



DEC 2010

DIGITAL ARCHIVE
EDITION

PRECISION ARMS WORKSHOP

AND THE AMERICAN GUNSMITH ARCHIVE

A TECHNICAL JOURNAL OF CRAFT, REPAIR & RESTORATION

12

ARCHIVE ISSUE NUMBER

INSIDE THE ARCHIVE

WORKING THE UBERTI LIGHTNING II SLIDE- ACTION RIFLE

HUNTERS REPORT THEY ARE HUNTING • DISASSEMBLY/REASSEMBLY OF THE TAURUS 709 SLIM • TIGHTENING UP THE ...

ORIGINAL METHODS. MODERN ACCESS.

ARCHIVE EDITION 084

DIGITAL ARCHIVE EDITION

Preserved for the bench.

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

ABOUT THIS EDITION

The article text comes from the original issue and has been reflowed for legibility. Obsolete subscription, ordering, association-service, and house-advertising pages are not reproduced.

Original article images appear only where permission has been confirmed. All other image positions remain visibly reserved so approved art can be restored without rebuilding the issue.

Report corrections or rights information to editor@gunsmithmag.com.



AMERICAN GUNSMITH

DIGITAL ARCHIVE EDITION • DECEMBER 2010

ISSUE RECORD

ORIGINAL DATE	December 2010
VOLUME	Archive volume not stated
ISSUE NUMBER	12
SOURCE ID	ag-6fbaf513f6b600120e5c0e3b

DIGITAL EDITION

PUBLICATION	American Gunsmith
EDITION	Digital Archive Edition
ARCHIVE STEWARD	Innovation Network LLC
CONTACT	editor@gunsmithmag.com

Editorial fidelity. Article titles, author attribution, issue relationships, source-page references, and article text remain bound to the archive corpus. Layout, covers, navigation, and conversion notes are newly produced for this edition. Historical statements remain part of the original editorial record.

IN THIS ISSUE

Contents

A complete guide to the searchable editorial work preserved from December 2010.

2 Hunters Report They Are Hunting

AMERICAN GUNSMITH EDITORS • ORIGINAL PAGES 2

3 Disassembly/Reassembly of the Taurus 709 Slim

CHICK BLOOD • ORIGINAL PAGES 3-7

8 Tightening Up The .30 Carbine

ROBERT K. CAMPBELL • ORIGINAL PAGES 8-11

12 Remington Model 504 Bedding Pillar and Rear Action Screw

NORMAN E. JOHNSON • ORIGINAL PAGES 12-13

14 Notes On Glock Barrels

ROBERT K. CAMPBELL • ORIGINAL PAGES 14-16

17 Working The Uberti Lightning II Slide-Action Rifle

DAVID R. CHICOINE • ORIGINAL PAGES 17-21

23 Reader Forum

AMERICAN GUNSMITH EDITORS • ORIGINAL PAGES 23-24

FROM THE ARCHIVE

Hunters Report They Are Hunting

BY AMERICAN GUNSMITH EDITORS DECEMBER 2010

ORIGINAL PP. 2

Most hunters report they are going afield as much or more than they expected based on two surveys. HunterSurvey.com is run by Southwick Associates Inc., a research firm that founded the site in 2006 to help the outdoor equipment industry, government fisheries and wildlife officials, and conservation organizations track consumer activities and expenditure trends. Their compiled results are scientifically analyzed to reflect trends among all US hunters.

According to a recent poll almost 25 percent of hunters responding said they hunted more than they expected this past season and 40 percent said they hunted about as much as they expected to. This mirrors data compiled by the National Shooting Sports Foundation, the trade association for the firearms industry.

The NSSF created a License Sales Index representing a statistically valid cross section of the United States in Northeast, Southeast, Midwest and West regions based on states selected for their ability to provide license sales data on a regular basis. This Index, also monitored by Southwick Associates, tracks license sales information and these sales are up across the board.

According to the Index, in the key turkey hunting month of April, license sales rose by approximately 17 percent over the same month the previous year. In June, which is the start of the fiscal year in many states and,

hence, the month when many annual licenses go on sale, sales increased by 16.2 percent. In the latter half of the year, which is when the bulk of hunting activity occurs and most licenses are sold, August and October sales were down, but sales were up the rest of the year.

