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DIGITAL ARCHIVE  
EDITION

# PRECISION ARMS WORKSHOP

AND THE AMERICAN GUNSMITH ARCHIVE

A TECHNICAL JOURNAL OF CRAFT, REPAIR & RESTORATION

# 022

ARCHIVE ISSUE NUMBER

INSIDE THE ARCHIVE

# PLASTIC STOCKS FOR THE DOUBLE SHOTGUN

HI FROM THE NEW GUY • CHECKING OUT AN OLD CLASSIC: THE COLT MODEL 1917 • FABRICATING OBSOLETE GUN PAR...

ORIGINAL METHODS. MODERN ACCESS.

ARCHIVE EDITION 074

DIGITAL ARCHIVE EDITION

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## FROM THE ARCHIVE

# Hi From The New Guy

BY AMERICAN GUNSMITH EDITORS FEBRUARY 2010

ORIGINAL PP. 2

During an interview, one of my favorite musicians quipped that he was really just a die hard fan who sometimes took the other side of the stage. I've been involved in the firearms publishing world for a few years now and that sums up how I approach this business. Yes, it's now a career, but this is much more than a job to me. As with my position as a small-arms instructor in the military, I will bring a hobbyist's enthusiasm to professional levels with American Gunsmith.

Between studies at the bench learning the fascinating intricacies of firearms, to studies at the range learning how best to use them, I've spent many enjoyable years involved in this field. It is a thrill to turn my vacation into my vocation. I've also been a "Belvoirian" for many years, having subscribed to all of Belvoir's gun titles at one time or another, including my all-time favorite gun magazine, the now discontinued Performance Shooter (anybody remember that one?).

As I transition from active duty back to the "real world," I hope to effectively fill Keith Lawrence's shoes. His impressive fifteen-year track record behind this desk has forged American Gunsmith into what it is today. As I settle into the position, feedback from you is

welcomed. My goal is to maintain the status quo of good features you've come to expect, and I have a line up of strong articles on my editorial calendar already.

These pages will continue to serve those hard-won bits of information that only a practicing gunsmith would know. In the coming months I'll be establishing resources that will further enhance the value of your American Gunsmithing Association membership, allowing us to serve you better by communicating new ideas faster and increasing member interaction.

Professional gunsmith, contributing writer, serious hobbyist, general gun crank, or whatever side of the stage you take, American Gunsmith will continue to be your resource for all facets of firearm repair and maintenance. Gunsmith Career Fair Brownells is hosting their 4th Annual Gunsmith Career Fair April 23–24 at the Des Moines, Iowa, Marriott Downtown. For more info visit I Have Money and Want to Give It To You! Need some extra cash?

Turn your gunsmithing ideas and expertise into a check sent to your mailbox (we pay pretty handsomely.) I want to discuss your article ideas with you. Contact me at our new editorial office. Email: Snail mail: American Gunsmith, #322, San Antonio, TX 78240

## HISTORY

# Checking Out An Old Classic: The Colt Model 1917

*Be wary of what the owner wants you to do with this classic revolver!*

BY CHICK BLOOD FEBRUARY 2010

ORIGINAL PP. 3-5

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In their own, tragic way Philippine islanders forced the US Army to adopt this large-caliber handgun. They had fought their Spanish masters for years in a quest for independence. That dream was crushed when the Treaty of Paris of 1898 ended the Spanish-American war and handed the islands over to the United States. The Filipino dream of independence refused to die. The major battles they'd waged and lost against the Spaniards resumed — and were lost — against their new enemy: Us.

Thereafter, the Filipino warriors adopted tactics employed by what is considered the greatest light cavalry to ever take up arms — the Native American Indians — and turned to guerrilla warfare. The approximate year of this transformation was 1899. Between then and the eventual end of hostilities (1901), U. S. field commanders in general and combat troops in particular painfully discovered the .38-caliber revolver cartridge they'd been issued was all but useless.

It had little or no effect on turning back a charge by natives hell-bent on gaining their freedom whose fervor was heightened by no one knows what. They got hit and just kept on coming, or faded into the bush to strike again when least expected. It was obvious. A larger caliber and a handgun to fire it were needed. The gun chosen was an improvement on Samuel Colts' Model 1889 and later entitled The Army Model 1917.

It was designed to discharge .45ACP ball ammunition by using half moon clips that held three cartridges each. In this configuration, it would not chamber the .45 Long Colt without alteration or replacement of cylinder. It still won't. The Model 1917 has a 5-1/2-inch, 1-in-16 twist barrel and weighs in at 2-1/2-pounds empty. Its as-issued single-action trigger pull falls between 5 and 6-1/2-pounds. Manual Inspection Good maintenance procedure demands safe handling.

Keeping the muzzle pointed in a safe direction and fingers clear of the trigger, pull back on the cylinder release and unlatch the cylinder. Once opened, visually and

physically confirm that all chambers are empty before proceeding. Having cleared the revolver, close the cylinder and cycle the action several times to check for smoothness. Examine the frame for S. Army Model 1917 featured here. cracks, then examine it more closely where the barrel joins up with it. Is the barrel tight or loose?

What shape are the grips, grip screws and front sight in? Pull the hammer back slowly. Does the cylinder bolt engage a cylinder recess? No? This usually indicates the cylinder is out of alignment with the bore due to a bent crane, or there's something amiss with the hand/cylinder ratchet relationship and the cylinder isn't rotating into its full lock-up position. As a result of the latter, the revolver is suffering a timing problem. Cylinders also get out of alignment when their crane has been bent.

Cranes can be straightened and cylinders realigned by swinging them out and rapping them with a lead ball bitt or leather mallet as follows. If misaligned left, strike downward or

## CHECKING OUT AN OLD CLASSIC: THE COLT MODEL 1917 CONTINUED

ORIGINAL PAGE 4

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The two components are installed as a unit in reassembly. close the cylinder and strike right. If misaligned low, strike through the frame to raise it. For a high misalignment, open the cylinder, invert the gun and strike downward. Correcting timing isn't this easy. For that you may need parts you can refit. Ah, there's the rub! Inspect the area where the trigger enters the frame. If you spot any reddish-brown deposit there (also known as rust) you can be reasonably assured more of the same is hiding inside.

Open the cylinder and spin it with your fingers. If it wobbles in any direction a bent ejector rod may be the reason. Confirm this suspicion by pressing the rod to the rear and releasing it smartly. If it doesn't return just as smartly it could indicate a weak spring. More than likely it's binding because it's bent. Bent rods are like bent cranes. You can fix them. Here's how. Lock the head of the rod between padded vise jaws and depress the cylinder to clear the ejector and ratchet from their recesses.

