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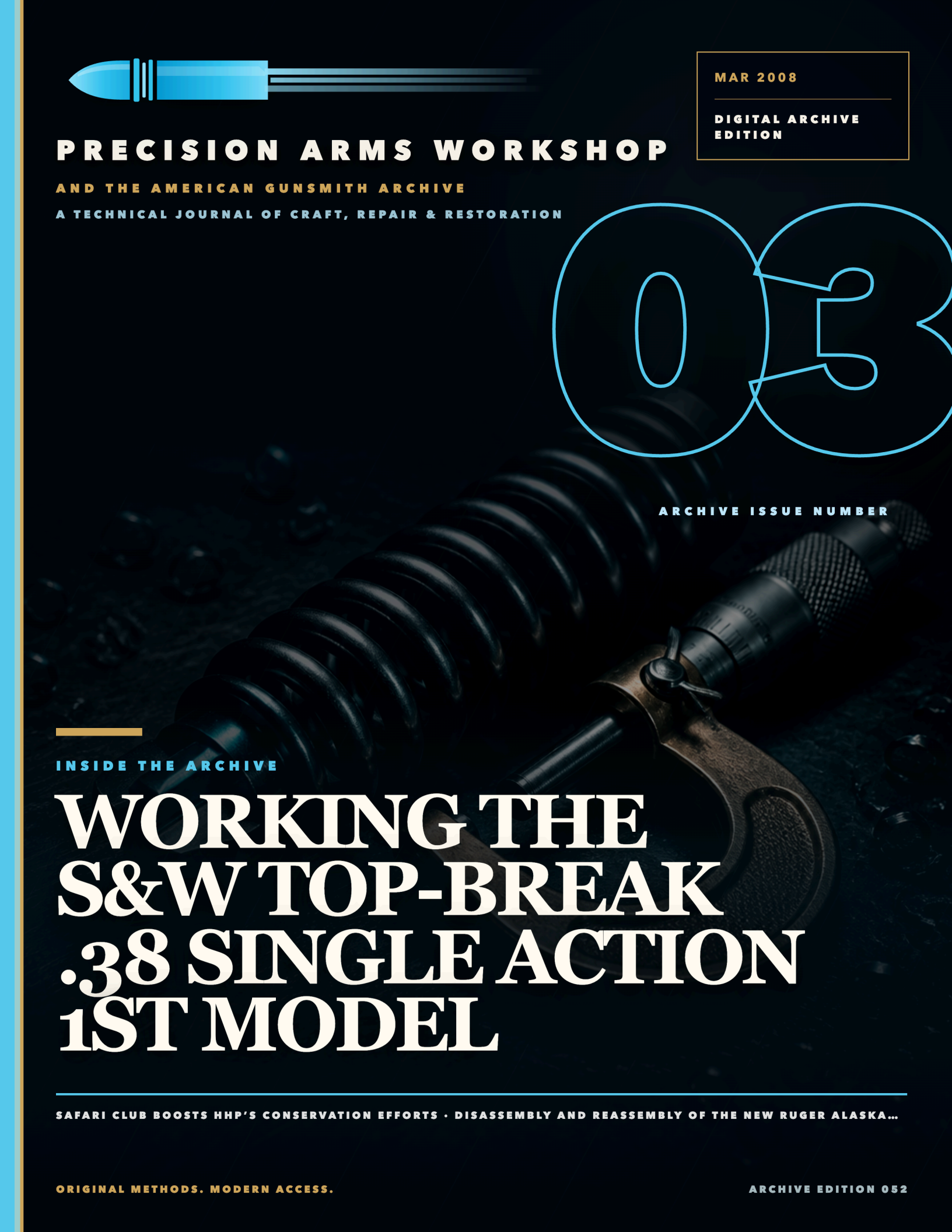

INSIDE THE ARCHIVE

WORKING THE S&W TOP-BREAK .38 SINGLE ACTION 1ST MODEL

SAFARI CLUB BOOSTS HHP'S CONSERVATION EFFORTS · DISASSEMBLY AND REASSEMBLY OF THE NEW RUGER ALASKA...

DIGITAL ARCHIVE EDITION

Preserved for the bench.

This edition presents the original American Gunsmith editorial work in a modern, searchable layout while preserving its issue, author, and source-page history.

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A complete guide to the searchable editorial work preserved from March 2008.

FROM THE ARCHIVE

Safari Club Boosts HHP's Conservation Efforts

BY AMERICAN GUNSMITH EDITORS MARCH 2008 ORIGINAL PP. 2

The Safari Club International Foundation (SCIF) has announced that it will contribute $250,000 to the Hunting Heritage Partnership (HHP), a program of the National Shooting Sports Foundation (NSSF). The donation increases annual grant money available by 50 percent, from $500,000 to $750,000 to address critical issues affecting the future of hunting. The Hunting Heritage Partnership awards annual grants to individual states for new projects aimed at the successful recruitment and retention of hunters.

States and local grassroots partners provide funds and/or in-kind services to match the critically needed HHP funds. "This is one more way to highlight that hunters, including Safari Club members, give to conservation on many levels," said SCIF President Dennis Anderson. "From their contributions that support the SCIF's global activities, to their local chapter conservation projects, to their support of game and fish agencies through the purchase of licenses and hunting gear.

SCIF is looking forward to building upon our conservation and education work through this collaboration with NSSF and the Association of Fish and Wildlife Agencies. Doug Painter, NSSF president, expressed the appreciation of the Foundation: "We are delighted to have SCIF as a major new partner in the Hunting Heritage Partnership. Their generosity is taking the program to a whole new level.

In just a few years, HHP has gained national recognition as one of the key efforts in the country to increase hunting opportunities and access at the local level. We couldn't be more pleased that SCIF is joining with us to help state wildlife agencies across the country "open the door" for both today's and tomorrow's hunters. To date the HHP has awarded more than $2.1 million to state agencies, with positive and tangible results for hunters and conservation.

To learn more about HHP and its impact, visit SCIF leads the way in protecting the freedom to hunt and in promoting wildlife conservation worldwide. For more information on SCIF, go to Need Some Extra Cash? If you would like to turn your gunsmithing ideas and expertise into cash (we pay pretty handsomely), I would like to discuss your article ideas with you. Contact me, Keith Lawrence, Editor, at: American Gunsmith, Merritt Island, FL 32954; voice fax Editor Keith Lawrence Technical

PEOPLE & COMPANIES

Disassembly and Reassembly of the New Ruger Alaskan Rifle

Basically, the Alaskan is a version of the familiar Model 77 Mark II. But beware of the differences; there's only one way to avoid the potential trouble that lurks beneath its floorplate.

BY CHICK BLOOD MARCH 2008 ORIGINAL PP. 3-6

The Alaskan is one of two new offerings from Ruger built on their husky Hawkeye platform. The other new one is the African with a 23-inch barrel. Both are chambered for .375 Ruger, a co-development between Sturm-Ruger and Hornady Manufacturing. Emerging from the shorter 20-inch barrel of the Alaskan, the .375 Ruger delivers performance equaling a .375 H&H from a Magnumlength action with a 24-inch barrel. This is likely due to the larger case capacity of the .375 Ruger.

I couldn't find any detailed ballistic data on the internet as this was written, but it's available from Hornady. In any case, I think it would be safe to say that, pushing out a 270- or 300-grain bullet, this new cartridge would satisfy hunters of the largest North American game animals, and indeed it's already been used to down some of Africa's most dangerous. The first rude awakening I had with this boomer was a floorplate assembly that required a call to Ruger's New Hampshire product-service people.