Jim Curcuruto, NSSF's director of industry research and analysis, noted these findings were a bright spot when considering national hunting license sales totals from all 50 states showed little change from 2005 through 2007 (the most recent year that figures were previously available). During that period, license sales have held at approximately 14.5 million annually, according to the US Fish & Wildlife Service. Tracking of this magnitude is relatively new.

Southwick Associates began HunterSurvey.com only a few years ago and the NSSF/Southwick Associates partnership first started in 2009. Before surveys of this type hunting license sales data would not become available until 18 to 24 months after sales end. Hunter Survey polls hunters directly and the License Sales Index works with state agencies to receive data in a more timely manner. Both are ongoing efforts to better equip the industry with information that will help make more informed business decisions.

We benefit by learning the trends and understanding what our customers want.

FROM THE ARCHIVE

Disassembly/Reassembly of the Taurus 709 Slim

around this handgun you can tackle anything in the Taurus 700-series lineup.

BY CHICK BLOOD DECEMBER 2010

ORIGINAL PP. 3-7

ARCHIVE IMAGE WITHHELD

The original image is not displayed while permission is being confirmed. If you are the author, photographer, or rights holder, contact editor@gunsmithmag.com and reference AG-120E5C0E3B-A1503-P03-F01. Know the rights holder? Please ask them to contact us.
AG-120E5C0E3B-A1503-P03-F01

Despite undeniable statistical evidence from non-firearm industry studies, including Federal sources, all reporting a reduction in crime where concealed carry permits are issued there are still more than a dozen State governments refusing to accept the reality. Usually, as the States acquiesce so do the cities within them. At least they make a stab at it.

Only last summer, one such Midwestern metropolis had its gun-grabbing hands severely slapped by the Supreme Court when the latter judged a freshly-passed city ordinance against legal handgun ownership to be unconstitutional. The court's vote was 5 to 4. I figure you can dope out for yourself who voted which way. Maybe you operate or are planning to operate in a State whose citizens presently enjoy the added peace of mind and privilege a permit to Carry a Concealed Weapon can provide. Maybe you don't.

Either way, I suggest you prompt your browser to take you to usconcealedcarry.com/ccw-laws/ and click on your home state. A page will come up on the screen offering a free PDF report on your State's laws simply by typing in your name and E-mail address. After you've done that you'll have instant download access to the PDF report. It promises "instant" but give it ten or fifteen minutes. You can read it off your computer or print it out as a ready reference.

The report will tell you and your customers where the concealed weapon can and cannot be carried, what to do and how to act if pulled over for a traffic stop while s 709 Slim Slightly newer versions are the 740 Slim in .40 S&W and the 708 Slim in .380. carrying, other states where the permit is valid, the states where it isn't, where in your home state you can legally defend yourself with deadly force, where you have

to retreat plus all you need to know about applying for or renewing a concealed carry permit.

I think I can be reasonably safe in assuming the surge in gun sales for 2009 wasn't only due to uncertain ties connected with anew President and Congress. A fair chunk has to attributed to the increasing issuance of CCW permits. Any individual receiving one likely bought a conceal able gun to go with it. No, I don't have a bottom line figure on the number of permits awarded nationally and lack the time to track down a source in each state issuing permits that could provide a number.

However, if industry sales figures can be considered an indication the number of concealed carry handguns sold has to have exceeded over 200,000. I'd further surmise that half of those were pistols chambered for calibers larger than .22 and .25, both of which are generally considered too puny for personal defensive measures. On the other hand, the mere

DISASSEMBLY/REASSEMBLY OF THE TAURUS 709 SLIM CONTINUED

ORIGINAL PAGE 4

ARCHIVE IMAGE WITHHELD

The original image is not displayed while permission is being confirmed. If you are the author, photographer, or rights holder, contact editor@gunsmithmag.com and reference AG-120E5C0E3B-A1503-P04-F01. Know the rights holder? Please ask them to contact us.