Carefully unscrew the rod from the ejector, then remove the cylinder, ejector spring and ejector rod from the crane. You must use a true surface for the next steps. Place the rod on the surface and give it a push in any direction. Keep your eyes peeled. The rod will wobble up and down where it's bent. Mentally or otherwise mark that spot. Wherever it's located, you can tap it on its high side with a small hammer, retry the true surface roll bit, and tap some more if needed. Keep this up until the wobble disappears.

But please, be careful of your true surface. They can be quite expensive to replace. Me? I've used a 12x12-inch However, it still serves as a guide and shows check points for service. square piece of half-inch thick plate glass for years. Close the cylinder. Does it latch into the frame crisply without additional pressure being applied in any direction? If not, check the thumb latch for smoothness of operation. Any sluggishness can be attributed to a weak latch spring, dirt or burrs on the latch, or its frame slot.

In the Model 1917, the safety is attached to the trigger via the safety lever (see inset of the sectional drawing.) In single or double action, this requires the operator to hold the trigger to the rear while the hammer falls. When the trigger is released before the hammer closes in on the cartridge the safety will re-engage and prevent impact upon the primer. Most if not all revolvers, rifles, and single-shot handguns and shotguns made today include their own versions of this hammerblocking device.

Maintain the gun in its unloaded condition and close the cylinder. Cock the hammer. Hold it back, press the trigger and allow the hammer about 1/4-inch of forward movement. Release the hammer. Does the firing pin stick out at the rear of the frame? It does? The safety is faulty. Leave the hammer down and try to rotate the cylinder. If it turns more than 1/64-inch the cylinder bolt has a problem and needs replacement.

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This and all other drawings appearing in this article were reproduced from Technical Manual 9-1295, courtesy of The Rock Island Arsenal Museum. Detailed Disassembly 1. Remove the crane lock screw and crane lock from frame right. 2. Push latch to the rear, cylinder to the left and remove cylinder/ crane assembly to the front. 3. Use wooden or plastic mallet to tap side of frame opposite the side plate to loosen plate and lift it free (Beware of sharp edges.) 4. Remove the latch and its spring from the side plate. 5.

Squeeze upper mainspring together with long-nose pliers. 6. Disengage mainspring from the hammer stirrup and remove spring from frame. 7. Remove the hand. 8. Drift the rebound lever pin to the right and remove the pin. 9. Lift the trigger off its pin. 10. Draw the hammer fully to the rear and lift it out. 11. Drift out the hammer stirrup pin to remove the stirrup, safety lever, safety and latch pin. 12. Back out the bolt screw to free the bolt and bolt spring. 13.

Disassemble the cylinder/ejector assembly from the crane as previously described. 14. Drift out its retaining pin to remove the firing pin. NOTE: Only remove the hammer and trigger pins if they must be replaced. These in addition to the stock and swivel pins are riveted and demand re-riveting when reinstalled. Inspection

Nothing out of sight when the side plate was on the revolver should be rusty, show signs of wear or appear to be damaged. No roughness should be present on latch surfaces.

The ratchet, ejector rod and crane must be clear of burrs. Check the ejector and latch springs for damage. Be certain the cylinder bears no rust, fouling or pitting. Do any smoothing up with an Arkansas stone and remove as little metal as possible. Pitfalls The Model 1917 went out of production in 1944. You know that means problems with parts availability. For sure, Colt has none available. What parts are to be found will exist in the aftermarket.

Gun Parts and Jack First are good places to start and Brownells free list of sources for out-of-production guns names some specializing in long-gone Colts. Even when you locate what's needed in the first few phone calls, some Model 1917 parts must not be considered "drop-in" replacements. Specifically, but not exclusively in this category, are the crane, cylinder and side plate. These, and others, were expertly fitted to the revolver when it was being built originally.

To fit correctly and function with another Model 1917 the original fit (Continued on page 21)

ting process has to be repeated. The only detailed guide providing information for duplicating the work previously accomplished as far as I know would be an Arsenal Repair Manual for revolver, M1917. The odds against locating one of those are astronomical. And what do you think the chances are of finding an old pro that has worked and re-worked these Philippine Insurrection warhorses for years and turning the job over to him? A little less than astronomical...maybe.

On the brighter side, there are members of the American Pistolsmiths Guild who have been there and done that. You can make an initial contact with them on the web: The Dark Side There's a fair to very good chance a given owner of a Model 1917 will grow displeased with its trigger pull. As a result, the revolver has been handed to someone, perhaps a buddy, for a trigger job. Neither know for sure how to go about it and botch the job. More often than less, whatever was done was overdone.

The firing system has been so mangled the revolver no longer touches off around with any reliability. A little heavy but dependable has been reduced to "it only shoots one in awhile," and you've been handed the gun to set it right. OK, at least you can talk a decent game. The usual suspects in these too-light-to-work trigger pull situations are a weakened mainspring, a worn trigger, a worn hammer-cocking notch or any combination of those three. Please look at the drawing of the trigger mechanism.

Compare the engagement angles at A, Band C to the same angles in the 1917 brought in for you to fix. If they're only slightly dissimilar to the drawing you may be able to correct the damage done with some fine stoning to re-conform and polish them. If they are too far gone, you have to go back to the previous paragraphs you read on "Pitfalls" and begin at least thinking about hunting for parts. Maybe a mainspring. Maybe a trigger. Maybe a hammer. Maybe all three.

If these were still the times when repairing a Model 1917 amounted to "junk the old and put in the new" because parts of all description were plentiful your encounter with a Model 1917 would be a snap to resolve. Class, those days are gone forever. AG

## METALWORKING

# Fabricating Obsolete Gun Parts

*How to Keep a Customer's Perfectly Good Firearm from Becoming a Paper Weight.*

BY GERRY RITACCO FEBRUARY 2010

ORIGINAL PP. 6-8

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I recently got involved with making some parts for a gun which the manufacturer no longer supports. The part is an internal extractor for a pistol that has a stamped steel slide with a breechblock that is separate and pinned inside. You have to remove the breechblock to get to the extractor, which is inserted into the block. One of the members of a forum that I frequent damaged the extractor in his pistol and then started to hunt for a replacement part.

After exhaustive pursuit, his conclusion was that he could only use his pistol as a paperweight as parts were nowhere to be found. I volunteered to help. His inability to find that part, which he posted on the forum, raised the concerns of many owners of that pistol and others in that series. That one small part could render many pistols useless with no source available.

