is where modifications are made to the M40X for sniper use. The equipment section doesn't modify the receiver for stripper clips. They prepare the receivers to accept a super-firm scope mounting. If you stop to think about it, it would be very difficult, if not impossible, to employ stripper clips with a sniper rifle wearing a scope.

After all, a sniper is and is supposed to be a one-shot wonder. Those avenues being exhausted, we entered into several conversations with Remington. These included the museum, historian, and Custom Shop. The Custom Shop does modify Model 40X receivers for stripper clips, but stated it would take an act of Congress to have the "how to" details released for consumption outside the factory. Well, we tried. And thanks on behalf of everybody for your tip regarding the bolt-disassembly tool.

Schematic and Spacers I've been trying to get a schematic for the Springfield/Savage Model M-67H. No one seems to have one and, of course, all the books I have do not have it. Also, does anyone sell spacers for barrels to be mounted on receivers? You used to be able to buy them just about any place. I know now that new barrels that are made for the 98 Mauser actions have a short chamber in them, and the shoulder fits right up against the receiver.

I have one that I headspaced and it shoots great, but there is a small space between the action and the barrel. Thank you. Pete The Jack First catalog has schematics for the Springfield Series B, C, D, and E, but not for the H. As for spacers, you'll probably have to make your own from shim stock.

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