AG-120E5C0E3B-A1503-P04-F01

ARCHIVE IMAGE WITHHELD

The original image is not displayed while permission is being confirmed. If you are the author, photographer, or rights holder, contact editor@gunsmithmag.com and reference AG-120E5C0E3B-A1503-P04-F02. Know the rights holder? Please ask them to contact us.

AG-120E5C0E3B-A1503-P04-F02

Feeding and other problems can result if the heavy protective coating remains. If a 709 Slim has an enemy right out of the box it is the grease the South American assemblers seem to hold a deep affection. and sudden presentation of a gun by an intended victim has been known to bring a hostile act to a screeching halt regardless of caliber. Admittedly though, a larger bore diameter tends to bring on such successes much sooner.

This is undoubtedly a major reason why a short, 12 gauge pump loaded with #4 or #2 buck makes the best home defense weapon. You don't have to aim it like a handgun. Just point that twenty-inch barrel in the general direction with a finger threateningly near the trigger. Besides that, the very act of racking the action produces a sound that causes instant fear in the gut of any bad actor. Or, in the event of a home invasion, a group of bad actors.

Since shotguns are obviously just a wee bit too obvious for concealed carry what factors should be considered by anyone purchasing a cc handgun? It should be light, unobtrusive while being carried and lacking humps, bumps or protrusions that might interfere with it being drawn quickly from

its hiding place. It should be extremely reliable and have the accuracy to group well at the range at which most defensive shooting takes place, about seven yards. It should feel comfortable in the hand of its owner.

Lastly, it should look business-like if not downright deadly. In my opinion, that's a good description of the Taurus 709 Slim. It fits like a glove, is chambered for 9mm, is a striker fired SA/ DA, weighs three ounces more than a pound with an empty magazine, wears a three-dot sight system, has an easily reversible magazine release, loaded chamber indicator, manual safety, a trigger safety, a fully adjustable rear sight and is equipped with the key-operated Taurus Security System®.

The 709 Slim is only 6.24-inches long and a piddling 1.04-inches wide. It's time to get further into it. Field Stripping Joining the 709 Slim in the Taurus line up are the 740 and 708 Slim models. The 740 feeds on the .40 S&W, the 708 on the .380. Dimensionally and operationally all three are identical. All are produced in Brazil and it becomes quite apparent during the field stripping of a brand new, yet-to-be-fired 709 that final assembly workers have developed an affection for grease.

They must love the stuff because there is often a generous deposit of the slippery goo that must be cleared out before the pistol is fired. Ignoring this advice will at least result in misfires and. at worst. an increase in chamber pressure that could have catastrophic results. What do I mean by that? Have you ever had a handgun go to pieces after you pulled the trigger? If so, I sincerely hope you are among the very lucky ones still having all their fingers and features intact.

Take the magazine out, check the chamber for empty and put on some eye protection. What happens next is a two hand operation. Move to the slide to the rear about 1/8-inch and hold it there with four fingers of one hand. Push the disassembly latch down with the free hand's thumb and index finger. Push the slide full forward before letting go of the disassembly latch. Remove the slide forward and off the grip frame.

Invert the slide and release the slide spring assembly from its position on the bottom of the barrel, then remove the barrel by pulling it to the front of the slide and upward. If you carry the field stripping slightly farther, as I did for this article, you

DISASSEMBLY/REASSEMBLY OF THE TAURUS 709 SLIM CONTINUED

ORIGINAL PAGE 5

ARCHIVE IMAGE WITHHELD

The original image is not displayed while permission is being confirmed. If you are the author, photographer, or rights holder, contact editor@gunsmithmag.com and reference AG-120E5C0E3B-A1503-P05-F01. Know the rights holder? Please ask them to contact us.

AG-120E5C0E3B-A1503-P05-F01

Remember you're working with a polymer frame and it bruises far easier than a steel one. Be careful selecting your leverage point on it or span it with an overlapping flat piece of hard wood. Drift punches used in detailed disassembly should be limited to those with parallel sides. Tapered punches can easily enlarge pin holes in polymer materials. could add removal of the firing pin assembly to it. The "how to" on that is in the second paragraph of the section on detailed disassembly.