For a gunsmith to have to contact the manufacturer for help is understandable where barrels, triggers, bolts, sears, and parts needing fitting are concerned. But for a floorplate? Why, you ask? I found out the hard way about a little part called the front mounting screw (#D04601) that runs through the floorplate hinge and helps to hold the action to the stock. Apparently, on Ruger's final assembly line, there's a guy who goes by the name "Kong." Kong tightens down that screw to engineering specs of 94 inch-pounds.

But I went after #D04601 with my trusty Mag Na Tip screwdriver. "Snap" was the sound made by the first hollowground blade that broke off clean as a whistle. I turned to a thicker blade, which made a louder "snap." And by now, the slot on #D04601s head was showing signs of damage. After a day of soaking with penetrating oil and locally applied heat, I broke a third bit, and completed the ruination of the screw head. That's why you'll see no field-stripped photo of an Alaskan rifle here.

As long as #D04601 remains in place, the barreled action will remain attached to the stock. The moral of the story so far is: Don't go after part #D04601 without a torque wrench with a very long handle. I plan to buy such a tool'right after I beg our friends at Sturm-Ruger to forgive me for butchering their screwhead. Fortunately, there is much disassembly that can be done to the Alaskan without removing the action from the stock, so read on....

Disassembly of the Bolt With the chamber and three-round box magazine empty, and wearing eye protection, raise the bolt handle to cock the firing pin. Draw the bolt to the rear and swing open the bolt stop. (On right-handed models it's on the right side of the receiver. On left hand models, it's on the left.) The firing pin is now cocked. Toward the back end of the cocking piece, you'll see a hole. Into that hole insert a well-fitting pin or nail at least 2 inches long.

I USED A .080-INCH ALLEN WRENCH BECAUSE I ADMIRE THEIR

This pin must remain in place until after the bolt assembly has been properly positioned for reinstallation. strength. The pin, nail, or wrench then becomes your handle to unscrew the firing-pin assembly from the bolt. After taking a look at the spring on the assembly, you'll understand why you must never pull out the retaining pin you just installed until after the assembly is screwed all the way back into the bolt.

I mean, that firing pin would really hurt if it went through the webbing of your thumb or got embedded in your leg. Ruger uses specialized tooling to assemble and disassemble the firing-pin group. They don't make that tooling available to the public, but it's possible that Brownells' Bolt Action Firing Pin Removal Tool will accomplish the same job. The next tool you'll need is probably something you're more familiar with. It's a set of bolt-extractor pliers (Brownells #080-017-000AA).

In addition to this Ruger bolt, these pliers will work on many similar designs including the Mauser, the Springfield, and the Enfield. The pointed, curved jaws of the pliers are inserted under the extractor between its collar (KD15HM) and the extractor's forward bolt groove. Tilt the pliers to the " The nose of the cocking piece that must enter the notch is at "B." The arrow indicates the extractor/bolt-lug interface.

The extractor band is located at "A." B A rear in order to raise the extractor off the bolt lug, rotate both pliers and extractor to be clear of the lug, and then slide the tool and extractor off the bolt to the front. I'll give you a tip on reassembly later. If I hadn't fouled up part #D04601 as badly as I did, I'd have removed it before backing out the screw just forward of the trigger guard (#D04700) and the rear mounting screw (#D04800). The guard would follow them, then the magazine box.

Be warned not to force things with the box. If the box balks at coming out easily, it can be lifted from the stock still attached to the action assembly. This lift, by the way, has to be performed with a degree of care. The action must separate from the stock straight and level. Don't alter or add to any of the factory bedding once the stock has been removed. To begin trigger removal, the safety selector should be in its "fire" position. Hold the trigger (#KD0202001) in place.

It's under tension from the trigger/sear spring (#J02400). Push out the trigger-pivot pin (#D02100) to free the trigger. When you remove the sear (#KD02309), first push out the sear pivot (#D04200). Turn the action up- A

Ruger M77 MKII "Alaskan" Bolt-Action Rifle (Specifications subject to change without notice) Barrel* Bolt Assembly* D53AB Bolt Stop KD56AB Bolt Stop Plunger D57 Bolt Stop Plunger Spring D59 Bolt Stop Plunger Retaining Pin D55 Bolt Stop Bushing D54 Bolt Stop Screw Stud DO4700 Center Mounting Screw DO1810 Cocking Piece (not shown) Ejector* KD00900 Ejector Spring Extractor* D15 Extractor Band Firing Pin Assembly* D19 Firing Pin Cross Pin DO1202 Firing Pin Spring Floorplate Assembly* D7 Floorplate Hinge DO3100 Floorplate Latch D6 Floorplate Pivot Pin DO4601 Front Mounting Screw D70 Front Sight Base Set Screw (not shown) DO6712 Front Sight Blade (Not Shown) D69 Front Sight Plunger Spring (not shown) D68 Front Sight Retainer Plunger (not shown) Magazine Box (specify model & caliber) Magazine Follower (specify model & caliber) D32 Magazine Latch Spring DO8001 Pistol Grip, Plastic D82 Pistol Grip Medallion C96SM Pistol Grip Cap Screw DO4800 Rear Mounting Screw D151 Rear Sight Base (not shown) D62 Rear Sight Base Screw (not shown) DO7725 Rear Sight Blade (Not Shown) D64 Rear Sight Clamp Screw (not shown) D83 Rear Sight Gib Lock Clamp (not shown) S87 Rear Sling Swivel Stud DO6313 Recoil Pad D84 Recoil Pad Screw(2) JO3800 Safety Selector* JO4300 Safety Selector Detent JO2100 Safety Selector Retainer* D74 Scope Base Clamp D73 Scope Base Nut MPFO7602 Scope Base Torx Screws (8) D71MHM Scope Rings Medium KD02309 Sear* DO4200 Sear Pivot Pin Stock* MPF07601 Torx Screw Wrench (not shown) KD0202001Trigger* D20202 Trigger Guard Assembly JO2400 Trigger/Sear Spring *Contact Ruger Service Department

side down and slide the sear forward. It will fall out of the receiver. The trigger system on the Alaskan is the first time I've come across the new Ruger LC6 design. It sure felt nice when I checked it out on some dummy rounds. It was smooth, crisp, and clean, and at a constant 4 pounds right out of the box. If at all possible, I'll try to come up with more details on it for a future report.

I always advise against messing with safety mechanisms, but if there's a need to replace a worn or broken component in this one you can take it down as follows: Rotate the selector (#J03800) so its upper section is centered over the receiver tang. Hold the selector in place while you slide its retainer (#J02100) upward from the receiver. The selector is under tension from its spring (#D32) and detent (#J04300).

They'll both take off from the receiver if not restrained, and you have to lift out the selector before you can get at these two potential fliers. My suggestion for removing the safety (if necessary) is to work with the back end of the receiver in a large cardboard box. Reassembly Tips Safety Assembly. Install the spring and detent in the receiver. Set the selector in place centered over the receiver tang.

Apply downward pressure to the selector while sliding the retainer into its receiver dovetail from A screwdriver alone will not be sufficient to back it out. the top. Align the notch in the selector with the sear pivot-pin hole. Sear. The back end of the sear has a hole in it. Place this end into its slot from the top of the receiver, swing it upward, and slide the sear into position.

You'll know it's right when the pivot-pin hole lines up with matching holes in the receiver. Install the pivot pin. Trigger. Place the trigger/sear spring over the dimple in the trigger. Align the spring with the dimple on the sear. Hold these positions while installing the trigger-pivot pin. Stock. Install the magazine box on the barreled action. Place the assembly in the stock, position the trigger guard, and loosely turn in its screws.

