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ARCHIVE ISSUE NUMBER

INSIDE THE ARCHIVE

DISASSEMBLY OF THE REMINGTON- KEENE BOLT-ACTION

MARKSMANSHIP IS FRONT-PAGE NEWS AGAIN • INSIGHTS ON TAURUS' NEW PT 19 AND ITS POSSIBILITIES FOR CUSTO...

ORIGINAL METHODS. MODERN ACCESS.

ARCHIVE EDITION 037

DIGITAL ARCHIVE EDITION

Preserved for the bench.

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Marksmanship Is Front-Page News Again

BY AMERICAN GUNSMITH EDITORS DECEMBER 2006

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Not since the golden age of marksmanship in the Victorian era has a shooting-sports event commanded the front page of daily newspapers. During the latter part of the 19th Century, articles about the shooting matches at the National Rifle Association's range in Creedmoor, New York, regularly appeared on the front page of the largest-selling publications of the day, such as Frank Leslie's Illustrated News and Harper's Weekly.

But for the past 100 years, shooting-sports competitions have very seldom made the nation's front pages. Sunday, August 20, 2006, brought back memories of marksmanship's golden age, however, when the San Antonio Express-News ran a front page story about the NRA-Beeman Grand Prix Championship finals being held in the neighboring city of New Braunfels, Texas.

Then, as if to emphasize the importance of the event, the New Braunfels Herald-Zeitung ran a front-page article about this unique competition for marksmen with disabilities in its August 23rd edition. The Texas event was not the first time that the 12-city precision air-gun tour demonstrated its ability to capture the interest of the general public.

During the past 10 years, over 90 percent of the tour's 121 events have been covered by the print and television media, which is the best record of any shooting-sports competition in the nation. One of the most novel approaches to shooting-sports coverage occurred on July 7, 2005, when the West Virginia Outdoor Radio Network recorded the NRA-Beeman event that was staged in the capital city of Charleston.

The occasion was the introduction of the first visually impaired/blind marksman to ever compete against sighted shooters in a national competition. This event also marked the first time in shooting-sports history that a marksmanship event was broadcast statewide on the radio. Beginning in March of 2007, the NRA-Beeman Grand Prix Championship Tour will embark upon its 11th season of offering shooting-sports opportunities to Americans with disabilities.

For more information, call Dave Baskin, Manager of NRA Disabled Shooting Services at

PEOPLE & COMPANIES

Insights on Taurus' New PT 19 And Its Possibilities for Custom

The PT is a top-notch defensive pistol as it comes out of the box. And like other Series-80 pistols, it can also be transformed into a target gun.

BY CHICK BLOOD DECEMBER 2006

ORIGINAL PP. 3-5

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“Ve I never dropped a loaded M1911 or M1911A1 on an unyielding surface from a “significant height” to see if the impact would rebound the firing pin enough to touch off the chambered round. Be that as it may, I’ve always felt confident that John Browning knew what he was doing when he designed the grip safety on the pistol. It blocks all rearward movement of the trigger unless and until the grip is squeezed. Doing so raises the safety’s trigger stop and allows the trigger bow to push back the disconnector.

The disconnector disengages the sear to release the hammer and then Ol’ Slabsides lets loose. Moreover, I’ve always trusted the opinion of U. S. Army Ordnance, which has persistently maintained it’s impossible to fire a M1911/ M1911A1 without pulling the trigger. And, for that matter, I’ve never figured out just how high a “significant height” really is.

Nevertheless, the frayed nerves of firearm-safety engineers (and corporate attorneys) were calmed a bit after they saw to it that a firing-pin block, block spring, block lever, and triggerbar lever were added as extra insurance against a .45 being dropped on a slab of concrete and discharging accidentally. Regardless of whether this extra precautionary measure was necessary, the Colt Series-80 M1911A1 arrived and the Series 70not equipped with the extra internal hardware’faced extinction. Not.

It’s very true the Taurus PT 1911 is a Series-80 clone, complete with all the extra moving parts. But this Series-80 comes with a key. All Taurus Firearms do these days. This key blocks the hammer with a clockwise turn and unblocks it with a counterclockwise turn. When the hammer is blocked, the pistol is solidly locked up because the slide can’t move. In that respect,

the key lock might be thought of as a back-up to the standard thumb safety, which also locks the slide. It isn’t intended to be.

In my opinion, it is a well-thought-out measure of extra protection against legal actions, mostly frivolous and mostly brought on by dedicated antigunners. On the other hand’and again, this is just my opinion’t he stuffing of a firing-pin block into the Series-70 succeeded only in messing up a great pistol. That said, there seems to be no end in sight for John Browning’s legendary design. Manufacturers who have never built a pistol, or haven’t built one for decades, are adding a M1911 to their commercial offerings.

Taurus, of course, is no stranger to handguns, and the company’s handgun experience shows on the PT 1911. The PT comes in either a blue or stainless version, and is available in .45 ACP in both a full-size (5-inch barrel) and a compact model known as the PT 1911C. A full-size stainless-

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Their opinions are noted in the text. steel version is also available in .38 Super. The pistol's primary components are forged from premium steel. Matching the excellence of materials is the skill applied to their assembly.

Equaling both, and making the PT 1911 a superb value for an out-of-the box Series-80, are an excellent slide-to-frame fit, lowered ejection port, polished feed ramp, target trigger with overtravel screw, low-profile Heinie sights, and a low-slung beavertail grip safety machined to accept the rear of a hammer in recoil/cocking mode. (Thus there's no danger of nicking up the delicate web between thumb and index finger here.) The PT 1911s two magazines already wear bumper pads.

Finally, sluggish as many Series-80 triggers are initially, this one was not. The trigger on the pistol I worked with here broke nicely at about 4-1/2 pounds. All in all, the PT makes for a fine defensive pistol as it reaches the buyer's hand. And for that purpose, I wouldn't change a thing on or inside it. Oh, I might polish up those firingpin-block components to a mirror finish to help make the trigger pull even smoother than it already is.

As for disassembly and reassembly, we've covered the M1911 many times before, and the Taurus breaks down just like any other Series-80. Instead of covering old ground again, in the rest of this article I'll tell you what I'd want to do if a customer wanted to transform his PT (or any other Series- 80) into a target gun capable of equaling the performance of a Series 70.

Target Conversion: Step One Fully realizing that what I was about to do would place all risk of any litigation resulting from an accidental discharge squarely on my shoulders, I called my insurance company, placed my fears behind me, and charged ahead. Initially, though it seemed it did, I had to be certain the Taurus frame matched the specifications for a Colt frame. If it did not, I would be unable to utilize parts that did meet those specifications.