One of the things I stress to gun owners is to save the broken part so a gunsmith will at least have something to physically measure and copy, even if it is in pieces. I was fortunate in this instance as I had the same pistol and could remove and measure the part so that I could reproduce it. Here are the considerations and processes that I

went through which I hope will help other 'smiths when faced with part reproduction. First, I had to consider the part itself; form, fit and function.

Having worked on pistols in general for some time, I realized that the claw geometry, spring tension, and relationship between the claw and breechblock face were the critical factors to consider. I sat down with calipers, micrometer, pad, pencil and calculator and went to work.

I have been involved with automation equipment design for many years and have a CAD (Computer Aided Design) system, so this allowed me to make a formal drawing of my part, but, believe me, I have and still work from pencil sketches, especially if I know what I am doing is a one-time deal. CAD work is very costly. Then came problem number two; at what tension do I set the extractor? The only way that I could figure how to put a number to the tension was to measure what it was in my gun.

The gun manufacturer considers that "proprietary" information and wouldn't help with the specifications. Anyone who has worked on 1911 style pistols with the internal extractor knows how critical the correct

tension is for proper case extraction. I removed my breechblock with the extractor and set it in a vise so the extractor was held in the same relationship as when in the frame. I took a digital fish scale, which I had previously modified to accept different hooks and added one appropriate for the extractor.

I then deflected the extractor .050" by pulling with the scale and took a measurement. The .050" was somewhat arbitrary but I wanted to be sure that at least the depth of the case groove was covered in the extractor travel and I wanted a distance that was reasonably repeatable. I made several repeated measurements and settled on a "number + some tolerance".

I was able to measure the tension from some other similar pistols at a later time to verify the tension and found that the 9mm and .40 pistols used the same tension, but the .45 ACP versions used a lighter tension by 2 to 4 lbs. at .050" My re-design takes into consideration the fact that the extractor is flat in its machined state, and then bent at a particular point and angle before hardening and tempering to give it the required tension.

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deflection. I ask people to tell me what caliber they have when ordering an extractor and tension it accordingly. The tension is a function of the material thickness, which is constant as manufactured, the temper of the metal after heat-treating, which I also make a constant by using the same process temperatures, and the bend in the extractor. I vary the bend to change the tension; the more bend, the more tension because of the way it sets in the breechblock.

Now, because the extractors are “tough” and not brittle after heat-treating, there is a certain amount of tension adjustment that can be made after treatment, however, I found that when I make a batch and measure them for tension, they can be sorted by tension and only a few of them require adjustment. I want to take a jump back to the “form” of the extractor.

Once the part was measured I determined that by milling the profile of the part I could make strips containing multiple extractors,

cut “blanks” off the strip and finish them up on my surface grinder in a fixture. Material selection for a particular part is important. I find that I can cover fit, form and function of most small pistol parts with either 4140 or 01 tool steels.

For some parts, either is definitely overkill but I have gotten used to working with these materials and the fact that they can be easily hardened and tempered in a small shop without exotic ovens and controls is what initially made them attractive to me. Both materials are oil hardening alloys. They are also available in the round or flat and 4140 can be bought prehardened to Rockwell C 28-32, which is still machineable and needs no further treatment but is very tough. This is a time-saver for some components.

Obviously, we all have our preferences when it comes to working with materials and I have found that I can cover a lot of bases with these two and only vary when absolutely necessary. These keep stock to a minimum

without sacrificing quality for the intended application. Also, in the case of this extractor, I need spring characteristics which can be obtained from both materials through the hardening and tempering process.

Once I settled on the material and produced the blanks from which the final parts would be made, I had to come up with some fixturing to allow me to hold the blanks while machining. The first was a very simple fixture, but adequate for proving out the design. I actually used this to manufacture four dozen extractors before making a better fixture. Having established my process and gaining some confidence in it, I made anew fixture that simplified set-up time.

This improvement allows me to hold the part more firmly because of the bar clamp vs. the cap screw on the old fixture. It

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also allows me to readily set the angle for machining the tip of the extractor claw without having to reset for each extractor. Originally, I used the actual pistol breechblock and extractor to determine the extractor tension. Because the gun that I borrowed these parts from is one of my carry guns, I needed a breechblock substitute. I made a breechblock fixture using the same approach as for the extractor: Measure, draw (in this case, a pencil sketch) and machine.

I made it from 01 and made it rock hard, Rockwell C 50-55, as I knew it was going to be used for testing every extractor and I didn't want these tolerances to open. The way the extractor fits the breechblock gives the extractor its preset or starting tension. After fitting to the test block I set it in a vise so I can use the scale to deflect the extractor for measurement.

To make my life a little easier, I made the hook of the gauge .050" thick and The new fixture simplifies set-up time, holds part more firmly due to bar clamp, and can used to readily set the angle for machining. This is the same as when using the actual breechblock for the initial measurements. The author deflected the extractor .050" to ensure the depth of the case groove was covered in the extractor travel. put a mark on the fixture; when the backside of the hook reaches the mark, I take my reading.

One other point, the gap between the face of the breechblock and the extractor claw is critical. The gap for these pistols is .060". I made the test breechblock dimensionally the same as the standard block so I can use a .060" feeler gauge to test this dimension while in the test fixture. Well, this all sounds like a lot

of work to make an obsolete gun part but in this particular case the number of guns involved warranted the work.

Once all set up, I can now take a blank and my fixture and make this part on a per-order basis. I keep a strip of the profile available and several blanks to make my life easier and more profitable. When I run out of blanks, I cut a few more off the profile strip. After the first onslaught of orders, I now get a reasonable flow of requests, which has added nicely to my weekly work schedule and income. Conclusion There really is no reason for any pistol to become a paperweight.

A little analysis of the broken part for form, fit and function and some simple tooling will open new avenues for business. The word soon gets out that you are more than a "parts changer" and life gets a little more interesting! AG

## FINISHING

# Plastic Stocks for the Double Shotgun

*Some easy application of fiberglass and epoxy can economically revitalize an old shotgun stock.*

BY SERGEY LYALKO FEBRUARY 2010

ORIGINAL PP. 9-15

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A boat and a shotgun stock have more in common than you might think. Boats were made with fiberglass and epoxy for along time. Normally, working them is not a difficult project for the do-it-yourselfer. In gunsmithing epoxy became an unsurpassed everyday material. In fact, we cannot make a step without it. Glass bedding stocks, metal finishes, and all kinds of repairs are just a few examples.