Reinstalling the floorplate-hinge assembly means part #D04601 gets tightened in to 94 inch-pounds on a torque wrench. The guard screws, thankfully, do not; they are alternately tightened by partial turns until both are hand tight. Firing Pin. Screw the assembly into the bolt with the front end of the bolt facing you. The assembly can be considered in proper position when the flat on the bottom of the bolt sleeve is lined up with the flat on the bottom end of the bolt handle.

Note that there's a shallow notch at the rear of the bolt body that "fits" the nose of the cocking piece. When you're turning in the firing-pin assembly, you may have to manage your restraining pin to slightly retract this nose so it can be moved into the notch. Only after the assembly has been properly positioned with the nose in the notch as just described can you pull out the retaining pin. Bolt.

Reinstall the extractor by encircling the bolt with the pliers and squeezing the extractor band (#D15) together firmly. Slip the extractor over its retaining clips on the band and remove the pliers. Hold the extractor down against the band with finger pressure. Grab the leading end of the extractor with your pliers, lift it clear of the bolt face, slide it to the rear, and rotate it to engage the bolt lug. Release the pliers.

Finally, with the bolt face pointed away from you and the bolt handle pointing upward, align the extractor with the right-hand (or lefthand) locking lug. Partially insert the bolt. Swing open the bolt stop and push the bolt fully forward. I

PISTOLS

"Slicking Up" the Smith & Wess Third Generation Pistols

Although not as "gunsmith friendly" as the M1911, the popular S&W pistols can benefit from some of the same smoothing techniques and some similar aftermarket parts.

BY ROBERT K. CAMPBELL MARCH 2008 ORIGINAL PP. 7-9

The Smith & Wesson pistols known as the Third Generation pistols are among the most common semi-automatic pistols in use in America by both police forces and civilian shooters. Indeed, quite a few law-enforcement professionals in my circle of friends carry these pistols for personal defense.

In this report, I'll address the problems commonly encountered with these pistols along with the usual methods of repair, but I'll concentrate on "smoothing and improving." I must state first, however, that the information contained herein may not apply to the earlier Smith & Wesson pistols. The "First Generation" pistols, which had two-digit model numbers, began with the Model 39. This pistol was introduced in 1948, and was basically an Americanized P38.

There were several variations on this pistol, and issues with this pistol include a feed-ramp configuration that's problematic for anything but ball ammo. The Model 59 that followed was the first truly "American" pistol that combined a double-action trigger and high-capacity magazine. The "Second Generation" Smith & Wesson pistols, which had three-digit model numbers (such as the 469) saw some improvement, but these also need to be treated in a separate article.

The Third Generation pistols, like the 5906, have a four-digit model number. But, to help confuse the issue, there are "Value Line" Third Generation pistols with three-digit model numbers, such as the 910, 411, 457 and so on. The Third Generation pistols area natural progression in engineering and were created as a direct answer to the popularity of European service pistols.

Trigger action, accuracy, and reliability were improved, allowing Smith & Wesson to remain competitive in the law-enforcement market; and after other service pistols were introduced with a firing-pin block or drop safety, S&W quickly followed suit. The Third Generation pistols I'm mainly concerned with here are the double-action/first-shot pistols. There are literally dozens of Smith & Wesson models, including double-actiononly variations, single-action models, and decocker-only versions of this basic pistol.

Certain procedures I'll discuss in this report will not apply to these pistols. For the sake of clarity, let's assume that the procedures under discussion here will apply to double-action/first-shot Smith & Wesson Third Generation pistols in 9mm, .40 S&W, and .45 ACP caliber' in other words, the commonly issued service pistols. Getting back to the "Value Line" Smith & Wesson pistols: These are not as nicely finished as the top-of the-line S&Ws and they lack an ambidextrous safety.

The slides are not as rounded, but are left square to cut machining costs. Otherwise, parts are generally interchangeable with the more expensive pistols. This is fortu-

nate, as we'll see when discussing replacement parts. What Modifications and Why? The first thing we should discuss is why an owner might want to modify one of these pistol, and what it's possible and practical to do to them. Repairing normal wear is one thing, but improving a pistol is quite another. The fact is that these pistols are pretty smooth in most cases, but with a little work can be as smooth as the SIG, which, in my opinion, sets the standard among handguns.

As one of my customers remarked recently when I returned his tuned-up S&W 6906: "It is like having a stainlesssteel SIG, but with a safety." Some things can be improved while others are best left alone. For example, the S&W's factory trigger can benefit from some smoothing, but the trigger reset is faster than the SIG. This has come to be appreciated by many competition shooters, so it's best to do nothing that affects trigger reset.

Likewise, these pistols usually digest all types of quality ammunition, but for a competitor using lead bullets you may simply want to perform a routine polish. To illustrate what might be done to "slick up" the Third-Gen S&W, let's go through the disassembly of a typical pistol, and examine the parts one at a time. Takedown and Inspection The example I'm using here is the Model 411 in .40 S&W caliber.

This is a Value Line pistol, so don't let the three-digit model number confuse you; this is not a Second Generation pistol like the 469. The Model 411 is just a cheaper version of the Third Generation pistols like the 5906. First, let's take a look at the grips. I give you fair warning that if the owner wishes to add a pair of custom grips to the package, there are several grips styles, so pay close attention to the exact model number and butt design.

My example sports grips held by screws, but usually the grips are secured to the frame with a pin. Screws are screwed out; the pin is pressed from right to left. Once the grips are off, be certain that the frame will accommodate both the pinned-on grips and those that use a screw to hold the grips together. Now rack the slide to the rear and remove the magazine if you haven't done so already.

The slide must be released and the position of the slide adjusted to allow the slide stop to lineup with a notch in the slide. Unlike some pistols, the forward section of the slide stop is the part that's lined up for disassembly's omething that confused many 1911 fans. The slide stop is moved to the left and out of the frame to separate the slide and frame. Many Third Generation pistols are very tight in the slide stop. A bit of help with a rubber eraser or synthetic bushing wrench helps.

Allow the slide to move forward off of the frame. The captive recoil spring and guide is removed from the bottom of the barrel with slight pressure. The barrel is moved down and out the bottom of the slide. You're now ready to strip the slide. The extractor pin can be driven from the top of the slide. Once it's out, the extractor and extractor spring are removed. For best performance, I routinely replace the factory extractor spring with a heavy-duty W. C. Wolff unit.

This is especially desirable for a competition piece or a pistol used with +P defense loads. Now with the slide removed from the frame, lay the slide on the bench right side forward. The firing-pin plunger (drop safety) is visible and so is the safety detent. The detent is in a slightly different location on some slides, but for all practical purposes works the same in all Third-Gen pistols. Since the plunger holds the firing pin in place, it must be depressed to move the firing pin forward.

Placing the slide in a padded vise helps in stripping the slide. The plunger and firing pin are pressed at the same time. Careful study of a schematic helps at this point. The safety retainer is drifted right to left. The retainer is held in place by a clip. These are small parts, so you might want to work over a tray or in a plastic

Far Before taking the piece down, be sure to familiarize yourself with the mainspring hammer strut, drawbar, hammer, and disconnect. bag in case they fall out. I often have someone aid me in this procedure. They do not have to be skilled; but short of growing a third hand, a second person helps a lot. Alternately, you can turn the slide over and, using magnifying glasses, locate the detent either at the right rear or more toward the front of the slide, depending upon the exact pistol.