Having several Colt frames on hand to use as a reference, I shunned them all and relied on a set of technical drawings I bought years ago from Brownells, a section of which is reproduced herewith their permission. As you can see, most of the dimensions for a Colt radiate from the hole for It's available from Brownells and is reproduced herewith their permission.

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the slide-stop pin. Any non-Colt M1911 frame I build up or overhaul had better match these dimensions exactly. Imagine the problems presented if one hole, say the hammer pin or sear pin, doesn't match up. I could return the frame for a replacement, perhaps get one and proceed. Or, I could weld up the out-of-spec holes and drill new ones, thereby running up the cost considerably for a customer because I basically had to remake the frame provided.

One other factor arises in the event of the latter: I don't have a manufacturer's FFL, and what I would have to do to a nonspec frame to make it meet specifications would be considered manufacturing by ATF. (Who needs the jail time?) Step Two Parts are parts? Not necessarily. Some parts are forged, others stamped, still others are injection molded. Usually, you're pretty darn safe using factory replacement components, but you can't always get them because many critical ones are restricted. Sear/hammer are among them.

And a sear/hammer fit is as critical to a trigger job as women are to motherhood.

For restricted 1.1 Slide 1.2 Front Sight Insert 1.3 Front Sight 1.4 Front Sight Screw 1.5 Rear Sight Insert 1.6 Rear Sight 1.7 Rear Sight Screw 1.8 Extractor 1.9 Firing

Pin Stop 1.10 Firing Pin 1.11 Firing Pin Spring 1.12 Firing Pin Block 1.13 Firing Pin Key Block Spring 1.14 Barrel Bushing 2.1 Barrel 2.2 Barrel Link 2.3 Barrel Link Pin 3.1 Recoil Spring Plug 3.2 Recoil Spring 3.3 Recoil Spring Guide 4.1 Frame 4.2 Slide Stop 4.3 Plunger Tube 4.4 Slide Stop Plunger 4.5 Plunger Spring 4.6 Safety Lock Plunger 4.7 Hammer Pin 4.8 Sear Pin 4.9 Ejector Pin 4.10 Manual Safety Lever, left 4.11 Stock Screw Bushing 4.12 Grip Panel 4.13 Grip Screws 4.14 Ejector 4.15 Disconnect 4.16 Trigger Bar Lever 4.17 Firing Pin Block Lever 4.18 Sear 4.19 Magazine Catch 4.20 Magazine Catch Spring 4.21 Magazine Catch Lock 4.22 Manual Safety Lever, right 4.23 Mainspring Housing Pin 5 Sear Spring Taurus PT 1911 Semi-Automatic Pistol (Specifications subject to change without notice) 6.1 Trigger 6.2 Trigger Bar 6.3 Trigger Screw 7.1 Key Lock 7.2 Hammer 7.3 Key Lock Spring 7.4 Key Lock Ball 7.5 Hammer Strut 7.6 Key Lock Pin 7.7 Hammer Strut Pin 8.1 Mainspring Cap 8.2 Mainspring 8.3 Mainspring Housing Retainer 8.4 Mainspring Cap Pin 8.5 Mainspring Housing 9 Grip Safety 10.1 Magazine Body 10.2 Magazine Follower 10.3 Magazine Spring 10.4 Magazine Plate 10.5 Magazine Buffer

PEOPLE & COMPANIES

Rebarreling the Remington Model 504 .22 LR

Some rifles are easier to rebarrel than others. The Remington Model 504-T requires a little extra thought and a few extra steps, but the end result is a fine-shooting rimfire rifle.

BY NORMAN E. JOHNSON DECEMBER 2006

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The Model 504 Remington barrel is not threaded into the receiver. Instead, a receiver clamp screw and side-positioned set screw are used to position and lock the barrel in place. Cartridge headspacing is accomplished by allowing the breechface of the barrel to be moved rearward up to the recessed bolt face and then locked in place. The rimfire cartridge head is not recessed into the barrel, but into the bolt face. A pair of angled extractor grooves are cut at the sides of the barrel adjacent to the chamber mouth.

Fitting the Barrel to the Receiver For the job detailed in this article, I chose a Lilja cision Rifle Barrels Plains, MT 59859) o after aftermarket barrel for the Remington Model 504 rifle. The procedure for fitting the barrel Top

22 LR sports a very strong action, shown here with an aftermarket stainless-steel barrel installed. The scope seen here is a 4.5-14 Sightron with a Leupold mounting system.

Bottom The reamer has removable pilots to fit various barrels with precision. to the receiver involves careful lathe and milling work in duplicating the factory specifications of the barrel that's being removed. Barrel removal is accomplished by releasing the main clamp bolt and side-positioned setscrew. At this point, careful measurements are taken of the factory barrel and recorded. The new barrel blank is positioned in the lathe and centered in preparation for turning to the desired size.

The normal barrel breech is turned from its normal larger diameter to a size that will enter the short recess at the front of the receiver ring. This is 1 inch in diameter on the Remington factory barrel. With the barrel turned to 1.016 inches, I placed it in the center rest in preparation for facing the breech end and turning the shank to factory specifications. The breech-shank diameter is turned to 0.672 inch for a length of 0.935 inch.

Following this, an annular step, 0.035 inch deep to a diameter of 0.605 inch, is cut at the extreme breech end of the barrel. This step protrudes through a 0.605-inch-diameter hole at the juncture where the barrel breech surface meets the boltface. Actually this is a unique way of

REBARRELING THE REMINGTON MODEL 504 .22 LR CONTINUED

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establishing cartridge headspace as it affords some take-up for any wear sustained at the locking lug surface. With the barrel shank turned as described, it cannot be tested for fit until a slot is cut into the underside of the barrel to mate with a small, shallow positioning stud located on the inner, lower surface of the receiver. This shallow slot is cut 1/16 inch wide, 0.055 inch deep, to a length of 0.55 inch beginning at the barrel breech face.

The barrel now can be tested for fit, but first, the extractors should be removed, being careful not to lose the springs and plungers. Also,

be sure each extractor assembly is replaced as removed, because there are left and right-side extractor assemblies. The extractors simply swing out with a firm outward pull with the fingers, and are reinstalled by pushing them firmly into position compressing the plunger and spring.

When testing for barrel fit, be sure the clamp screw is relaxed and the receiver set. Slots are cut very close to the chamber mouth. The 0.064-inch-wide slot used in the factory barrel is replaced by a narrower 0.042-inch slot on the replacement barrel. screw is turned

out clear of the inner surface of the receiver. With the rifle held vertically (muzzle up) and with the bolt closed, allow the barrel shank to rest against the bolt.