If the pistol is just out of the box, clean off and clean out as much of the grease I mentioned earlier as field stripping will allow. You may have to remove more during detailed disassembly. It depends on the romantic fervor of our grease loving friends among the South American assemblers. In all cases lightly lubricate the areas previously coated by grease with a good quality gun oil that has been applied to a lint free cloth.

In final reassembly the slide should be mounted to the frame, racked fully back and held there by the slide catch. Release the catch, ease the slide forward and cycle it by hand several times with the magazine out as a double check on the barrel/slide/frame relationship. Detailed Disassembly The 709 Slim is a well put together pistol, meaning there is little or zero play between its components unless a certain amount of freedom is required for proper operation. In simpler words, it's tightly assembled.

Use punches that are ideally married to each pin you drift and remember that pins in the 709 Slim drift right to left unless otherwise noted. Work with the slide at first. Invert it, take a 1/16-inch punch and push the firing pin sleeve (#1.18) slightly toward the muzzle to disengage it from the slide cap (#1.21). The sleeve is of hard, but not brittle, plastic.

Don't get carried away with your efforts to hold it in a forward position with a steel tool or you'll make indents in the sleeve but you still have to hold it forward to keep it away from interfacing the sleeve. The cap is of a softer polymer. Do not use anything other than a plastic hammer, nylon drift or small, rawhide mallet to tap downward on the cap and get it started moving out of the slide. You may find removing the cap more than a little bothersome.

Once it's on its way, though, a couple of more downward taps usually dislodge it and the cap plate (#1.22). The plate is not to be separated from the cap. Once the cap is out. Withdraw the entire firing pin assembly (#1.15 on the schematic). There's no need to take this assembly down further unless a broken or damaged component such as the spring (#1.17) requires replacement. To take out the extractor, pressing down on the firing pin block (#1.14) will give you a little more wiggle room to work.

You have to insert the flat blade of a screwdriver or screwdriver bit between the rear of the extractor and the frame. Tap the in-

serted blade forward, then tap the end of the extractor in the same direction. Just to be on the safe side, I mounted the slide, muzzle down, between my padded vise jaws and used a nylon drift on the extractor hook, thereby studiously avoiding any contact between the hook itself and my tapping. Now remove the firing pin block and its safety spring (#1.13).

Back out the rear sight screw (#1.02) and slide out the sight (#1.04). Extract the key lock pin (#1.26) with tweezers or a very small set of long nose pliers. Remove the key lock (#1.23) using the Taurus Security Key (not shown in schematic.) You turn and simultaneously pull on the key lock until the slide block pin (#1.26) and spring (#1.28) come loose. After they have, extract the key lock ball (#1.25) and its spring (#1.24).

I found it easier to leave the slide vertically positioned in the vise for lifting out the extractor spring plunger (#1.12) with a dental pick. An alternate method is to remove the slide, tap its front end to jar the plunger and pick it out with tweezers. The spring (#1.13) may or may not accompany it, in which case tapping the rear of the slide can encourage it to start out enough for you to grasp it with the tweezers or move it out so you can prod the spring along with the dental pick and tweeze it afterwards.

Drift the loaded chamber indicator pin out (#1.07) right to left with a 1/16-inch punch then lift C

DISASSEMBLY/REASSEMBLY OF THE TAURUS 709 SLIM CONTINUED

ORIGINAL PAGE 6

off the chamber indicator (#1.06) and its spring (#1.08). Unscrew #1.05 to remove the front sight (#1.03) and the slide is naked. Now, the frame. Drift the central support pin (#6.07) to the left with a 3/32-inch punch and the mechanism support pin (#6.08) with a 1/16-inch punch in the same direction. Insert a flat blade screwdriver under the central support (#4.06). Carefully pry it upward then lift it from the frame. The slide catch (#4.07) and catch spring (#4.08) will accompany it.

The same screwdriver can be inserted under the mechanism support (#5.01) to lever it upward before removal. In this case, depress the manual safety (#5.03) before lifting out the support to prevent loss of the safety spring ball (#5.05). The trigger/trigger bar assembly (#4.01 - 4.05) that comes out with the support should remain intact for the present. Don't retire the screwdriver just yet.