You may be able to insert a small and thin shim (or a toothpick even) between the detent and the slide to hold the detent down. Once the firing pin is out, check the firing pin channel. For some reason, I have often found brass shavings in the firing-pin channel of departmentissued 5906 pistols. Perhaps the frequent use of +P+ ammunition has something to do with it. Brass shavings could result in a stuck firing pin. Whatever the case, always check the firing pin channel.

The Smith & Wesson safety is often smooth enough, but if the user carries the pistol with the safety on, it could stand a bit of smoothing. The safety can be polished on the high contact areas, being careful to avoid changing the angles. While the safety and firing pin are out, I would set aside the factory firing-pin spring and replace it with a W. C. Wolff unit. I feel much better if the piece has premium gun springs installed, especially when the pistol is destined for use with hot loads.

Now let's move to the frame. On the left hand side of the frame is a slide plate. It's not like the traditional revolver sideplate or a plate allowing access to the action, but rather a plate that features along pin or spindle that holds the hammer assembly. Don't attempt to pry this rather thin plate off the frame. The plate is removed by drifting the pin from the right to the left. The hammer assembly is now free, as is the firing-pin safety lever and firing-pin retainer spacer.

These can be carefully removed with needle-nose pliers or tweezers. Watch out for the stirrup and stirrup pin. You'll want to memorize or photograph the position of the sear, sear pin, and sear spring. The sear spring is a flat spring and a relatively small piece. Watch the foot of the sear and the relation of these parts to the drawbar. The sear pin is driven out left to right, as are all the other pins. The sear-spring retainer comes out as well.

The Smith & Wesson is a pistol that demands small punches and small tools as well as magnifying eyeglasses for smooth work. Now, move to the rear of the frame. The disconnect must be moved off the tap it rides in the drawbar. The disconnect can be moved in either direction as long as it comes free. A bit of movement and wiggling helps. At this point, we should talk a little about the disconnect. Some were manufactured of a synthetic material. The appearance is that of a self-lubricating plastic.

Many owners and gunsmiths are unhappy with this setup, and have replaced the Value Line pistol's disconnect with a steel replacement. The Model 4006s steel disconnect fits the 411. To be honest, I've never observed a problem with these synthetic units, but I don't feel comfortable with this part in a competition or personaldefense pistol. The trigger pin is driven from right to left. The trigger comes loose by pressing it on both sides and rocking it up and down and sideways.

The drawbar, drawbar spring, and plunger are drawn out the rear of the pistol. The pistol is now taken down as far as necessary for our purposes. Now for the Fun Part Early Third Generation pistols didn't always cycle properly with +P and +P+ loads. This is usually solved by the installation of the W. C. Wolff gunsprings. The heavy-duty extractor spring is also a good idea. The are several things that can be done to improve the Smith & Wesson's action.

The trigger motion is not straight to the rear, but rather travels in an arc in the double-action mode. Making the trigger smoother makes its pivoting motion less of a problem (continued on page 16)

METALWORKING

Make a Spring Compressor For the Remington Model 700

Disassembling and reassembling the Model 700s firing-pin assembly can be tedious and tricky. But this handy shop-made spring compressor makes the job safe, simple, and quick.

BY NORMAN E. JOHNSON MARCH 2008 ORIGINAL PP. 10-13

If you've ever tried to disassemble the Remington Model 700s firingpin assembly, you know what a devilish little contraption it is. Fortunately, there's a simple fixture you can make yourself that will take the tedium out of working with this assembly. The materials required to construct this spring compressor couldn't be much simpler or easier to find. They consist of a 9-inch piece of 1/8 x 1-1/ 4-inch iron bar stock and two 1/4-20 x3/4-inch flat-head machine screws with nuts and washers.

Cut the bar stock in two equal 4-1/2-inch lengths. Then, at the end of one piece, form a one-inch leg at a 90degree angle. From this bent position, cut a gap 0.80-inch wide, leaving a pair of upright claws. Then bend the tip of each claw inward at a 45-degree angle about 1/4 inch and set the part aside for later finishing. The other piece is bent at one end in the same fashion, forming a 90degree angle with 3/4-inch upward bend. A slit is cut into this upward angle at center 0.20 inch wide.

Then use an end-mill to cut a linear slit at the center along the entire bottom of this piece (see photo below). The first piece is then completed by positioning two flat-head countersunk screws, one located 0.40 inch from the tip, and the other 1.50 inches from the tip. I would tap these screws into position and permanently anchored them with J. B. Cold Weld to prevent slippage while tightening the nuts as the tool is used.

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Original caption: Right top: The Remington's firingpin assembly is shown here installed in the spring compressor with the spring in the relaxed position. Right bottom: With one end of the spring compressor in a vise, the Model 700s firing-pin spring is fully compressed. Note how conveniently the claws hold the shroud and the firing pin squarely in place. As a finishing touch, round off all the sharp edges on both parts.

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Original caption: Left top: At this stage, the cockingpiece retaining pin is easily removed while the spring is firmly held and compressed. The retaining nuts can now be loosened to relax the spring and remove the parts from the fixture.

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Original caption: Left bottom: Disassembling the Remington Model 700s firing-pin assembly into its component parts would be considerably more difficult'and possibly even dangerous'without the simple do-it-yourself spring compressor detailed here.

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You could leave them in the white, although bluing would enhance the appearance of the fixture, if you're so inclined. This, however, is certainly not a necessary step. Finally,place two layers of electrical tape on the two longer claws to prevent any marring of the firing-pin assembly shroud where it fits the holding claws. In operation, the spring compressor opens fully enough for a firing-pin assembly to be placed into the tool. It's best used by placing one end of the compressor in a vise.

To install the firing-pin assembly in the fixture, place the shroud end of the pin assembly into the fork of the tool, and allow the smaller fork to straddle the firing pin. Then, with one hand, push firmly on the tool until the spring is fully compressed. One nut is then tightened to hold it in place. Be careful not to push against the firingpin end or it could cause injury. Only thumb and forefinger pressure at the shroud end of the part is required to compress the spring.

With the spring fully compressed, the firing-pin assembly can be taken apart by removing the retaining pin from the cocking piece of the assembly. The locking nut can then be released, allowing the parts to be removed from the tool. The firing-pin spring is still under pressure, so release the holding nut slowly as the slide moves, relaxing the spring.

Conclusion This handy spring compressor for the Remington Model 700s firing-pin assembly is easy to construct, and makes the job of working with the assembly an easy one, totally free of complications. I

MAINTENANCE & REPAIR

Recutting and Restoring Worn Or Damaged Stock Checkering

Here's how to amaze your customers and sweeten your cash flow with a new skill you might have hesitated to offer before.

BY CHICK BLOOD MARCH 2008 ORIGINAL PP. 14-16

"m I not a stockmaker. I don't have the patience. But I'll take on the repair of any dings, dents, and small chips that come my way. And I'll do a limited amount of inletting' as in stock bedding. But carve a stock? From a wooden blank? Not me. The other job I won't tackle is cutting checkering in anew stock blank.

But now, however, thanks to a kit offered by the folk at Brownells, I feel quite comfortable recutting the original checkering on an existing stock, and I've been able to expand my list of services to include "checkering restoration." With the project detailed here, I learned to recut the checkering on handgun grips, and after a little more practice, I'm sure I'll be able to handle rifle and shotgun stocks as well.