Opening the bolt would allow the barrel to fall a few thousandths farther into the receiver, which is normal and a good test of barrel clearance. Following this test, close the bolt again to push the barrel to the correct headspace position against the sur-

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A common shallow recess makes a good crown for the .22 LR. This is the “key” to this barrel-changing system. face of the barrel. Then put moderate torque on the barrel-clamp screw. The receiver set screw is then torqued lightly against the barrel, enough to make a discernible mark. At this stage, I release both the barrel clamp and receiver set screw and examine the barrel shank for the set-screw mark. Too heavy a depression could raise the metal enough to cause a bind in removing the barrel.

Now repeat the procedure outlined in the last paragraph and again examine the set-screw mark left by the receiver set screw. If only one setscrew mark appears, all is well. I then place the barrel in a drill vise and carefully center a center drill over the set-screw mark, and actually make a shallow depression there. This depression should be just deep enough for the receiver set screw to enter and position the barrel. Try it, following the procedure in the two preceding paragraphs.

Before trying the barrel for its final fit, however, I use a rounded machinist’s file to remove any burrs around the set-screw hole. The barrel should now fit with correct headspace as both the receiver screw and clamp screw are tightened. If the bolt

seems to close correctly as the receiver set-screw is lightly torqued, all is well. If the torqued receiver screw produces bolt bind, you have some axial preload which means the screw hole should be brought a thousandth or two away from the breechface of the barrel.

What you’re trying to accomplish here is to have the receiver set screw serve as a double check of the headspace setting, not as a major means of locking the barrel in place. Though .22 LR rim thickness will vary from brand to brand, the average rim thickness on a number of cases I tested was 0.0414 inch. The bolt-face case-rim recess on the Remington Model 504 is .0425 inch, which translates to about 0.001 inch headspace for the average .22 LR rimfire cartridge.

Making the Chamber The chamber can be reamed to depth any time after the final barrel-breech surface is faced. The Model 504 chamber is not recessed into the barrel and the chamber is cut to recommended depth according to the reamer specifications. I used a Manson match reamrecision Reamers, and Blanc, MI to make the chamber movable pilots for an exact bore fit. Take plenty of time in reaming the chamber and be sure the reamer is not loading up with chips.

The Manson match chamber that I used cuts a perfectly centered chamber with the correct size removable pilot. Making the Extractor Grooves Cutting the extractor grooves on the barrel is an easy task. I used a 1/8-inch x 1/2-inch-diameter keyway cutter, with the barrel held firmly and squarely in a milling-machine vise. Using the barrel-locating slot as a guide, be sure the slot is in the true, upward position and perfectly square to the vise jaws.

Carefully advance the cutter into the edge of the breechface of the barrel until the cut is within a thousandth or so of the chamber rim. Then cut the other side at true barrel/chamber center. To enhance extraction and ejection, I smoothed off the roughened edges of both the right-hand side ejector and the cartridge-retaining ejector. This produces a smoother ejection of the fired case as it hits the ejector setup. Conclusion The Remington Model 504 is a wellmade rifle, capable of excellent accuracy.

Adding custom barrels, however, can make this rifle much more versatile. The gunsmithing for this task is relatively simple and straightforward, requiring only the basic shop tools and some careful attention to detail. I

FROM THE ARCHIVE

Turn an Older Marlin Model 336 Into the New 336 XLR

Mechanically, the lever-action will still be a 336, but a simple modification or two will allow it to shoot farther, more accurately, and hit harder. Here's how.

BY CHICK BLOOD DECEMBER 2006

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So what happened to the Marlin 336 that resulted in the new 336 XLR? Once again, we can thank those clever folks from Hornady. About three years ago, they made the .22 WMR all but obsolete with the introduction of the .17 HMR. Last year, they blitzed the whole rimfire industry again with the .17 Mach 2, also known as the .17 HM2 or just the "Mach 2" if you like the sound of it better.

Not to be overlooked in these accomplishments was the cooperation received from firearm makers and the development of anew propellant powder. Those contributions being duly acknowledged here, Hornady's little V-Max bullet was the ringleader in causing all the upheaval. This year, another Hornady bullet, dubbed the Evolution, is transforming the venerable .30-30 into a longrange high-velocity game dropper. The new slug looks like a larger version of the V-Max. It's not.

The V-Max is a hard-nosed little demon; the new Evolution bullet wears an elastomer tip that flexes and is being made in .30-30 and larger calibers. Until the development of the new bullet, tube-fed lever-action rifles were obliged to use roundor flat-nose ammunition exclusively in their magazine tubes. The reason being the danger of a pointed bullet impacting the primer of the cartridge ahead of it due to recoil action, and thus touching off a doomsday chain reaction in the tube.

By combining the Evolution bullet with a centerfire case, we now have around of LEVERevolution' ammunition (correctly pronounced "Lever-Revolution"). No smokelesspowder lever gun presently made or to be made needs to be limited to using roundor flat-nose ammo from this moment on. That's a good thing when you consider the ballistic coefficient of a bullet.

The ballistic coefficient (BC) is a bullet's ability to overcome air resistance in transit compared to the ability of standard projectiles used to develop ballistic tables. The mathematical formula is: BC equals W/ID², with Wbeing the bullet weight, I its form factor (spire point, round nose, etc.), and Dbeing the bullet diameter. The BC of a 160-grain .30-30 Evolution bullet is 330. An average conventional dull-nose 150grain slug comes in at 186.

This is all very interesting if you want to reach for your slide rule or punch up a ballistics program on your computer, but how do those stats convert to actual performance out of a 24inch lever-gun barrel with factory loads? Hang on to your hat. The muzzle velocity produced by a .30-caliber 30-30 is immediately apparent. The difference in muzzle velocity and downrange performance is remarkable.

TURN AN OLDER MARLIN MODEL 336 INTO THE NEW 336 XLR CONTINUED

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They also eliminate the danger of a chain-reaction ignition in a tubular magazine. 30-30 LEVERevolution cartridge. Upon seeing it for the first time, the author wondered: "Why didn't I think of that?" LEVERevolution factory cartridge is 2,400 feet per second. The rounder flat-head factory cartridge exits at under 2,200 feet per second. Downrange at 250 yards, the .30-30 Evolution is still tearing along about 400 feet per second faster and leaves a wound cavity 50-percent larger than a dull-nose slug.

Comparative data is equally impressive for the LEVERevolution 200-grain .35 Remington, 265-grain .444 Marlin, 325-grain .45-70, and 325-grain .450 Marlin. So what does this have to do with the new Marlin 336

XLR rifle? The mechanics of the Marlin 336 XLR are identical to earlier versions of the 336.