This article describes how to make an inexpensive stock using epoxy, fiberglass and simple technique borrowed from the boat-building tradition. While some plastic stocks are available on the market you won't find any for the Browning Superposed and its descendants, not for side-by-sides and not for many other guns. Some over-and-unders, notably Beretta and the Browning Cinergy, have a composite stock option, however, Cinergy stocks will not fit any other Browning and is still quite expensive to begin with.

My goal here is to discuss how we can take care of old guns used for practical hunting purposes when their owners are concerned with price rather than beauty or

tradition. In many cases mechanisms on these guns remain functional despite pitting, partial rust or other small damages. When a wooden stock on such a gun needs to be replaced, the owner has limited alternatives. One alternative is to replace it with another wooden stock, which may be prohibitively expensive due to overall poor gun condition.

This is like putting new luxury leather seats into an old rusty car just be Some weights should be used to prevent them from floating in the tank. The other alternative is to discard the gun and buy anew one, which is also a pity, especially if you were hunting with that gun for years. In this article I suggest the third alternative, which can make the gun perfectly usable with practically no investment. Our principle here is to make a reliable and convenient replacement stock at low cost.

I will illustrate the step-bystep procedures with a real, practical case. Making the plastic stock On my bench is the old Browning Superposed, used for more than 40 years for duck and geese hunting on salt water. Salt water destroys everything made of wood and steel and

## PLASTIC STOCKS FOR THE DOUBLE SHOTGUN CONTINUED

ORIGINAL PAGE 10

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this Browning is no exception. All the metal surfaces are pitted. The wood has decayed due to salt water and mineral oils. It had cracked and broke several times already and was “fixed” with tape, but practically became unusable. Despite all that damage to the metal surfaces and stock the internal mechanism remains quite sound and can serve much longer. The bores, though not shiny anymore, are also good. Thanks to a great design this gun does not have anything loose.

After all these years of faithful service the owner has certain sentimental attachments to this gun. So, we need a stock! This owner is indifferent to what it is – just strong, practical and inexpensive. Facing this problem I asked myself, do I want to make anew walnut

stock for this gun? I definitely did not. A good walnut stock takes along time to make and is an expensive part. A gun in this condition is not worth it.

Besides, it is already proven that the wooden stock is not practical in these particular hunting conditions. Then I asked, what is the cheapest way of making a strong stock resistant to salt water? After some time coming up with a complete procedure I felt it should be some kind of plastic. The easiest The thickness of this layer is important around action inlet and grip. Best plastic to deal with is epoxy.

It does not need any equipment and can be used with fiberglass tissue for building a strong shell around a properly shaped tem-

plate-model. This is where the boats are coming into mind. They were built this way for years since epoxy came into play in the 1960s. Applying this idea to the gunstock means that we would build a hard epoxy-fiberglass shell. The easiest fix, and possibly the only hope for this multi-barreled Drilling stock is the rebuild procedure described here. on the appropriate stock-template.

This shell by itself should be strong enough to perform as a stock, which means that template is not important after we are done. In general, the template can be made of any material and custom-fit to a shooter. In our case, however, the easiest is to make a template out of the old broken stock instead of making anew one. Obviously, whatever is left of

## PLASTIC STOCKS FOR THE DOUBLE SHOTGUN CONTINUED

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A one-inch extension was glued to the butt. The old stock has to be completely degreased, glued into one piece and reduced in size for making space for the new shell. The first step is degreasing parts of the old stock. My way of doing that is boiling them in detergent for quite awhile. Normally I put a piece of lead on the top of these parts to completely submerge them and avoid floating.

It is important to keep wooden parts at the bottom of the tank since during boiling the dark-brown grease from the old stock starts floating on the surface. I remove it with a paper towel. A straight stock would have

been much easier to deal with! Plastic film is used to adjust the thickness of epoxy-fiberglass adjacent to barrels. Boiling in detergent I boil parts in clear water to remove traces of detergent.

Such boiling makes the wood very porous, which is quite useful for my purposes since epoxy will flow into the pores and adhere to wood much stronger. After drying, all the pieces of the old stock should be glued together. The next step is removing enough wood from the surface to fill in with epoxy-fiberglass as you need on top. After preparing

the stock this way we are coming close to applying epoxy. Epoxy is the most expensive material used in this project.

However, for our purposes, any quality, color and consistency will suffice. I have used all types of new and old epoxies in my shop, among them auto-body filler, inexpensive epoxy wood-filler, small amounts of epoxy with an unclear quality, paste and liquid epoxies, and so on. I also use powdered fiberglass or aluminum for reinforcing some internal places of the inlet. Do not forget about epoxy release (Continued on page 14)

## PLASTIC STOCKS FOR THE DOUBLE SHOTGUN CONTINUED

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agent. The strength of the inlet and grip is the main concern for the strength of the whole stock. Internal parts of the inlet should be trimmed to free the space for epoxy-fiberglass and the action should be glass bedded after applying the release agent to it. Browning Superposed has a simple shape of the inlet, which is a seldom case for a double shotgun. Side-by-side guns normally have a much more complicated action inlet.

In such cases I first rebuild the whole internal structure before glass bedding the action. To illustrate that, I will step away the from

Browning Superposed for a moment and use an example of a more a complicated inlet, such as a Drilling (gun with three barrels) stock with all inlet structure destroyed. For restoring lost parts of inlet after complete degreasing we first need to fill them with epoxy gel mixed with fiberglass or aluminum powder. Actually, in this case I have used Acraglas Gel from Brownells.

After hardening we need to glass bed the action. Both these stages may require several steps with repeated epoxy buildup. Putting layers of fiberglass and re inforcements on

the template is easy, however, several rules should be kept in mind. First, start the job only after thorough application of the epoxy release agent on all parts of the action before inletting it. Second, fiberglass patches should be very well saturated with epoxy to avoid empty spaces underneath layers of fiberglass.

Third, the new stock skin is as good as your tailoring skills. The most convenient setup is having the template on a checkering cradle. The forend has a simple external shape but requires a good deal of care

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around metal inserts. In case of the Browning Superposed there are two round metal inserts for the forend cross bolt. These have to be carefully positioned and cemented (bedded) in the forend. Obviously, this procedure depends on the construction of the particular gun. Fitting forends to barrels becomes much easier when using “kitchen stretch” (cling-film plastic wrap) around the barrels.