You'll need it to remove the manual safety (#5.03) before switching to tweezers to lift out the safety spring ball (#5.05) and spring (#5.04). Drift out the sear guide pin with your 1/16-inch punch then remove the sear spring (#5.07) and sear (#5.06). Depress the disassembly latch pin (#6.05), slide out the latch (#6.02) and remove the latch pin and its spring (#6.06). You may want to use the padded vise jaws to secure the trigger before going to work on the trigger bar assembly but it isn't absolutely necessary.

It might make the first time you work on the group somewhat less nerve wracking, however. Notice that the trigger bar and trigger safety pins have the same number (#4.02). They do because they are identical with one end slightly larger than the other. Both these pins are drifted out from right to left and reinstalled left to right. At this point, it's time out for a close, magni-

fied examination of how the trigger spring (#4.04) relates to the trigger (#4.01), trigger bar (#4.05) and trigger safety (#4.03).

What you see is the way things have to look after reassembly. Memorize the words that follow on this subject. Make a drawing, make notes, take a picture. Do whatever it takes to further assure the correct end result.

As a matter of good practice, always study how any spring is positioned in a gun before disengaging it and always keep track by the part number as it is removed and in what order.

1.28Slide Block Pin Spring 7.04Spring Plate
Taurus709Slim 2 Barrel 7.05Bottom (Specifications
subject to change 3 Recoil Spring Assembly without no-
tice) 1.1 Slide 4.01Trigger 1.2 Rear Sight Screw
4.04Trigger Pin(2) 1.3 Front Sight 4.03Trigger Safety
1.4 Adjustable Rear Sight 4.04Trigger Spring 1.5 Front
Sight Screw 4.05Trigger Bar 1.6 Loaded Chamber
Indicator 4.06Central Support 1.7 Loaded Chamber
Indicator Pin 4.07Slide Catch 1.8 Loaded Chamber
Indicator Spring 4.08Slide Catch Spring 1.9 Extractor
5.01Mechanism Support 1.10Extractor Spring 5.02Ejec-
tor 1.11Extractor Spring Pin 5.03Manual Safety 1.12Ex-
tractor Spring Plunger 5.04Manual Safety Spring 1.13-
Firing Pin Safety Spring 5.05Manual Safety Ball 1.14Fir-
ing Pin Block 5.06Sear 1.15Firing Assembly 5.07Sear
Spring 1.16Firing Pin Spring Bushing 5.08Sear Pin
1.17Firing Pin Spring 6.01Grip 1.18Firing Pin Sleeve
6.02Disassembly Latch 1.19Firing Pin Return Spring
6.03Magazine Release 1.20Firing Pin 6.04Magazine
Release Spring 1.21Slide Cap 6.05Disassembly Latch
Pin 1.22Slide Cap Plate 6.06Disassembly Latch Spring
1.23Key Lock 6.07Central Support Pin 1.24Key Lock
Spring 6.08Mechanism Support Pin 1.25Key Lock Ball
7.01Magazine Body 1.26Key Lock Pin 7.02Follower
1.27Slide Block Pin 7.03Floor Plate

ARCHIVE IMAGE WITHHELD

The original image is not displayed while permission is being confirmed. If you are the author, photographer, or rights holder, contact editor@gunsmithmag.com and reference AG-120E5C0E3B-A1503-P07-F01. Know the rights holder? Please ask them to contact us.

AG-120E5C0E3B-A1503-P07-F01

Once it has mostly cleared, lift it all the way out between your fingers. The trigger/trigger safety/trigger bar assembly can and should remain attached to it. The ejector is permanently secured and cannot be removed without specialized factory tooling. Time in. Start by partially pushing out the trigger pin. Right to left, remember? You need to move it enough so you can clear the trigger bar from the assembly.

Moving right along, start pushing out the trigger safety pin (the other #4.02) to free the trigger and trigger safety. There will be reassembly tips given very soon but you will need a slave pin to assist in reuniting the central support with the trigger bar and slide catch assemblies. Might as well make it now from drill rod. Its diameter is 0.097-inches, or a little less than the diameter of the central support pin. Its length is a little less than the width of the central support.