It's disassembled and reassembled in the same way, and those instructions can be found in several reference works, among them, The NRA Guide to Firearms Assembly for shoulder arms and Gun Digest's book on centerfire rifles. The schematic is included here, but not for the usual take-down/re-assembly reasons. Instead, I'm using the schematic to point out the design changes made by Marlin engineers to enhance the accuracy of the rifle and take full advantage of the LEVERevolution cartridge potential.

And those are changes that you can make, too. The intent of the changes was to reduce stress on the barrel and make it as close to free-floating as possible. This was accomplished in several ways. A half magazine tube (#48) would cause less stress, so it has replaced the full-length tube. The barrel dovetail securing the tube stud (#53) was opened up slightly to reduce tension between the magazine and the barrel.

To reduce pressure between the receiver (#62) and the barrel (#1), the forearm (#25) fit was loosened somewhat at that juncture. The barrel has been Ballard rifled with six grooves and, after consultation with Hornady, was made 2 inches longer for greater accuracy. The other change in (continued on page 16)

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XLR rifles was made for calibers heavier than .30-30. A dimple was placed in the center of the magazine follower. This encourages the elastomer nose of larger Evolution bullets to stay where they're supposed to stay.

More specifically, it keeps them directly aligned with the cartridge base immediately ahead and avoids a jamming problem that might occur when the round enters the existing bulge at the receiver end of the tube. (At that point, tridge is subject to shifting one or another, which could allow ip of the following round to become wedged between the case rim and the interior of the tube.

This, of course, prevents any further movement to the rear.) The dimple acts as insurance that the bigger cartridges will behave themselves and enter the feed mechanism without canting. Marlin may not want me to mention this, but it isn't absolutely necessary to own anew 336 XLR to join the LEVERevolution. Any 336 in good condition will do, and do better with the new ammunition.

The possibility does exist, however, that LEVERevolution rounds larger than .30-30 might cause the late-rou ra follow the lead of the Marlin engineers and avoid such jamming. Here's how you can do it: Remove the inner magazine-tube spring (#52) and follower (#49) by backing out the magazine-tube plug screw (#51) and withdrawing the plug (#50). Secure the follower in a lathe, and install a center drill in the tailstock.

Turning the machine slowly, drill a starter hole in the center of the follower no more than 1/8-inch deep. Widen the hole with a larger drill equal in diameter to the middle of the elastomer tip. Replace the drill with a 1/4-inch-round countersink. Chamfer the hole very carefully, but don't carry the chamfer depth beyond 1/16 inch.

You simply want to make it easy for the point of the Evolution bullet to find a comfortable home in the follower and like it enough to remain in residence until called upon to enter the receiver. Many years ago, I gave my Marlin 336 in .35 Remington to one of my preteen cousins in Maine. She

repeatedly embarrassed her father for many deer seasons thereafter by bagging some nice whitetails while he got skunked.

I plan to call and tell her to send the magazine follower and spring to me so I can enhance it with a dimple. Then she can continue to turn Daddy's face red at even longer ranges as a "LEVERevolutionary." I may well join her in what I expect to become a growing movement. It all depends eck out some ammo in 894 Winchesters. Previously on duty as a tower-guard rifle in a Michigan prison, it still wears an armory ID of '10 on its stock.

This '94 has helped me succeed in the woods many times, and has helped win sporting-rifle matches more than once. I'll decide whether or not to become a LEVERevolutionary after my little outing with #10. I have a hunch what will happen. From then on, going after game or targets with dome heads in my lever guns will be (pun intended) "pointless." I

SHOTGUNS

Stalking the Wild-Walnut Stain and Stock Filler

The author readily admits he might have taken the do-it-yourself idea a bit too far, but you'll probably enjoy reading the story nonetheless.

BY PAUL MAZAN DECEMBER 2006

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In my article last month on renovating an old shotgun, I mentioned using a home-made walnut stain and stock filler. Walnut stain is pretty inexpensive stuff, and there is really no reason you should feel obligated to make your own, but real do-it-yourselfers will probably relate to my story. I was trying to complete a project that had been hanging around my shop for several years't hat of making my own muzzleloader, one part at a time.

I bought the pieces I couldn't make like the stock blank, barrel, buttplate, lock, and triggerguard, but made every other part from scratch. When I finally got to the stock finishing, my mind turned to stains, slipped acog, and took the hard way out. I had always assumed that walnut stain came from walnut shells. But a quick search on the internet taught me that it actually comes from the husks that surround the shells.

That eliminated simply buying some walnuts at the store and concocting a stain from their shells. No, finding some husks would mean venturing into the uncharted wilds of the wooded area where the wild and dangerous walnut grows. Planning an outing of this type is not for the faint of heart.

One must first determine when the season opens. (It hardly makes sense to go hunting for wild walnuts if there are none to be had at the time you go.) So, some study revealed that, like most nuts, walnuts were best hunted in the fall of the year. "Ah ha!" I exclaimed. No wonder I see so many nuts running around the woods in the fall. After watching innumerable hunting programs on

TV, you can imagine my shock upon discovering that there were no professional outfitters in my area that organized walnut hunts!

Without an outfitter where would I find a professional hunter with knowledge of the game, where to find it, and to help me distinguish between the trophy nuts and the ordinary ones? Where would I find pack animals and hired hands to carry the gear, set up camp, and cook sumptuous dinners after a hard day hunting? No lodge to stay in? No bubbling hot tub to soak away the day's pains and bruises of the hunt? How can the civilized man be expected to venture into the wild without these basic necessities?

Thank goodness I live in the Midwest or my reputation as a gentleman hunter might have been ruined. Here, in the rural center of America it is not all that uncommon for a hunter to actually venture into the wild by himself, without benefit of the accouterments one typically sees on televised hunting shows. As September came, I realized that if I wanted walnuts, I was going to go it alone'without the benefit of a hunting lodge or even a professional guide.

Certain that this trip would never make it to the Outdoor Life Channel, I left my bush jacket, snazzy khaki shorts, custom rifle, and fedora at home. Instead, I slinked into the woods dressed in blue jeans, insect repellent, and carrying my own fivegallon buckets. I looked more like a farmer out to slop the hogs than the intrepid outdoorsman I know in my heart I am.

Once in the woods, I set up my spotting scope, and started scanning the trees for "walnut signs." Soon, I spotted the little

green balls of walnut husks in the trees. (I assume the wild walnuts leave a few behind on the tree as long as possible to act as sentries and to alert the pack should predators invade their territory.) Next came along cautious stalk. In the best TV hunting tradition, I was careful to keep upwind of the tree at all times, using every piece of available cover to conceal my movements.

I moved from bush to tree to clump of grass in a low belly crawl, bringing my buckets up behind me in a drag bag. Suddenly, I came around the last bush and before me was the prize I had been dreaming about all summer. A pack of wild walnuts lying peacefully on the forest floor'completely unaware of my presence. The moment of decision was upon me. Would the pack stampede as I fell among them? Could I pick out the real trophies before they all disappeared?