What Brownells did was to put together a handy Checkering Restoration Kit (item #080-000-363AA; $59.95), with all the tools needed for the job, including a very helpful set of instructions. Underscore the word "restoration," because you'd probably need a few more tools if you wanted to lay out a pattern, transfer it, and cut it into a smooth piece of expensive walnut. This kit is for recutting original checkering, or what's left of it, and returning it to pristine condition.

Well, almost pristine in some cases'd epending on the degree of damage you're trying to repair. Used for illustration here area set of grips from a treasured Smith & Wesson .38-caliber revolver. Which model is not important; the grip panels are the subject. The story of how these grips came to need rechecckering was one I'm sure I'll never hear again if I live to be a thousand years old.

The story is a "beaut." The gun owner said: "I've had this gun for years in the night-stand drawer right next to my bed'just in case, y'know. My nephew was repainting the bedroom for us. Somehow, he tipped over the stand, the drawer slid open, and the gun flipped into his paint-roller tray. He didn't say anything to me about it. He just wiped off the metal with soapy water, put on a spare set of grips that I kept in the same drawer, and wrapped up the originals in a Kleenex. Can you fix up the original grips?

I told him I'd get back to him after I'd had a chance to take a closer look. The closer look told me those panels had been wrapped in the tissue for at least a week. The paint had dried solid. The gun owner had tried to remove the tissue, but only succeeded in leaving the grips covered with fuzzy patches that were still pasted firmly into the checkering pattern. The good news was the checkering itself wasn't obliterated. I called and told him I'd do the job.

Except as noted, the tools required for the reconstruction are included in the Brownells kit. I started by soaking the grips in boiled linseed oil (not included in the kit). I weighed the grips down with an old wrench to keep them submerged in the oil. After a full day of soaking, I scrubbed each panel with the nylon gunsmith's brush. This removed some but not all

Fortunately, the original checkering underneath was still well enough defined to make the restoration a fairly simple if exacting process. the tissue fuzz and paint. Back in the pan they went for more soaking, interrupted hourly by more scrubbing. Eventually, there were mere traces of paint and paper embedded in the checkering. I then used the singleline cutting tool to clean out and sharpen the lines in the checkering.

Multiline spacers are commonly used to cut new checkering, but the single-line cutter is the tool of choice for recheckering. That's because it's important to match the spacing exactly, which is virtually impossible with checkering that was hand cut originally. (In this case, it didn't look like pressed-in checkering.) In other words, what appears to be a 20-lineper-inch (LPI) pattern could actually be 19.5 or 20.5 LPI.

You don't want to start on one side of the pattern and then discover when you get to the other side that the lines you're cutting aren't matching up with the original lines. Before any cutting took place, I wiped down the grips and set them aside to dry for two days.

The time could have been shortened considerably with a couple of hours at 200 degrees in the kitchen oven. (Get permission first.) The boiled linseed oil will not warp, darken, or otherwise damage the grips, and what remained on the wood after 48 hours served to lightly lubricate the cutter. I placed the grips on a firm surface to keep them from moving. This is important, of course, to avoid errors. I used a square of indoor/outdoor carpet turned carpet-side down on the soft rubber pad already on my work bench.

You'll want to position the piece so that each line can be started with the cutting tool moving away from you. I used a 100-watt mini spotlight placed to cast a shadow across the existing checkering to make the line being cut easier to see. As per the instructions, I aligned my forearm with that line and the tool.

This particular checkering was still Then the author added the words "checkering restoration" to his list of gunsmithing services. well defined so I could start in the middle of a line and work towards the ends. I put the cutter on the line with its curved edge at the lines' bottom and drew it back toward me, stopping an instant before it reached the border. I then began to work the cutter back and forth, like a file, until it almost reached the opposite border.

These grips didn't have lines as checkering borders but instead had deep cuts into the wood. Still, I had to begin and end my cuts short before reaching either side. It's human nature to tend to tip the cutter head forward when moving in that direction and backward when pulling it back toward you. You need to try to avoid that, and be especially careful to stop precisely at the border. All I wanted to do here was to clean up an existing line and slightly deepen it.

If I went too deep, I'd lose the cross lines when the time came to start in on them. And if I lost control of the cutter, I'd end up with a sawtoothed border. This obviously requires some care and attention to detail. Even with a good tool set like this, there's still no shortcut to recutting checkering. It's a matter of cutting one line, then moving on to the next until (continued on page 21)

all the lines in one direction have been completed. Then change the position of the grip and cut all the lines in the other direction one at a time. The nylon brush came into play constantly to keep the lines cleaned out and easy to see as the lines were deepened and the "diamonds" became sharply pointed and well defined. At times during the process, my fingers would tire. If I felt I was losing control of the cutter and in danger of overcutting a border, I would switch to the 90-degree Dem-Bart veiner.

By placing it in the bottom of the line being cut and moving it forward to touch the border, the risk of damage was eliminated. Once I had the diamonds looking really clean and sharp, I took the bottle of checkering oil that came with the kit and worked it into the fresh wood with the nylon brush, then wiped off the excess and let the grips dry. The checkering oil penetrated the wood and hardened the surface. A second application can be applied if desired after 24 hours.

That's basically all that's involved with recutting lines that are easily seen. If the lines are well-worn and faint, the restoration becomes more demanding and time-consuming. In that case, I would select the single most visible line in the existing pattern, and use the small carving knife and the Gun Line ruler to score anew line from border to border. Then use the ruler and knife repeatedly until the entire pattern is reestablished.

After the knife has been used to make the lines deep enough for the cutter to follow, you can use the cutter as described above to deepen and define the lines. As you can see from the photo, the grips of this revolver had deep grooves rather than border lines. This served to substitute one problem for another: There were no double border lines to cut, but these borders still had to be rid of the solidified paint and paper that was trapped in them.

For that I used Q-Tips, dental picks, and a couple of little scrapers I made from apiece of drill rod. Sometimes, even with all the right gunsmithing tools, it helps to be resourceful. I

PISTOLS

Working the S&W Top-Break .38 Single Action 1st Model

Also known as the "Baby Russian" because of its resemblance to the .44-caliber Smith & Wesson New Model Russian, this medium-frame revolver was the first chambered for the revered .38 S&W cartridge.

BY DAVID R. CHICOINE MARCH 2008 ORIGINAL PP. 17-21

The .38 Single Action of 1876 was Smith & Wesson's first medium-size top-break revolver. As such, it became the forerunner of an entire series of single-action, doubleaction, and safety hammerless revolvers in this size (and sharing the same grip) that were produced up until 1940. According to the book Smith & Wesson 1857-1945 by Neal & Jinks, the .38 S&W cartridge was designed first, and this revolver was then designed around that cartridge.

First introduced in 1876, the .38 Single Action 1st Model was a spur-trigger revolver with a pleasing round butt grip shape that many shooters found comfortable to use and easy to conceal. To open the revolver, the shooter lifts a T-shaped barrel catch that opens the barrel/frame, allowing the barrel to tilt downward, thus exposing the rear of the cylinder.

This model also became known as the "Baby Russian," because of the similarities between it and its larger relative, the 3rd Model .44 Russian that was manufactured during the same time period. The only obvious differences between the two'other than the size'was the .38"s spur-type trigger and the .44"s removable, bowed trigger guard with a second spur at its rear.

Much like the famous Model No. 3, .44 New Model Russian, the .38 Single Action First Model used a separate cylinder catch that slid into the barrel top strap and a rack-and-gear extraction system with a square extractor shank. Both the .38 and the .44 used a similar long extractor housing under the barrel. Only two barrel lengths were offered on this model3 inch and 4 inch.