The pin should be slightly rounded at both ends and quite smooth all over. This pin holds this preassembly together prior to re-

installing the central support and mechanism support back in the frame. You'll have seen how the central support is linked and connected with the trigger/trigger safety/trigger bar assembly when taking down the pistol.

Reassembly Tips 1: Insert and depress the disassembly latch pin and spring before sliding in the latch. 2: Position the sear and sear spring in the mechanism support, align them and install the sear pin guide. 3: Preassemble the manual safety with its spring and ball. Insert all in the mechanism support. Beware the escaping ball. Press and hold down the safety lever.

4: When reinstalling the central and mechanism supports in the frame, the safety ball will still want to take off so press and hold down the lever again during the reunion. 5: After the central and mechanism supports are linked together with the trigger/trigger safety/trigger bar assembly the central goes back in the frame first with the mechanism lowered in afterwards.

Remember what I just mentioned about the safety ball and don't overlook reinstallation of both support pins once all related holes are aligned. The central support pin will drive out the slave pin you so carefully crafted from left to right. 6: Secure the trigger when rebuilding the mechanism support starting in the pin from the left. Preassemble the trigger and trigger spring. The spring should be resting on the trigger safety. Line up their respective holes with the pin then tap the pin in enough to spear them.

Insert the second pin through from the left. Position the trigger bar. Lift the hook end of the spring over the end of the trigger bar. Tap both pins through to be flush with the right side of the frame. 7: The slide is reassembled by reversing its take-down order. The firing pin sleeve will have to be pressed inward with a blunt tool or small wooden dowel to enable reinstallation of the slide cap, which is reinserted from the bottom of the slide. AG

RIFLES

Tightening Up The .30 Carbine

Accuracy of United States Carbine, Caliber .30, M1 is pretty dismal as issued but can be improved.

BY ROBERT K. CAMPBELL DECEMBER 2010

ORIGINAL PP. 8-11

ARCHIVE IMAGE WITHHELD

The original image is not displayed while permission is being confirmed. If you are the author, photographer, or rights holder, contact editor@gunsmithmag.com and reference AG-120E5C0E3B-A1504-P08-F01. Know the rights holder? Please ask them to contact us.
AG-120E5C0E3B-A1504-P08-F01

If there has ever been a tribute to American manufacturing ability it is the .30 US M1 Carbine. Over six and one half million carbines were manufactured and they are generally reliable and trouble free. The single most common complaint was poor wound potential, but this occurred when the rifle was pushed beyond its role as a PDW (Personal Defense Weapon), a term not coined in 1942 when the rifle entered service. This carbine is a very neat little rifle.

It has a traditional look with the exposed barrel and cut down stock of a carbine in Krag and Springfield style, however, the M1 Carbine uses a low power rifle cartridge rather than the same round as the service rifle. Tank crewmen, truck drivers, ammo bearers and officers had previously been armed with a handgun. The idea was to give the troops a service weapon superior to the handgun but not as heavy and difficult to manage as the M1 Garand.

Winchester succeeded admirably with the .30 carbine as it remains popular for personal defense, some forms of competition in certain side matches and for recreation. While normal repairs sometimes center on a lack of lubrication and a need for cleaning, some shooters will wish to have the rifle accurized. Accurize a M1 Carbine? Sure,

it can be done and with proportionately greater improvement than seen with the M1 Garand or M1A1 Springfield.

It isn't often you are able to shrink rifle groups in half but in the case of the .30 Carbine such improvement is possible. Just remember you are beginning with a rifle that is less than a tack driver. It is interesting that some of the standard checks do not always predict the accuracy potential of this. It can be made more accurate. M1. You have to actually fire the piece to check its accuracy and loose rifles sometimes fair well. In its favor is the fact that all ammunition ever produced for it was noncorrosive.

This was partly in order to preserve the low maintenance gas system that was not meant to be routinely cleaned and disassembled. The first step in improving accuracy is to check the carbine over for obvious trouble signs. Let's start at the beginning. First, a function test. I always do a rough safety check of any carbine before firing. I make certain the rifle is triple checked unloaded and empty. Next, I depress the trigger while working the bolt.