Nerve-wracking moments passed as I tried to plan the best strategy. I decided to start picking off the stragglers one at a time from the edge of the pack so as not to spook the others. I quickly filled my buckets and beat a hasty retreat to my truck, all the while keeping an eye out for the ferocious saber-toothed fox squirrel that is rumored to inhabit these woods. Soon I was on my way home with two buckets full of prime specimens.

When I got there and told the tale to my wife, she suggested that perhaps I'd watched one too many hunting shows. Women just don't understand this adventure stuff.

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In a couple of weeks, the husks will have turned brown and can be shucked. Dried husks can be saved for future use. In any case, making stain from walnut husks is the silliest process you can imagine. The husks come from the tree green and are impossibly bonded to the nut within. The first thing you have to do after collecting them is wait for a couple of weeks as they slowly turn from hard green balls into a soggy brown mess.

Then, wearing rubber gloves (unless you want to have brown hands for the next several weeks), you separate the slimy husks from the nuts. If you want waterbased stain for immediate use, you can mix some of these slimy husks with water at this point to make a powerful stain. Surprisingly, you can save this stain for quite some time. I thought it would soon grow fascinating things in the bottle'm olds, fungi, creatures from other planets'but after several months I've seen no evidence of any growth at all.

I assume the mixture is rather acetic and retards the growth of microorganisms. To be on the safe side, the best bet is to make up only as much as you need for immediate use, and then spread the husks out on a piece of cardboard and let them dry. Once the husks are dry, you can break them into the smallest pieces possible. A powder would be ideal, but small chunks work just

fine. This way you can store them forever and mix them with water to form stain anytime you need some.

I got the bright idea of making a solvent-based stain, and tried mixing them with odorless mineral spirits. I can't tell you why this doesn't work, but those tiny chunks of walnut husk that turn water into stain in just a day or two simply refuse to dissolve or release their brown color into mineral spirits. After weeks of soaking all I had was a yellow-colored liquid that looked a lot like a urine sample. My next choice was an alcohol-based stain.

Filling a small canning jar about 1/4 full of dried walnut husks, I added regular rubbing alcohol to it and set it aside to see what would develop. Unfortunately, not much happened, so I cut it 50 percent with water and got a stain of dubious quality. The idea was to produce a stain that evaporated faster and did not raise the grain, but with enough water to increase the drying time. My advice is to simply stick with water for a solvent unless you're the adventurous type that likes to experiment.

I also found it possible to make my own stock filler by placing the walnut husks with just enough water to cover them in a blender and letting it run until the mixture is about the consistency of a thick milkshake. The filler is then slathered onto the

stock across the grain to fill the pores in the wood. Once the "slurry" is dry, you simply sand the stock down with your preferred grade of sandpaper and the grain will be filled. An extra bonus is that the stock will also be stained at the same time.

Two notes of caution are in order here. One, don't use your wife's blender! You and I know that this is a waterbased material and will wash out. That's just logical. Your wife, however, will see you put dirty, smelly stuff into her blender and logic will go out the window. I know because my wife walked in just as I had a handful of hulls poised over her blender ready to drop in. A scream rang out and for a moment I thought the tornado siren had gone off.

My explanations regarding the nature of the hulls and the fact that she had not actually used the blender in years fell on totally deaf ears, and the project was put on hold for a few days. Save yourself a world of aggravation; go to a local resale store or flea market and buy your own blender. I got mine for \$3 (about the price of a bottle of commercial walnut stain). Second, should you decide to store any leftover stock filler, fill the container only about half full.

Little did I know that, over time, the hull material in the mixture would continue to absorb water and expand. This makes

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it less effective as a stock filler, and if you fill a tightly sealed container with the mixture, one of two things will happen: Either the container will break from the pressure that builds up inside (staining anything in the surrounding area), or when you open the container, like I did, the contents will leap out like a Jack-in-the-box or the creature from the 1950's horror picture *The Blob*. "Run, run for your lives! Oops, sorry, that cog slipped again.

Picture a canning jar in the middle of your workbench with your freshly sanded and prepared stock ready for finishing. You start unscrewing the cap, and the next thing you know a blob of stuff shoots out of the jar. You stare in horror and reach for a rag to wipe it off, while this volcano is spewing forth a thick mixture that is

running under your freshly sanded stock. You react, snatching the stock off the bench, spattering the wall, bench, and tools in the process.

About that time the flow of filler reaches the edge of your bench, runs onto your belly, staining your shirt and the skin beneath it. You react involuntarily, jerking back and allow the mixture to run off the bench and onto your shoes and into your socks. But hey! I saved a couple of bucks and made it myself. Now that I have enough dried walnut hulls to last me a lifetime, I wonder how cherry and maple stains are made? What color would I get if I did the same thing with hickory hulls? Hmm.

Come September, I think I'll plan another trek into the wilds of a Midwest wood lot. Once the bug bites, it itches and a real guy has to scratch what itches. I

PEOPLE & COMPANIES

Disassembly of the Remington-Keene Bolt-Action

A real find for a collector or cowboy shooter, the Remington-Keene is an early big-bore bolt-action that's fed from a tubular magazine.

BY DAVID R. CHICOINE DECEMBER 2006

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An interesting old rifle, the Keene, manufactured from 1880 through 1888, was Remington's first commercial-production bolt-action rifle. Not many Remington-Keenes were made; the total quantity of weapons produced is estimated to be about 5,000. This was a unique design. The Keene had an external, manually cocked hammer and, like other contemporary lever-action rifles, it sported a tubular magazine mounted under the barrel. The Keene magazine shows a strong U. S. military influence.

It was equipped with a manual cut-off device to allow the rifle to be used as a single shot if the shooter desired. As the bolt is closed, the Keene's hammer is automatically placed into the half-cock position from where it must be manually pulled back into the cocked position before the rifle can be fired. Once the hammer is in the half-cock position, the bolt remains locked closed. Remington offered the Keene models in a sporting-rifle version called the Hunter's Rifle with a 24-1/2-inch round barrel.

Half-round/half octagon barrels were available on special order, while carbines were made with 20- to 22-inch round barrels. A

special Navy Model rifle used a 29-1/4-inch barrel, while the Army Model rifle sported a typically long 32-1/2-inch round barrel. Both military versions were stocked almost to the muzzle. The U. S. Army models were purchased for trials in 1881, but the Army purchased no Remington-Keenes after this. A run of 250 Navy Model rifles were procured by the U. S.