Nickel plating or blue finishes were both offered by the factory and the majority of the guns produced were equipped with checkered hardrubber (gutta-percha) grips. Like all the S&W top-break revolvers, this one also featured simultaneous, automatic ejection of the spent cartridge cases upon opening. Manufactured for only two years (1876 and 1877) and serial numbered from 1 to 25,548, the .38 single Action 1st Model was succeeded by the much simplified .38 Single Action, 2nd Model in 1878.

Some distinguishing features of the S&W .38 Single Action, 1st Model include 38 Smith & Wesson First Model, also known as the Baby Russian, was introduced in 1876 along with the famous .38 S&W cartridge. Author photos. its five-shot cylinder .38 S&W centerfire, a spur trigger that's sheathed in the frame, along extractor housing under the barrel, and a rack-and-gear extraction mechanism with a square extractor shank. The .38 Single Action uses a trigger-actuated cylinder stop.

In other words, the trigger movement affects whether or not the cylinder is locked. When the trigger is toward the rear, the revolver is at full cock. When the trigger is pulled to fire the weapon or when the hammer is all the way down,

the trigger is not in contact with the cylinder stop. Therefore, the stop, which is under spring tension, rises to lock the cylinder. When the hammer is pulled back slightly to the half-cock position, the trigger sear falls into the notch (a low spot) in the hammer, allowing the trigger to move forward. As it does, it contacts the rear of the cylinder stop, causing the stop to rock downward and release the cylinder to rotate. Got that? Trust me, this will all make more sense when you have the revolver in your hand.

Disassembly Instructions 1. Begin your work, as always, by checking to be sure the cylinder is unloaded. To do this, hold the revolver around the grip, keeping your fingers away from the trigger (#124) and pointing the barrel muzzle in a safe direction. Pull the hammer back slightly until you hear one click. That will place the hammer in the loading position. Lift up on the barrel catch (#126) and tilt the barrel all the way down by the muzzle in order to open the action and expose the cylinder chambers.

The small, flat plate sitting over the barrel is the cylinder catch which will come out with the cylinder. Check to be sure no cartridges are present. If cartridges are present, take them out of the cylinder and remove them to a separate location away from your work area. Before we begin the disassembly, let me belabor the obvious: Always be careful to select the right size screwdriver blade when you're working on these older guns.

Damaged screws area dead giveaway the gun has been in the hands of an untalented amateur. There's nothing we can do about the untalented amateurs that have worked on the gun in the past, be we don't want to add to the damage. And before you attempt to remove any screws, to further aid the perfect fit of the blade in the screw slot, take the time to scrape out any accumulated grease, dirt, and rust with a small dental pick. 2. Okay. Now let's remove the cylinder (#112).

With the barrel still all the way open, loosen the cylinder catch screw (#112B) about three full turns. This screw is located in the barrel topstrap. Next, depress the front portion of the extractor-rack screw catch (#122f), then pull back on the cylinder (#112). The cylinder will pull back toward the rear and off the base pin (#113). Take note that the cylinder catch (#112A) will come out along with the cylinder. Be sure you pay attention to this part so that you will remember how to reinstall it properly.

And when you reassemble the revolver, pay special attention to the relationships of the gear teeth on the extractor rack and the extractor gear. I prefer to assemble the cylinder onto the barrel before the barrel is assembled to the frame. Then I install the gear into the barrel hinge with the large tooth facing straight up. Then finally, I assemble the barrel to the frame. 3. Now we can remove the barrel.

Unscrew and remove the joint-pivot screw (#143a) from the left side of the hinge on the frame using an appropriate-size straight punch. Drive the joint pivot (#143) out toward the right frame side. Be sure you make note of the witness mark on the joint pivot and its corresponding witness mark on the frame. These need to be aligned for reassembly. The barrel (#110) is now free and can be lifted up out of its joint with the frame. Located between the ears of the barrel hinge is the extractor gear

Smith & Wesson .38 Single Action Top-Break First Model Revolver 110 Barrel 111 Frame 111P Grip Pin 112 Cylinder 113 Base Pin 115 Sideplate 118 Grip 119 Grip 120 Hammer (Baby Russian) 121 Extractor 122a Extractor Rack 122b Extractor Spring 122c Extractor Rack Screw 122d Extractor Rack Nut 122f Extractor Rack Screw Catch 122g Extractor Rack Catch Spring 122p Extractor Catch Pin 124 Trigger 124P Trigger Pin 125b Extractor Gear 125C Extractor Gear Bushing 125F Extractor Pawl 125G Extractor Pawl Spring 125P Extractor Pawl Pin 126 Barrel Catch 128 Stirrup 129 Cylinder Stop 129P Cylinder Stop Pin 131 Trigger Spring 133 Cylinder Stop Spring 134 Mainspring 135 Hand Spring 135P Handspring Pin 136 Barrel Catch Cam Spring 139 Barrel Catch Screw 141 Hammer Stud 143 Joint Pivot 143A Joint Pivot Screw 144 Grip Screw 145 Sideplate Screw, Long 146 Sideplate Screw, Center 147 Stop Plate Screw 148 Strain Screw 150 Stop Plate 151 Hand 152 Barrel Catch Cam 154 Front Sight 154P Front Sight Pin

(#125B). This can now be pulled down and out of the barrel. Be sure you take notice of its correct positioning for later reassembly. 4. Removing the grips and the sideplate begins with unscrewing and removing the stock screw (#144) and lifting off the stocks (#118 and 119). If the grips won't easily come off after you have removed the screw, try this trick: Carefully slip the edge of a single-edged razor blade between the grip and the frame, somewhere down near the butt.

Carefully work the blade in between the metal and the grip until you can twist the blade slightly, using the blade as a lever to gently lift the grip away from the gun. Next unscrew and remove the Smith & Wesson's two sideplate screws (#145 and 146) (Note: The very early guns, those with serial numbers below #2616, use only one sideplate screw.) Turn the frame over on its side, holding it by the hinge area with sideplate facing up over a wellpadded surface.

Use a plastic or hardwood mallet to strike the grip frame a sharp blow or two. The shock effect produced should cause the sideplate (#115) to loosen and jump up out of its seat in the frame for removal. Never attempt to pry off a sideplate; this can seriously damage the sideplate and very possibly the frame as well'and, of course, will do irreparable damage to your reputation as a professional. 5.

To remove the mainspring and the hammer, use a pair of spreader-type pliers between the rear of the mainspring and the top-inside of the frame to compress the top of the mainspring (#134). This allows the hammer stirrup (#128) to be rotated forward and out of the seat between the ears on the top of the mainspring. Now you can loosen the strain screw (#148), which is located in the bottom-front of the front grip strap on the frame. The mainspring is now free to be removed from the frame side.

Using a small screwdriver as a lever, carefully rotate the top of the hand (#151) toward the rear. While still holding the hand to the rear, pull the trigger (#124) and hold it there. The hammer (#120) can now be pulled about half-way back and then carefully worked upward and off the hammer stud (#141) and removed from the frame. 6. Next, we'll remove the stop plate and cylinder stop spring. First, unscrew and remove the stop-plate screw (#147).

This is located on the bottom of the frame, between the trigger and the hinge joint. Turn the frame upside-down and hold it by the grip, Its ears can then be disengaged from the hammer stirrup. holding the trigger to the rear. With a plastic or hardwood mallet, strike the frame several sharp blows just behind the hinge joint.

This will cause the stop plate (#150) to be shocked up and out of its seat with the frame. (Never attempt to pry off a stop plate for the same reasons mentioned regarding the removal of the sideplate.) Once the stop plate is loose, remove it and the cylinder-stop spring (#133). Again, be sure you note their positions for reassembly later. 7.