It is easy to use and serves as a convenient substitute for the epoxy release agent on the wide areas, such as between the barrel and forend. Shaping stock and forend, removing excess of epoxy and fiberglass does not present any problems. Fortunately, this material is easy to shape with files and power sanders. The only caveat is to remember that the gun should fit the shooter and this is a good time for adjusting length of pull and other dimensions of the stock.

In the case of the Superposed I had to add a 1-inch long wooden extension, which was simply glued to the butt. Some space should be left for the layer of epoxy-fiberglass. The epoxy-fiberglass thickness is critical only in the inlet and grip areas where most of breakages take place. The butt part of the stock does not need much cover. After complete stock shaping I started

thinking about checkering. On one hand, checkering or some other roughness on the grip and forend is practical.

On other hand, checkering is too fancy and expensive for this kind of stock. I have decided to use a quite weird way of creating roughness on the stock – sand. Tape is used to frame the area where sand should be glued. This area then is covered with epoxy and sand just randomly thrown on top – the way you would put salt or pepper on a dish. Whatever sticks is left. After hardening, this area should be rubbed in order to get rid of the loose sand that is falling away or creating bumps.

I think this is a simplest way of creating pretty good roughness on the stock. My other alternative was to apply the Wrinkle Finish aerosol sold in hardware stores. I tried it but did not achieve as good roughness as I had with sand. The final step is covering the newly made stock with some kind of finish. My first and last choice is Dura Coat, [www.duracoat-firearmfinishes.com](http://www.duracoat-firearmfinishes.com). The application of this very useful finish was already discussed in American Gunsmith by Chick Blood.

This is an epoxybased paint, which means that it will strongly adhere to the epoxy of the stock and it is very strong by itself. This provides an additional way of covering all

possible imperfections of the stock and sand-roughness with Dura Coat is easy to apply and is ready to touch in about an hour. In my case the owner has chosen a Desert Brown color. This article described a quick process of building inexpensive and practical stocks for the old Browning Superposed.

This process, however, can be applied to rebuilding stock for any shotgun or rifle. The main goal of this project was to achieve the rock bottom price for a fully functional stock with good fit to a shooter. This approach is useful in cases when the firearm has lost its appearance and value but still is functional as a hunting tool, especially in salt water. In these cases creation of anew wooden stock is too expensive and impractical.

The total cost of materials for the described job, including Dura Coat, epoxy and fiberglass did not exceed \$50. Applied methods can be used for making fancy and nice looking stocks. Epoxy-fiberglass can be colored with brown-red dye and the surface finished with satin polyurethane and grip checkering. After such treatment, even a plastic stock will look like wood. However, that was not our goal in case of Browning Superposed. Functional or fancy, try building a stock like a boat for great results! AG

## MAINTENANCE &amp; REPAIR

# Reviving the Springfield Model 67 Shotgun

*Sometimes gunsmiths must perform work akin to that of a dentist making a bridge or a surgeon arranging bone fragments to their original state.*

BY NORMAN E. JOHNSON FEBRUARY 2010

ORIGINAL PP. 16-17

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**A**s a lady and her grandson approached me with an old shotgun, holding some of its parts in her hand, she had little hope that it could be repaired. At first view of the parts I wasn't too sure either. "This old gun was my husband's," she said, "and we hope you can fix it." To her grandson, an eager, young hunter, the broken gun held real sentimental value. I told them I would do my best.

The parts she handed me were a broken off tang that linked to the slide safety mechanism and the ejector that fastened inside the receiver of the Springfield/Savage Model 67 20-gauge pump shotgun. The ejector posed a lesser problem but the broken off tang was an entirely different matter. The part was made of anodized white metal.

The break was rough and jagged with a rectangular surface about 3/4-inch long. Shown are the broken surfaces at the underside of the tang and receiver and the slotted safety lever mechanism where the two parts mate. and 3/16-inches wide. The parts fit together like a broken handle from a cup. My first impression was to use a pair of small, steel dowel pins and J-B Weld to unite the parts. A Careful Analysis This small part was crucial to preserving the old shotgun.

There would be no replacement parts available, and if not repairable the shotgun would be worthless. The gun otherwise appeared to be in quite good condition. The broken part fit into a mortise at the upper forward aspect of the stock. A plunger extended beneath the thumb-operated tang safety with a flat friction-lock slide. The only segment of the part holding the

## REVIVING THE SPRINGFIELD MODEL 67 SHOTGUN CONTINUED

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This picture clearly shows how the thumb safety slides and plunger engages the safety mechanism below. broken tang was a unilateral jagged break on the right-hand side of the tang. I could still visualize the use of a pair of small, steel dowel pins extending downward into the receiver and upward into the separated part, bonded in place with J-B Weld. I had performed similar repairs before, but this one would be tricky.

Performing the Repair Work Further analysis revealed that the broken tang may have impinged on the stock with some force, and relief of a few pressure spots would be neces-

sary before doing the repair. The part had to fit into the stock mortise, and the stock would have to be on the gun as the part was tried for fit and finally bonded in place. So I carefully removed wood where some obvious pressure points appeared to exist. This would obviate further breakage.

With the broken part fitting freely, I marked where the opposing holes for the small dowel pins would go. I used .075" stainless wire as dowel pins roughened to hold the bonding agent. The pins were about .300" in length. A bit in the Dremel tool was used to make the slightly enlarged holes in the broken part and

the receiver. I made sure not to bore through Excessive pressure of the tang against the stock may have been a contributing factor to its breakage. the broken part, which left four blind holes.

With the loosely fitted dowel pins in place, the part was tried for fit to be sure the jagged broken piece would lay snugly in place, just like a dentist would try a bridge for fit before carefully bonding it permanently in place. I then applied release agent where there could be no bond (Continued on page 21)

ing along the edge of the stock and along the sliding rail where the safety spring was positioned. Accidentally bonding the sliding safety to the tang would spell disaster, rendering it inoperative. With everything ready, I mixed the J-B Weld material and carefully filled each tiny hole and the roughened, broken surfaces with just the right amount of material. Lowering the part in place while carefully aligning the pin holes went well.

The part was then taped to the stock with electrical tape and put aside to permanently set. I tried the safety to be sure it was working just to be sure. A small pin on the sliding tang safety lever must engage a hole in the safety that is attached to the receiver below. Moving it forward released the safety and all was well. The J-B Weld material must be allowed to set for several hours to harden and is ready for use in 24 hours. This is an amazingly durable material with many uses.