Navy, then issued to the Marine Corps for field tests. To my knowledge, no further orders came out of the Navy/ Marine Corps tests. Remington also made a so-called Frontier Model sporting a 24-inch round barrel for the U. S. Department of the Interior around 1881 to 1882. It's estimated that upwards of 800 of these were purchased by the department, then issued to Indian Police.

The Remington-Keene is one of those great, over-built, early bolt-actions, and as you might have guessed, it was available in .45-70 caliber Government (the largest quantity produced), .40 caliber, and in .43 caliber. Remington supplied the rifles with a standard blue finish along with a casehardened hammer and rear band. Straight-grip wal-

nut stocks were standard. Top of page: The Remington-Keene was an early, big-bore bolt-action that had a ton of class.

Pictured here is a 20-inch-barrel carbine in .45-70 from the Ed Wade collection. Author photos. While pistol-grip stocks, checkering, and extra-fancy grades of walnut stocks were also optional. Disassembly Procedure 1. As always, let's be sure the rifle is unloaded before we handle it. Grasp the rifle around the wood, just forward of the trigger guard, being always mindful to keep your fingers away from the trigger (#10) and to keep that muzzle pointed in a safe direction.

With your free hand, open the bolt (#29) by pulling up on its handle and then pulling the handle all the way to the rear. If the bolt won't open, pull the hammer to the rear to cock it and then open the bolt. If a cartridge is present in the action resting on the carrier (#4), reach in and remove it. Now is the time to check to see if more cartridges are present by opening and closing the bolt. Don't turn

DISASSEMBLY OF THE REMINGTON-KEENE BOLT-ACTION CONTINUED

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This occurs once you have removed the carrier screw, allowing the carrier to drop down far enough for the bolt to pass by. That lever and spring go in between the trigger and the carrier on reassembly by pushing on both parts. the bolt handle down, which would lock the bolt; instead simply push the bolt all the way forward and then pull it all the way back several times.

If no cartridges come up into the carrier, flip the cutoff lever (#14) in the opposite direction and try cycling the bolt several more times until you're sure no more cartridges are going to present themselves in the carrier.

2. Removing the bolt begins by closing the bolt and unscrewing the carrier screw (#49). This is the large screw located on the right side of the stock, just above and forward of the trigger. Be advised that the carrier screw is a left-handed thread, so it must be turned out clockwise.

Its thread is also a large square or Acme thread. As the carrier screw comes out, lift it out of the rifle and you'll notice that the carrier itself has dropped down slightly below the level of the stock. Open the bolt and pull it straight out to the rear. When it comes

time to reassemble the bolt into the receiver (#1), insert the bolt and push it forward to within about an inch of being closed.

Then, grasp the carrier on its top and bottom sides by reaching into the top and bottom of the action opening and grasping the carrier with your thumb and forefinger. Manipulate the carrier around until you see the pivot hole in the carrier align with the carrier-screw hole in the stock. Now you can reinstall and tighten the carrier screw. 3. To remove the Keene's bands and magazine tube, unscrew and remove the front band screw (#25), then slide

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1 Receiver 2 Barrel 3 Trigger Guard 4 Carrier 5 Carrier Catch 5a Carrier Catch Lock (not shown) 6 Carrier Catch Spring 7 Trigger Lever 8 Trigger Lever Spring 8a Trigger Lever Spring Screw 9 Trigger Lever Pin 10 Trigger 11 Trigger Pin 12 Upper Tang Screw the front band (#24) forward and off the barrel. For reassembly, notice that the band-screw head is on the same side as the bolt handle. The lock-rib (#23) is now loose, and it will slide out to the front.

The rear band (#22) is also loose and will slide forward and off the barrel.

Take note of what is up and down on the lock-rib. (I like to mark the top side of the lock-rib with a brightly colored marker.) Also, for ease of reassembly later, note how the 13 Lower Tang Screw 14 Cutoff Lever 15 Cutoff Lever Screw 16 Cutoff 17 Cutoff Spring 18 Draw Screw 19 Magazine Tube 20 Magazine Follower 21 Magazine Spring 22 Rear Band 23 Lock-Rib 24 Front Band 25 Front Band Screw 26 Front Sight rear end of the lock-rib locks into the rear band.

Insert a large screwdriver into the slot at the end of the magazine tube (#19) and unscrew the tube in a counter-clockwise direction. Pull the magazine tube

along with the magazine spring (#21) and follower (#20) out through the front of the stock (#48.) The rear sight (#27) is retained by two screws (#28) located on top of the barrel.

Remington-Keene Bolt-Action Rifle 27 Rear Sight Assembly 28 Rear Sight Base Screws 29 Bolt 30 Ejector 31 Ejector Screw 32 Extractor 33 Extractor Plunger 34 Extractor Spring 35 Striker Lock 36 Striker Lock Spring 37 Striker Lock Screw 38 Striker 39 Striker Spring 40 Fly 41 Sear 42 Sear Link 43 Bolt Sleeve 44 Striker Spring 45 Hammer 46 Link Screw 47 Hammer Screw 48 Stock* 49 Carrier Screw 50 Buttplate* 51 Buttplate Screws* 52 Rear Swivel* 53 Rear Swivel Base Screws*
*Not shown 4.

Remove the trigger guard by unscrewing and removing the upper and lower (#12 and 13) tang screws. Pull down on the rear of the trigger guard (#3) to remove it from the stock. Hold the barreled action assembly and lift the stock off the bottom of the receiver. The carrier (#4) is now loose; it can be lifted up and out of the receiver. Notice the carrier-catch lock (#5a) on the right side of the receiver. This part is now loose and can be lifted out of its

DISASSEMBLY OF THE REMINGTON-KEENE BOLT-ACTION CONTINUED

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hole in the receiver. The buttplate (#50) can be removed by unscrewing and removing the two buttplate screws (#51). 5. Disassembly of the carrier, receiver, and trigger guard come next. The carrier catch (#5) and its spring (#6) simply pull out the right side of the carrier. Use a pin punch and hammer to drive out the trigger pin (#11), and then the trigger (#10) can be lifted out of the bottom.

Unscrew and remove the cutoff-lever screw (#15) and lift off the cutoff lever (#14), cutoff spring (#17), and cutoff (#16) from the left side of the receiver. Be sure you make careful note of their positions for later assembly. Use a pin punch and hammer to drift out the trigger-lever pin (#9) from the trigger guard and lift out the trigger-lever assembly (#7). Unscrew and remove the trigger-lever spring screw (#8a) and remove the trigger-lever spring (#8). 6.

To begin disassembly of the bolt, hold the hammer (#45) back slightly and twist the bolt sleeve (#43) to the left (counter-clockwise) about onehalf turn until the tooth on the sleeve leg comes out of the slot on the bolt (#29). Pull the entire striker assembly out to the rear of the bolt. Unscrew the ejector screw (#31), then use a small screwdriver blade to push up on the extractor slightly and lift out the ejector (#30) from the front of the bolt face.