When removing the cylinder stop, the extractor pawl, and the trigger, use cup-tipped pin punches on the round-headed pins to avoid damaging the pins or the surrounding area on the firearm. Drift out the cylinderstop pin (the center pin of the three that passes through the frame), and then push the cylinder stop (#129) out toward the bottom through its window in the frame using a small punch. In the same manner, drift out the trigger pin. This is the rear-most of the three pins that pass through the frame.

The trigger can now be pulled out from the bottom of the frame. Along with it will come the attached trigger

spring (#131). Finally, drift out the extractor-pawl pin (#125P). This is the front pin of the three pins that pass through the frame. The extractor pawl (#125f) and its spring (#125g) are now free to be removed. 8. To disassemble the cylinder, insert five fired cartridge cases into the chambers to support the extractor (#121). Grab the extractor ratchet (#122A) by the flat areas using a suitably sized open-end wrench and rotate the cylinder in a counter-clockwise direction.

This will unscrew the extractor ratchet from the extractor. Take note of the witness mark dot on one of the rear-facing legs of the extractor star. This dot should align with the serial numbers on the cylinder during reassembly. The extractor-rack screw (#122c) and its nut (#122d) are threaded together, but the factory riveted them so they would remain an assembly inside the rack; therefore, further disassembly is not recommended. 9.

Disassembling the hammer begins with rotating the hand (#151) onehalf turn toward the front to disengage its shank from the handspring (#135). Then pull it out of the hammer. Now drift out the pin in the center-front area of the hammer. This pin retains the handspring. The handspring will now slide out of its recess in the hammer. Notice the slot in the spring that the retaining pin fits through. The hammer stirrup (#128) can now be removed by drifting out its pin, located at the lower-rear area of the hammer.

Notice the positioning of the stirrup for reassembly. It's possible to install the stirrup upside down, which will affect both mainspring and hammer operation. Before we move on, here's a disassembly/reassembly hint: Before driving out the aforementioned pins, to prevent damaging or breaking the part itself, always provide support to the hammer or other small part by positioning it on a bench block and driving the pin into a hole in the block. 10. All that's left now is to disassemble the barrel.

Unscrew and remove the barrel-catch screw (#139) located in the left side of the barrel top-strap. The barrel catch (#126) is loose and can be removed to the rear. Hold the barrel (#110) in the muzzle-up position and tap the rear of the barrel topstrap on a wooden benchtop. This will cause the barrel-catch cam (#152) and barrel-catch cam spring (#136) to fall out of their recess in the top-strap. Notice their positions for correct reassembly.

The extractor-rack screw catch (#122f) and screw-catch spring (#122g) are removed by first drifting out the pin (#122p) which passes through the extractor housing under the barrel. To prevent damage to the pin and the barrel, use a small cup-tipped pin punch for this operation. That's all there is to disassembling the Baby Russian. You reassemble the revolver by simply reversing the order of the above. I

MAINTENANCE & REPAIR

Reader Forum

BY AMERICAN GUNSMITH EDITORS MARCH 2008 ORIGINAL PP. 22-24

A Rare Topper I've recently received an H&R Topper Model 158 in .22 Hornet with a broken firing pin. I replaced the firing pin and spring, and test fired the gun. The firing pin pierced the primer. After removing the firing pin, I examined the shell casing and found that the primer was backing out of the primer pocket. Also, on closer examination, I noticed that the hinge-pin recess is slightly worn. I drove out the hinge pin and turned it 90 degrees and reinstalled it.

After reassembly, the primers were not pierced, but had a large ridge around the firing-pin dimple that made break-open very difficult. The primer was still backed out of the pocket, flush with the top of the primer pocket. I also noticed that the firing-pin hole was slightly oversized. There was also a slightly brighter ring on the shell casing above the rim of the case. I would appreciate any recommendations on repairing this gun. I haven't been able to find any information on the Topper rifle.

The only information I've been able to find is on the Topper shotgun. Thanks. You may have been handed a rare Topper. H&R won't even confirm that the gun was ever produced in anything other than .22 rimfire and .32- 20 WCF, and the factory that made them no longer exists. (The company is now H&R 1871, LLC, and is part of Marlin Firearms.) It was with the cooperation from Marlin that we were able to prepare an article on anew NEF "Pardner," which appeared in the October 03 issue.

Reading it over will help measurably in the disassembly and reassembly of most H&R/NEF single-shots. The problems you're facing extend beyond takedown, however. As far as we know, the new H&R will not service or provide parts for guns made by the previous company, and we believe the gun you've been asked to repair has a seriously worn chamber'hence, the expanded cases. It's also possible the rifle has been fed a constant diet of hot reloads, since backed-out or flowing primers area sure sign of excessive pressure.

Frankly, we're a little surprised hard extraction wasn't among the complaints you received. Locating parts means getting into the aftermarket, but the archivist at the American Single Shot Rifle Association, Rudi Prusok might be able to point you in the right direction. You might also contact the H&R Collectors Association. You'll find their address listed in the back pages of any current issue of Gun Digest.

Remington Model 742 Extractor Installation Could you give me some help with the installation of a Remington 742 extractor? Over the years, I've installed several hundred of these, and have often had them break when attempting to do the slight bending as you described in your article. Other articles I've read on this subject give the same directions, which are almost word for word what Remington gives as their directions on the proper assembly of this type of extractor.

I got so frustrated with the breakage problem one day that I called Remington to see if they had any recalls on the extractors due to their being too brittle to slightly bend as they say. I was told there was no problem that they knew of. Have you heard of any such problems, or am I the one that has the problem? If I'm the problem, please give me some detailed lessons. Remington was giving you the straight answer.

They have had no history of brittleness problems with these extractors, but they haven't inventoried the rivet-type extractors for the Model 742 for over 20 years. If you're getting your parts from aftermarket sources, then it's very possible that the maker of the part is not heat-treating them properly. As far as additional instructions are concerned, try this: Hold the extractor by its tip, and cover the extractor hole with needle-nose pliers or press the hole against your bench for support.

Then carefully flex the extractor inward. And when blending the installed extractor into the bolt, use a stone rather than a power tool. Browning Sweet 16 Barrel I have a customer who is looking for a ventilated-rib barrel to replace the slug barrel on his Auto 5 Sweet 16. I've checked every web source I can think of with no results, and was wondering if you might be able to suggest a source. Jack First shows all types of Sweet 16 barrels in Volume II of their catalog.

You didn't mention the dimensions of your customer's gun, but the gun listed in the Jack First catalog has a 2-9/16-inch chamber. Yours is likely built for the standard 2-3/4-inch 16-gauge shell. Therefore, we suggest you run a check on the receiver to ensure compatibility before ordering anew tube. Browning BT-99 Rebuild I've searched my library and the web, but can't find any info on rebuilding the BT-99. I have one that unlocks occasionally upon firing, and think I need to rebuild the locking setup.

FROM THE ORIGINAL PAGE

I can get parts but I need some advice on reassembly. I have a schematic, but it's sketchy and small. Your help would be appreciated. The usual reasons why the BT-99 shoots loose area worn locking bolt and/or barrel lug, a worn hinge pin or hinge-pin socket, or sometimes a loose forearm bracket. If the problem is with the forearm bracket, remove the forearm from the shotgun and the bracket from the forearm. Working on a solid anvil

with a staking tool the same width as the barrel slot in the bracket, place the tool at the rear of the bracket slot about 3/32 inch from its edge. Stake the rear of the bracket to move metal forward, thus reducing the width of the slot. An alternate method, applied in cases where too much metal would have to be displaced to tighten the barrel slot/bracket engagement, is to silversolder a shim inside the rear edge of the bracket slot, and then adjust the fit with a file.