Barrel lugs and scope bases are commonly attached with it. Inspecting and Testing the Work With the cold weld firmly set, the safety was again tested for function, which worked perfectly. I then removed the stock to check for tang clearance. This, too, remained ok. I then decided to re-finish the butt stock and forend with Birchwood Casey's True-Oil, buffed some light rust from the barrel and cold blued it.

Given that the tang and safety repair worked out so well, I wanted the young hunter to have faith in those who could help him enjoy the fine sport of shooting. Conclusions Gunsmithing isn't always a cut-and-dried situation. Some projects involve considerable time and materials and still don't turn out as expected. Under the circumstances, I made every effort to get this old shotgun safe and ready for the boy. The expression on his face as he saw the finished gun would have been payment enough. AG

## FROM THE ARCHIVE

# Building the Gunsmithing Library: Part 2, Stock Working

*Having started your gunsmithing library with solid, basic texts, it's time to expand into specifics, beginning with stock work.*

BY STEVEN R. KERN FEBRUARY 2010

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Following the original publishing of the previously discussed Gunsmithing classics by authors such as Howe and Baker (American Gunsmith, October 2009), I think it is likely that some people read these somewhat general books and thought, "I could write a book on just one of the specific topics discussed by these earlier authors." Even before Dunlap could get his book on generalized gunsmithing published, this is just what happened.

Of course it is likely a little thing called World War II and military service delayed Dunlap's book by a few years! A series of three really important books on woodworking and stock work for the gunsmith were published following the Howe and Baker books. Alvin Linden's book called Stockmaking was first and very nearly predated World War II. The first printing of Linden's book was in 1943, the second in 1949, and the third in 1958. Many years later a publisher named J.

Martin, Inc. in Beckley, WV would produce 1,000 limited edition reprints in hard cover. Linden was such a fixture in the American gunsmithing scene his workshop was pictured on the cover of Dunlap's book and samples of his work were included in the second in this se-

ries, Checkering and Carving of Gunstocks by Monty Kennedy. The third book in this working with stocks series is Gunstock Finishing and Care by Donald Newell.

All three books are must haves for anyone wishing to build gunstocks from either raw or semi-finished blanks. Stockmaking is organized in a manner quite different from any other book on gunsmithing. The original book was actually three soft cover pamphlets, each with two full size fold out patterns. Linden slowly moves step by step proceeding in the most minute details on every individual procedure, including the fabrication of a wide variety of shopmade tools needed to complete the work.

Linden discussed exactly how to work a stock from a raw blank. There is no quick summary and glossing over on procedural steps, so the pamphlets are not a quick read. Linden has looked at the various boltaction rifles of his era, including the Model 1903 Springfield, the Model 70 Winchester and the Enfield. He begins the first pamphlet with the layout and inletting of the stock in general, and with specific instruction for the Model 1903 Springfield.

This information covers 38 pages of material along with over 40 sketches and additional illustrations. Linden's

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Above left and Originally published as three separate pamphlets, each contained two of these. comments, even though now decades old, still have much value for those who wish to make their own custom stocks. There is a detailed discussion on the disadvantages of buying semifinished blanks and much explanation of the advantage of complete control on all dimensions when working from a basic blank.

A gunsmith learning to follow Linden's instruction on layout and initial inletting will have a high level of accomplishment with just the use of simple hand tools and also a better understanding of how power tools might be employed on some tasks, such as sawing and routing. With the completion of the inletting, Linden states the real sweat and hard work remains hidden from view and likely forgotten by the buyer, unless it fails!

While shaping the blank appears difficult, he felt the hardest work has already been done and concealed when the rifle is assembled. In many respects, the meat of Linden's writing is what he called Book 2, Shaping of the Inletted Blank and

Alterations of the Model 70 Winchester. Of course, he is talking about what we now refer to as the pre-64 Model 70 and not more recent production.

Following general comments on inletting bolt-action rifles, thirteen pages of specific information on working with Model 70 stocks is included. This material on the Model 70 rifle alone would justify the purchase of Linden's book. The third and final pamphlet is entitled Gunstock Finishing and Conversions of the Enfield Rifle. Linden wrote about every finish available at the time and even then there were a bewildering number of choices.

In addition to the advantage and disadvantage of each finish, there are also detailed comments on the methods of finishing to include the fabled London Oil Finish, the use of fillers, and French Polish. The author also developed a technique he called "Suigi Finish." Basically, this technique involved the use of a torch in what he called a "light charring." Originally, variations of this technique were first used to disguise white colored maple on Kentucky style long rifles with fire and soot.

At its best, this finish helps draw out the tiger-tail maple and emphasize the grain in other woods as well. There are a total of ten pages of detail on the Suigi finish and another fifteen pages of comments on modifications of the Enfield rifle. Within Linden's pamphlets there are several illustrations of his work to call to the reader's attention. First is a Trap Door Springfield done in the style of an Officer's Model with a maple stock finished in the Suigi style and deluxe checkering.

Following is a Sporter Winchester 52 with a true lightweight barrel with design, fit, and finish far above the fabled factory offering. Finally, there are multiple views of the flowing lines, modified bolt action and deluxe checkering of a custom rifle transformed into a vision of everything a custom rifle can be, all from a base rifle that originally was as homely as any ever made.

Monty Kennedy's book Checkering and Carving of Gunstocks is the most detailed book on this specific topic that I know of and is essential for a gunsmith wishing to specialize in the specific area. Originally copy

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righted in both 1952 and 1962, my edition is the 16th printing. It was published by the Stackpole Company in Harrisburg, PA and is available from them or Brownells. In Part One of this book, Kennedy discusses every element of checkering stocks. There is some information on carving but the emphasis is checkering. For over 70 pages, he discusses every detail from tool fabrication, checkering design and layout through finishing.

In the years that have passed since there are many options for both hand tools and power checkering tools, primarily available from Brownells. It is unfortunate there have been no revisions to this book to reflect more modern options. In Part Two Kennedy literally turns the book over to the contributions of over a dozen different fellow craftsmen who discuss various patterns, tools, and techniques they use, sometimes differing from the author.

This the larger part of Checkering and Carving and, in addition to providing varying perspective on the topic, is also highly illustrated. The first co-author is Tom Shelhamer of Dowagiac, Michigan. He first be-

gan working with the Neidner Rifle Company, also of the same city for many years before going out on his own. Following the death of Alvin Linden in 1946, Shelhamer was widely considered the dean of American stockmakers. There is more information by Linden including some superior illustrations of his work.