Notice the ejector also acts as a hardened firing-pin bushing. Mount the bolt in a padded vise and use a stiff punch to depress the extractor plunger (#33). Carefully pry the extractor (#32) straight up until it comes off the bolt head. Gently release tension on the extractor plunger, then remove it and the extractor spring (#34) from the front of the bolt lug.

Unscrew and remove the striker-lock screw (#37) from the bolt knob and lift out the striker-lock spring (#36) and striker lock (#35) from the bolt handle. Take note of the direction the striker lock faces for later reassembly. (If you replace it backwards, the rifle will work, but the bolt operation will be stiff.) 7.

To disassemble the Remington-Keene's striker, loosen the striker screw (#44). Unscrew and remove the hammer screw (#47) and the link screw (#46), and lift the hammer (#45) off to the rear of the bolt sleeve (#43). Pull the striker assembly (#38) out to the front of the bolt sleeve. The fly (#40) can then be lifted off the left side of the sear (#41). Further disassembly of the Keene's striker is not recommended for normal maintenance. I

FINISHING

Reader Forum

BY AMERICAN GUNSMITH EDITORS DECEMBER 2006

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Gun Kote Bead Blasting In the August 06 issue of American Gunsmith, I noticed you discouraged blasting with glass beads as a preparation for Gun Kote finishes. Your rationale? I consider aluminum oxide a little too aggressive for blasting aluminum parts, and have been using glass beads for quite some time, albeit with the occasional chip in the finish after hard use.

After the glass-bead blast, I scrub the parts in hot soapy water, then rinse in boiling water, and always handle them with nitrile gloves, so if there is any residue, I've gone along way toward removing it. I have used a bake-on coating product from KG Industries, also called Gun Kote. I'm not sure if it's the same stuff. I don't recall reading anything advising against glass beads in their instructions. Perhaps I missed it.

Based on your depth of experience, maybe I'll take it on faith and get some aluminum oxide, and reduce the air pressure or increase the distance to the part. But I'd be interested in your rationale nonetheless. Sam Burford Fremont, California The technique for applying the featured product was related to precision surfaces and the

maintenance of very close tolerances. Hence, the advisory to use #2 or finer blasting sand and nothing coarser than 100-grit Alox.

Using medium or fine-mesh glass beads in surface prep can cause the final finish to chip or peel. This might not present a problem other than cosmetic on a buttplate or triggerguard, but definitely would interfere with holding a critical dimension to the required thousandths. Sako Scope Rings I have a Sako Finnbear Model L61R rifle, serial number 6508. It has tapered, built-in dove-tailed bases. I would like to know about the availability and where to buy factory rings for this particular rifle.

I would also like to know when this rifle was made and any other information you think might be useful. I find the content of your articles in AG very interesting and informative. Thank you. Your Finnbear was manufactured in Finland. In 2000, Beretta Holding Co. purchased Sako and presently distributes those products on this side of the pond through Beretta USA. We aren't positive the Finnbear remains in the lineup, but you can call Beretta as a starting point in your search for information on scope rings.

Star PD Sight Replacement I'm an armorer with the San Carlos Police Department and not a gunsmith. I am a subscriber to American Gunsmith and have been a member for many years. We as police armorers are parts changers and not gunsmiths per se, but I enjoy your publication anyway. I have an officer in my department who carries a Star PD (.45 cal) auto pistol as an off-duty weapon. He broke off the rear sight blade and purchased another blade from a parts supplier on the internet.

He brought the new rear sight blade and screw to me to install. My question is: How do you remove the rear sight assembly from the slide? Also how do I get the roll pin that holds the screw with the rear sight blade from the assembly? We don't have any punches that are small enough. The pin appears to be the diameter of a #56 drill (.046 in.) Is this something I should pursue or should I send the officer to a real gunsmith? Your help and advice would be greatly appreciated. Thank you.

Herman Woon San Carlos, California First, a schematic for the Star PD appears in Gun Digest's book of exploded handgun drawings. You should have one on hand. The roll pin you mention should be drifted out with the proper-diameter roll-pin punch (Brownells) to avoid damage to the pin. We always suggest drifting a roll pin only enough to release the part it retains and not removing it totally from any supporting structure. This makes reinstallation much easier and, again, lessens the prospect of damaging the pin.

You will also have to back out the rear-sight windage spindle. Don't attempt to drift the entire assembly to the rear. You'll wreck the elevation spring located in the slide just under the forward end of the rear sight. Snub-Nose Hi-Power? A client recently brought me a semiauto pistol for a cleaning. The only writing on it is "Fabrique Nationale D'Armes De Guerre Herstal Belgique" and "Browning's Patent Depose." It has no model number or name.

On the barrel at the ejection port is written "cal 7m/m 65." The serial number is 39448. The front portion of the slide' about 1 inch, including the front sight'was taken off by the client. I'm assuming this is the reason I can't disassemble it. It's jammed. I can force the front portion with front sight back on the slide, but I still cannot disassemble it. I can move the slide only about 1/4 inch.

I was thinking that the only way I could try would be to push out all the pins including trigger, grip safety, and a couple of others. I also realize this may make matters worse. Sorry for the convoluted description, but I don't have much to go on. I can't find anything in any of my books that looks similar. Thank you. We think you have a Browning Hi- Power, Belgian made, and we hope you find a polite way to admonish its owner for cutting off the pistol's nose.

Hopefully, you can disassemble it eventually by referring to the NRA Guide to Firearm Assembly or Gun Digest's book dedicated to the disassembly/reassembly of pistols. Failing that, take the grips off the gun and toss it into a deep pan of mineral spirits or white kerosene. Flush the weapon out frequently to

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clear it of loosened deposits, blow it dry, and lightly lube it inside and out. Of course, the ultimate solution might be to inform the owner that the pistol has to be returned to Browning for a new slide and whatever other changes are required to make it serviceable again and all costs are on him. Shotgun Suggestion I've been a member for a number of years and really enjoy your monthly publication. I look forward to receiving it and feel I gain a great deal of information from the articles.

I would like to suggest that consideration be given to including articles on shotguns that are used in competition: in particular, the shotguns favored for ATA, NSSA, sporting clays, and Olympic trap and skeet (to name a few, Perazzi, Krieghoff, Browning, Beretta, and SKB). These shotguns are not covered in the "assembly" books published by the NRA or other publications.