Whether either of these approaches work can be determined by cocking the action, holding the gun horizontally and releasing the action to see if the barrel drops down on its own with slight resistance. If not, the barrel-lug notch is worn. When this wear is not excessive, an oversize locking bolt can be installed. These should be available from Browning and require fitting. There's a step in the barrels' locking bolt lug. It should be .010 inch high.

Otherwise, the new bolt may wedge itself into the bolt lug and the barrel will be very hard to open. The barrel lug/locking bolt surfaces must be adjusted to a line-to-line contact at an angle of approximately 6 degrees. Do this with 320-grit emery cloth backed by a flat file. Use this until the rear of the top lever is about 1/4 inch to the right of center when the gun is assembled and tightly closed.

The only substitute for installing an oversize locking bolt is the building up of a TIG weld across the barrellug locking surfaces and reforming the weld to the aforesaid specifications. If you don't have TIG equipment and aren't skilled in its use, the shotgun should be returned to Browning's Arnold, Missouri, parts department for repairs. Beat Up Remington 742 BDL I don't know if you can help me with this question, but here goes: I have a Remington Model 742 BDL in .30-06 that has an ejection problem.

It doesn't eject consistently. It appears that the bolt-locking lugs have chewed up the shelf that they ride on (on the left side of the receiver) and may be binding. I've experimented with different bullets from 130 to 180 grains and loads from the Lyman manual from minimum to maximum, and nothing ejects consistently. I did a chamber cast and there is no deformation and there is nothing obstructing the gas port. What do you recommend as the best way to fix this problem?

I have capabilities to weld new material in with acetylene or TIG, but I'm a little hesitant to put that much heat into the receiver which could warp. Got any ideas or hints? Because there were numerous incidents involving worn or battered boltways in the receiver of the Model 742, Remington used to offer a factory repair that involved welding up the damage and remachining the receiver. They have discontinued the practice, but all is not lost.

Along-time factory authorized service center for Remington'Nu Line Guns provides this service. We suggest you turn the job over to them. Enfield P-14 Ignition Problem I have unreliable ignition with a P-14 converted to .300 Winchester Magnum. This happens with either new or reloaded ammo. The rifle has been converted to cock on opening and has a Timney trigger installed. I've checked the headspace and it is within spec.

I have .037 inch of firing-pin protrusion, and I think this is insufficient, but I don't know the correct length. I've checked for clearance of the cocking piece and cocking notch and that seems okay. I have about 3/16 inch of protrusion of the cocking piece beyond the aft end of the bolt sleeve. The customer supplied me with another firing pin, but the nose end is too large in O. D. to go through the firing-pin hole in the bolt. I suspect this pin is for a P-17, but I can't confirm that. The sear-return spring is missing and has a steel filler plug in its place. Is this correct for the Timney trigger installation?

This arrangement allows no movement of the trigger during cocking as is required for this rifle in its normal configuration. I've polished the firing pin and seem to have sufficient force to ignite a primer. I think the firing-pin spring is okay, because it takes all I can muster to compress it to install the cocking piece. I think I need some kind of sear-return spring, but I'm not sure. Any thoughts from you will be appreciated. We're not certain if this trigger has a sear-return spring.

We think you might be referring to the trigger-return spring, but you can check with Timney on that. As for your customer-supplied replacement striker, it should have an "X" on its shank if it's a P-14 replacement. The P-17 striker has a larger diameter tip that will not fit through the hole in the boltface of a P-14. While you could turn down the P-17 striker to fit, you'd be better off with a true P-14 part, even if you had to peen the end slightly to increase primer contact.

The protrusion is commonly about .06 inches, which could solve your problem. Rebarreling the Smith & Wesson M41 I have an S&W Model 46 (it appears to be a presentation model), which I understand is a downgraded 41. After

READER FORUM CONTINUED ORIGINAL PAGE 24

(continued from previous page) seeing a couple of articles about using the Model 41 as afield gun, I purchased a 5.5 inch Model 41 barrel from Numrich, thinking it should be a drop-in since they use the same frame. It seems to fit, but something seems to be blocking the trigger guard from closing to lock it in place. Are there dimensional or significant design differences which preclude using the 41 barrel on the Model 46? Thank you for your assistance. Something is indeed blocking the trigger guard.

The guard won't lock up into the slide of a Model 46. You'll have to purchase a Model 41 slide to solve the problem. And, unfortunately, that goes way beyond "fitting." Zoli Shotgun Parts I have an Antonio Zoli & Co. 12-gauge over/under Silver Snipe. It was imported by Eagle Arms of New York. I've tried the usual sources for parts with no luck. Any help would be appreciated. Thanks.

There is a slight possibility that Beretta USA, also the maker of an over/ under shotgun known as the Silver Snipe, has parts, but you'll have to check with Beretta to find out if their parts will interchange with those of the Zoli model. If you have no luck there, call Bob's Gun Shop They may be able to help you. Super Blackhawk Accuracy I have a Ruger Super Blackhawk in .44 Magnum that shoots 3 inches to the left with the rear sight adjusted to the right as far as possible.

Can I turn the barrel in slightly to correct the sight adjustment or is it "glued" in place? No glue is used, but Ruger barrels are turned in very tightly at the factory. You didn't mention the range at which the revolver is being fired. We'll assume it's 20 to 25 yards. You probably won't be able to crank the barrel sufficiently to correct the point-of-impact problem without unscrewing it, removing a few thousandths of metal from its shoulder, and remounting the barrel to the frame.

To remove and replace the barrel, a solidly mounted barrel vise and a Redhawk frame wrench (probably augmented with a cheater bar on its handle) are absolute necessities. A lathe is the proper machine tool to employ for reworking the barrel, if necessary, and you'd best mark both barrel and frame before separating them so you have a starting point reference. (If you take off too much metal, your point of impact could end up 3 inches to the right.

Or if you takeoff metal unevenly, your frame-tobarrel interface will be cockeyed.) If you're not equipped for this type of repair, we suggest returning the gun to Ruger. First, fire five rounds at 25 yards with factory ammo, holding dead center on the bull's eye. Retrieve the target and send it to Ruger along with the gun and a note requesting a corrective repair. If the revolver is under warranty and hasn't been damaged through misuse, the charge should be minimal'if there is any charge at all.

Winchester 12 Safety Switch Is it possible to reverse the safety on a Winchester Model 12 shotgun to make it left-handed? Thank you. It's possible, but not without a modification. In the Model 12, the safety plunger and its spring are housed in a hole that's covered by the safety button. A same-sized hole (depth and diameter) has to be located and drilled on the opposite side of the triggerguard.

If you're equipped to modify the guard, you can switch the safety as follows: With the red band not showing, insert the proper-size drift punch in the hole located in the end of the button. Use the drift as a lever to rotate the button 90 degrees to the front of the guard. Remove the drift and apply your thumb to the button, pushing it until it extends far enough from the opposite side of the guard to be pulled free. Your thumb will be covering the plunger and spring at this point.

To reinstall, insert the spring and plunger into the new hole. (It should be smooth inside.) Depress the plunger and install the plain end of the button in the guard until the plunger "snaps" into the button's detent grooves and the red end of the button is showing. Re-rotate the button with the drift punch. Work the button in and out a few times to be sure it moves freely and is appropriately engaged at the end of its travel by the plunger.

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