Additionally, the other well known contributors are the late Keith Stegall of Gunnison, Colorado, who discusses his Fleur-De-Lis and Point checkering patterns and Dale Goens, who uses 27 pages to discuss methods, tools and patterns. Craftsman Hal Hartley takes almost 20 pages to discuss how to set up a shop, fabricate tools and execute checkering patterns on a wide range of firearms. He concludes with some instructions on the Suigi tiger-tail finish also used by Linden.

The excellent illustrations of so many craftsmen make this book a must-have reference on the subject of checkering. Gunstock Finishing and Care was first copyrighted in 1949. My copy is the May 1975 printing. Unlike many of his contemporaries, who had to rely on trial and error

for workable solutions, author Donald Newell worked as a technician in a paint plant. As a result, he had access to the chemistry, function, and testing equipment to evaluate any finish he wished.

In addition to providing information on both old and new material used in wood finishing, the author also wished to uncover and rectify the many erroneous ideas, statements, and theories which he felt have plagued the gunsmith for many years. Newell then takes 16 chapters, in over 400 pages, to discuss woods for gunstocks, preliminary finishing, stains, drying oils, varnishes, lacquers, shellac, plastic finishes, driers and thinners, waxes and polishes.

To my knowledge, the depth of detail provided in this book on the subject of gunstock finishing is unavailable from any other author. For example, Chapter 15, entitled Auxiliary Equipment, the items discussed include a drying cabinet, a framed cover, detailed data on various spray guns, compressors, condensers, pressure tanks, sanding machines, infra-red light banks, selecting brushes and care of equip

ment. The previous chapter covers Antique and Early Gunstock Finishes. As these stocks were so different from those of today the author provides 20 pages of details and procedures with specialized formulas suited to these older guns. There are eight different stain formulas, three different filler formulas and seventeen different finish formulas. For a gunsmith interested in firearms of this era, the data in Chapter 14 will likely justify the purchase of Gunstock Finishing and Care.

We will conclude our discussion of Gunsmithing Library Classics with a final installment on metal working with Firearm Bluing and Browning by Bradford Angier and Advanced Gunsmithing by W. F. Vickery. AG

ORIGINAL SOURCE PAGE

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## PEOPLE &amp; COMPANIES

## Reader Forum

BY AMERICAN GUNSMITH EDITORS FEBRUARY 2010

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**S**ears Model 3T/ Winchester Model 190 I missed the opportunity to call you yesterday so I am writing today. Has American Gunsmith done any articles on the Winchester 190 .22 Rimfire rifle? If so, what issue? I have been brought one of these that the customer took apart to clean. Now, after pulling back the bolt and loading a cartridge, if I pull back slightly on the bolt, it fires. I have not worked on one of these before so I don't know the pitfalls.

I found a disassembly article on the Internet and it specifically states to have the action cocked before removing the trigger group. I am guessing that this was not done and might be the source of the problem. If you have done an article on this rifle let me know and I will order it. Thanks in advance. We think we found the same information as you did and agree the rifle was probably "forced into submission" during removal of the trigger group. Parts were likely lost and/or the group was reassembled incorrectly.

We have not done an article on the 190. It went out of production in the early 1970s. Being that old means wear problems may well exist. See the newest edition of the Gun Digest Book of Assembly/Disassembly, Part III, Rimfire Rifles and follow its reassembly instructions closely. If the malfunction persists, contact Nu Line Guns for additional assistance and part replacement. Ron Brimhall Please note: The telephone hot line was discontinued by the AG publisher effective March 1, 2009.

Address all future e-mails to Remington Rolling Block Rebarrel I am rebarreling a Remington Rolling Block #2 action. I do not have the old barrel. Do you have dimensions, tension length, extractor cut, etc? We had to eliminate our first choice as a source, The Remington Custom Shop. Presently, they may not be producing the #2 Rolling Block. Our next choice is The Remington Society of America (www.

Remington Society. com/forums.) Go to that site and follow the prompts to the Rolling Block experts/aficionados in the RR/Pre -1898 section. There is a whole section dedicated to Rolling Block and similar vintage rifles. Needing Remington Advice I have rebarreled a Remington 700 in 7mm Rem Magnum to 358 Norma Magnum and have a problem with feeding. If I load two cartridges they both feed without problem, but if I load three the first one feeds OK and the second one jams. What can I do to improve feeding?

Gregg Slepicka Douglas Heritage Is this a 100% or intermittent occurrence? We think the cause is related to excessive compression and tensioning of the magazine spring. This can happen when the magazine well isn't deep enough or when the OD of the cases, 7mm vs .358 Norma in your case, aren't the same. It might even be due to bullet diameter. The Norma is .359, the Remington .284. There are no .358 Norma Model 700 magazines made by Remington.

This leaves you several options. (1) remove the 7mm mag spring and send it to Wolffe Company with a request for a

lighter and a heavier spring. Try each in your factory magazine; (2) Scour the aftermarket for a Model 700 magazine in .358 Norma; (3) contact the Custom Gunmakers Guild for a metalsmith who can build you a replacement and deepen the mag well; (4) Build one from scratch yourself.

Colt New Service .44 I have a Colt New Service .44 that I recently acquired that is, to say the least, a very bad rust bucket. I'm trying to semi-restore it for a wall hanger. All went well until I tried to remove the crane bushing to replace the ejector spring. I soaked it in Kroil for several days and still broke two crane bushing removal tools. I then applied heat to the crane/bushing site, but still no luck. What do you recommend? Also, I can't find a bolt for the same weapon.

I've tried, Numrich, Western Gun Parts, and Ahlmans. Any others? Gary Chief David Cunningham Our suggestion is an extended submersion of the frame, any wood removed, in penetrating oil. Even better, the oil should be heated as long as you're wary of the flash point. A desperate measure might be taken if that fails; Substitute Birchwood Casey Rust and Blue Remover for the penetrating oil. This, of course, would also take off any bluing remaining on the revolver but it could be reblued.

For parts, we suggest two possibilities: (1) Old Town Station, Lenexa, KS (2) Dave Chicoine (pronounced SHE-quinn) in South Carolina email:

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Stevens model 87D I have been working on a Stevens model 87D 22 semi-auto. When I first got it the bolt would not go all the way home. My customer said it wasn't ejecting fired cases all the time, that they were still in the receiver, and the next live round was holding the empty in there. Upon inspection, I found the extractor band was broken (the left tip was gone) so I got anew one and installed it. The rifle fired, but after about 12 or 15 shots the problem came back.