I think you would find a great deal of interest among the membership because shooters who use the aforementioned shotguns shoot a lot and their shotguns require many repairs and routine adjustments. Moreover, these shooters are always looking for ways to improve their firearms to avoid missing those targets. A lot of those older guns need their forcing cones elongated, triggers smoothed up, locking mechanisms tuned/adjusted, and so forth. Thanks for a great publication and keep up the good work.

Thanks for a good suggestion, Dan. A series on competition shotguns is in the works even as you read this. It will begin with a Remington Premier Trap model, include at least one Beretta, plus the

Krieghoff and Perazzi. One reason the latter two shotguns haven't appeared sooner is their cost. Both start out with a suggested retail price in excess of \$4,500, and can run to \$10,000 or more. We've always believed that most of our readers tend to shy away from working on competition shotguns with such high price tags.

You've changed our minds to a point, but please don't ask us to tackle a Purdey or Holland & Holland best double. Charter Arms Conversion I had a Charter Arms Pit Bull 9mm Fed. five-shot (serial #1068926) come into my shop. Seeing that 9mm Fed. is an obsolete ammo, can this gun be converted to .38 Special or some other modern ammo? Or is there a moon clip available that uses 9mm Luger? Thank you. Charter made the Pit Bull back in the 1980s to fire the Federal 9mm.

The ammo and subsequently the revolver were discontinued. Yes, Charter can convert it to .38 Special. You can call Charter Arms in Connecticut at Powder Coat Disadvantages Your powder coating article in the March 06 issue neglected to address the disadvantages of powder coating. As a commercial applicator of thin-film polymer coatings specializing in firearms refinishing, we also have a custom powder-coating business.

Where typical polymer coatings are applied from .0003 to .0007 inch thick, the factory-recommended powder coating thickness is from .003 to .005 inch. This is 4 to 17 times thicker than polymer coatings and is too thick where tight tolerances are required. In addition, powder coatings do not have the anti-friction additives found in thin-film Teflon and moly

coatings. When cleaning a powder-coated weapon, you have to be very selective as to what cleaner you use. Many solvents will dissolve powder coatings. When preparing parts for powder coating, it is recommended that the parts be heated to 220 degrees for 15 minutes and allowed to cool, prior to application of the powder.

This allows any moisture that may be trapped in cavities or pores to flash off before it is painted so the gas doesn't blow holes through the coating after the powder melts. As with all coatings, a phosphate conversion prior to application is strongly recommended, as this will enhance corrosion resistance and promote adhesion of the coating.

For reliability, corrosion resistance, and ease of cleaning, I personally recommend thin-film polymer or ceramic coatings, which can be applied to all surfaces, including threads. Ollie Daw Elberta, Alabama Good points, Ollie. Thank you. L. C. Smith Restoration I have an old L. C. Smith double barrel, 12-gauge, hammered shotgun. It is not in good condition. I need an exploded view. Also, I need a right hammer and the retaining screw. Can you help me? There are no drawings on the early L. C.

Smith or Hunter Arms exposed hammer shotguns. The L. C. Smith hammer guns used Damascus barrels until 1919, when Royal Steel barrels replaced them. If your gun has Damascus barrels, modern high-brass loads could easily unwind them. We suggest you send a photo of the gun plus information on any markings it

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(continued from previous page) bears to the NRA Museum (Waples Mill Rd., Fairfax, VA 22030). Include a self-addressed, stamped return envelope. If the reply comes back indicating that your gun does have Damascus barrels, there's a chance it still may be possible to restore it to usable condition by installing Briley full-length tubes.

This would require a reduction in gauge (for example, your 12 gauge would have to become a 28, 20, 16, or even 410), but you wouldn't have to worry about the barrels breaking open on you. You didn't mention whether your Smith was a percussion gun. If so, that could complicate matters further on the Briley conversion. Colt Challenger Assembly I received a Colt Challenger in pieces from a friend. With some help, I finally got the firearm back together. But for some reason there is no tension on the trigger.

The hammer is cocked but the pistol will not fire. I thought at first I had the trigger spring on the wrong pin, but it only seems to fit in one place. I do not have any disassembly/assembly instructions. As you can see I am not a gunsmith, just someone who enjoys firearms and once in awhile tries to help a friend. But now, I'm the one in need of help. John Smith Phoenix, Arizona Your Challenger is a post-war version of the Colt Woodsman Target Model.

The Challenger was discontinued in 1955, but if you purchase a copy of Gun Digest's book of disassembly/ reassembly instruction for auto pistols (Krause Publications;

you'll find applicable instructions along with similar information on 72 popular pistols and 250 of their variations. Building a Takedown Rifle I am looking for information on how to build a takedown rifle. I would like to use a 1903 Springfield rifle with a wood stock, but I'm not sure how the barrel, action, and stock fit together.

Pictures of takedown rifles that I have seen have a plate between the two stock halves that locks together with what looks like aside-by-side shotgun latch. Any information you can provide would be appreciated. Thanks. We've heard that a few '03 Springfields were transformed into takedown models back in 1920 or 1930.

As we understand it, the necessary work was performed by Griffin & Howe, Inc., formerly custom gunsmiths/gunmakers to the well-to-do at the original Abercrombie and Fitch on Madison Avenue in New York City. G&H is presently located in Bernardsville, New Jersey. We haven't spoken with anyone there regarding how the task was accomplished.

Perhaps, as was done with some Mauser rifles similarly converted, the receiver was internally machined to accept a lugged barrel and the barrel reworked from the shoulder rearward to provide such a lug. It could thereby be turned in or out quite easily to separate the barrel from the action. You might want to discuss your project with the G&H people or you could call the Custom Gunmakers Guild for a referral to one of their master metalsmiths.

In our opinion, however, it would be more economical and equally satisfactory in terms of appearance and accuracy to sporterize the Springfield '03 by ridding it of its military wood and pillar bedding the barreled action in a high-quality one-piece stock. Once that's been accomplished, all you would have to do is remove the stock to have a "takedown" less than half the stock of the original. Mossberg Parts I'm looking for that needle in the hay stack.

I've been looking for a lever (part #1351) for a Mossberg 402 .22 caliber. Awhile back, I talked to a gentleman named Lee from Texas, but I've forgotten his telephone number and address. Then, last year at the SHOT Show, I talked to a rep from Mossberg and she said that Lee has got a lever for the 42 and was going to make some, but again I don't have anyway to contact him. Would you happen to know how to get in touch with someone named Lee who specializes in Mossberg parts?

I've been a member of AGA since 1995, and have all the publications from 1991 on. Sometimes they have gotten me out of the fire. Thank you again for a great publication. Joe Pioche, Nevada We don't know who Lee is, but we're surprised the factory rep didn't tell you to call Vic Havlin at the Mossberg Collector's Association. If anyone has the part, he does, or he knows where you can get it. Oh, and don't forget to take notes during your conversation.

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