I bent the new extractor and ejector to match the old one. Same story. After 12 or 15 shots it's jamming the live cartridge and the fired case in the receiver at the cartridge lifter. Now the extractor/ejector look like they haven't even been bent. How do I get them to hold the shape I need to get it working all the time? What is your recommendation?

If we took in a 44 year-old pop gun and called Savage for information or a confirmation of what we think might be wrong with it they'd tell us to call The Small Arms Shop, Inverness, Florida. The fellow who runs the place, Steve Simon, is one of the few still standing and specializing in long out-of-production Savage/Stevens guns. Steve could tell us our suspicion about your 87D is right and there's a cartridge stop or guide missing or worn out in the vicinity of the rear end of the inner magazine tube.

He could also tell us right then that we're full of beans and straighten us out. Then he could sell us a replacement part. Steve only takes calls from 5:30PM to 9:00PM weekdays. Please give him our regards. Revolver Identification A customer brought in a S&W .38 Special. It appears identical to a Model 10, however, there is

no model designation on the gun. The serial number is 9783XX and stamped inside the yoke is 3 over 687-91. What model is this?

It needs an extractor rod with right hand threads and a extractor rod pin. Any idea where I might obtain parts? Your help is appreciated. Papajo at Atkins Gunsmith Your first request should have been to Smith & Wesson in Springfield, MA. Give them the serial number of the revolver then ask them about parts sources which may exist outside the usual.

If S&W can't identify the gun model we suspect you have a revolver that has been "reworked." We think it's fortunate for all concerned that the serial number remains intact. Browning A-500R I have a Browning A-500R in my shop. The owner complains that it does not fire every round. The mis-fires are a result of a light primer strike. When I took the gun apart I noticed some wear in the finish on the right side of the hammer.

The hammer and trigger housing are stamped "H", indicating it has been replaced with the upgrade. Jimi I did some research on this gun and found that a company was offering a hammer which has a recess on the right side to miss the springs which would cause drag on the hammer. I called Browning in Pevely, Missouri and they were no help. I thought about honing the right side of the hammer enough to clear the springs, but I wonder if it would make the hammer too light and increase the firing problem.

My question is if you are aware of this recessed hammer and if it actually works? Also, is there something else I can do to this gun to make it function properly?

Sadly, Browning (a.k.a. Browning/Winchester these days) has opted to discontinue the Model 500. We can only guess the decision was based on cost of manufacture.

No, we are not aware of the recessed hammer of which you speak but if you use an indicator such as Dy Kem on the right side of the hammer and only polish that side enough to remove signs of drag we don't think you'll be over-lightening the hammer. We wonder if this occurred with the recessed replacement and no stronger spring was available to counteract the deficiency. Mauser Stock Where can I get a replacement Mauser stock for a 1916 Mauser made in Berlin?

This rifle is chambered in 8mm and looks like a sniper model with no scope mount and a straight bolt. Terry Rybak Are you sure regarding Berlin? The vast majority of German-made Mausers came out of Oberndorf. Regardless, contact Boyds Gunstock Industries Remington Speedmaster 241 Can you assist me in finding takedown and assembling instructions for the Remington Speedmaster 241? Would appreciate any directions. Ellis G. Winstead Is this a take-down version of the rifle?

Regardless, the M241 went out of production in 1949. But Remington Customer Service may be able to send you a photocopy of the owner's manual from their out of production files. Parts are probably available in the aftermarket. Marlin Mod 60 I need some guidance on the Marlin Model 60. A customer brought one in that was not extracting the spent brass. Easy fix — new extractors and problem solved... Another problem was not detected due to non-extract Paul D. Backues

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(continued from previous page) tion — it does not eject! Is the brass ejected by the firing pin or is there a “willow-the-wisp” I have failed to detect? The gun fires, just doesn’t eject. Any help would be greatly appreciated. Ivan Helton Trail Arms Gunsmith, LLC The “wil ’o the wisp” you mention could be the problem. It’s the extractor spring and may be weakened, damaged or incorrectly installed. Refer to the Model 60 article in the April 2005 issue.

It is very complete on the complexities of the firing system of the rifle and should still be available as a reprint. S&W 52-2 I have a Smith and Wesson model 52-2 with a swollen barrel due to an over charged reload. Smith and Wesson who tells me they no longer have any barrels for this gun and Bar-Sto tells me they will be happy to make me a barrel... as long as I want 50 or more! Although this gun has been out of production since 1993 it remains popular at bullseye matches.

You would think there would be some source due to the popularity and the fact that there are thousands out there, but I haven’t been able to locate a source. Even rough used 52’s generally go for \$1200–1600 and that is too much just for the barrel. A major problem it is. And a resolution could be very expensive seeing as the pistol, regrettably, is no longer made and the price of any major component for it is at the mercy of the aftermarket.

We personally know a Master Class pistolero who still uses his Model 52s in the centerfire stages of Three Gun bullseye shooting. Knowing he has more than one of the pistols, we checked in with him to see if he just might have a spare barrel. No luck. In fact, he is also searching for a barrel so he can complete construction of his fourth Model 52. He has done a considerable amount of gunsmithing in the past.

We fear he, as you, will have to rely on the aftermarket and call Brownells for a free copy of their Parts Source List covering out-of-production firearms. There are several specialty sources included in the list, among them barrel makers and barrel reliners. The latter is a wild card but someone with superior skills at relining might be able to bore out your existing barrel and reline it in .38. This depends on the bulge you mention but the possibility did occur to us.

As you know, the Model 52 was the only centerfire pistol designed to serve as a masterful target gun with .38 wadcutters. And while there may be thousands out there as you say, there are no cheap ones to be had among them. .22 conversions In the July 2009 issue of the newsletter there was an article about .22 Long Rifle conversions that made mention of the KART .22 conversion unit. I have a KART .22 conversion unit on an Essex frame. I cannot find any information about the KART unit.

Could you please advise me where I might find more information about this? Mike Solomon Ranger Doug The article you refer to was “Tech Topics.” Within its content we referred to Tactical Solutions 2211 conversion which, in our opinion, is a reasonably close clone of Fred Karts’ original conversion. Whether it could out shoot Freds’ is a moot point but as present day conversions go we’d give the 2211 a first place finish.

As for more information on the Kart, you didn’t make clear of what you wanted so check the internet and if that fails you could try to reach Fred at his present facility in North Carolina Congratulations, by the way, on actually owning a Kart Conversion. We’ve heard a couple of unconfirmed rumors that it may go back on a production line... but it won’t be Freds’. All serious target shooters should hope this comes to pass. AG

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# American Gunsmith

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