The hammer should not fall but be held back unless the trigger is released and then pressed. I own several carbines including an original World War Two Inland carbine. There is really no such thing as matching numbers as the carbines had to have com-

pletely interchangeable parts. Just the same, this rifle is as tight as any of the other six million plus carbines produced during World War Two. I also own a commercial model manufactured by Plainfield.

The action seems tighter than the Inland but the magazine catch and other controls are not as crisp. The carbine is a bit rough around the edges in accuracy. Another well known military rifle, the AK 47, suffers from much the same problem. However, the carbine may be helped and the advantage gained is often worth the effort. You have to shoot good ammunition.

South Korean military ammunition, jacketed loads from the major makers, and the new Cor Bon DPX loading were test fired to confirm the accuracy potential of several carbines. Three shot, one hundred yard groups typically average around four and one-half to five inches. An exceptional rifle will go three inches or a little less. For long range work let's hope your aspirations are recreational. Tightening the carbine is not difficult but demands attention to detail.

Study the details of the rifle and how it fieldstrips and you will understand the fit and harmonics of the wooden furniture and metal barrel. There are not a lot of barrel harmonics to consider when the rifle is such a low powered example but they do exist.

TIGHTENING UP THE .30 CARBINE CONTINUED

ORIGINAL PAGE 9

ARCHIVE IMAGE WITHHELD

The original image is not displayed while permission is being confirmed. If you are the author, photographer, or rights holder, contact editor@gunsmithmag.com and reference AG-120E5C0E3B-A1504-P09-F01. Know the rights holder? Please ask them to contact us.

AG-120E5C0E3B-A1504-P09-F01

ARCHIVE IMAGE WITHHELD

The original image is not displayed while permission is being confirmed. If you are the author, photographer, or rights holder, contact editor@gunsmithmag.com and reference AG-120E5C0E3B-A1504-P09-F02. Know the rights holder? Please ask them to contact us.

AG-120E5C0E3B-A1504-P09-F02

ARCHIVE IMAGE WITHHELD

The original image is not displayed while permission is being confirmed. If you are the author, photographer, or rights holder, contact editor@gunsmithmag.com and reference AG-120E5C0E3B-A1504-P09-F03. Know the rights holder? Please ask them to contact us.

AG-120E5C0E3B-A1504-P09-F03

ARCHIVE IMAGE WITHHELD

The original image is not displayed while permission is being confirmed. If you are the author, photographer, or rights holder, contact editor@gunsmithmag.com and reference AG-120E5C0E3B-A1504-P09-F04. Know the rights holder? Please ask them to contact us.

AG-120E5C0E3B-A1504-P09-F04

The rifle is field stripped by removing the barrel band and simply lifting the action from the stock. Once removed, take a look at the receiver. Featuring a rat tail tang in the rear, this tang engages the recoil plate which is in the stock. The design is different from the one piece receiver of the Garand or M14. It works without complaint but this system is not the best ever designed for accuracy. Check the rifle. If the recoil plate fit is loose the rifle will probably be inaccurate.

If the fit is good when assembled and there is a need to depress the barrel into the stock when fitting the barrel band, you may have a more accurate rifle. The are means of tightening the carbine up that are worth a look. First, and simplest, is simply to tighten the screw holding the recoil plate to the stock. If it is loose poor accuracy may not be noticeable at close range but the results will be noticeable at 100 yards.

The recoil plate is the source of the problem in many inaccurate rifles but also the source of an easy fix if we are lucky. Be certain the recoil plate is fully fitted into the stock. A method I am familiar with from the by "God and by gosh" school is to take the recoil plate out and peen it. Peening involves hitting the part until it is longer and producing a tighter friction fit. This often results in a tighter rifle and better accuracy. Next, examine the stock itself.

Remember, the M1 Carbine is primarily a triumph of mass production having been produced by the millions yet always working. This is a very reliable instrument, but mechanical precision took second place. The more we look at it the M1 Carbine the more it looks like the American AK! Take a look at the stock and be certain it fits the carbine well.

Route the mortise in the stock that holds the recoil plate out if necessary until the barrel, with the rifle assembled, floats about a half-

inch above the barrel channel in The original was sometimes confused with the magazine release in the heat of combat. the stock. Remember a few shavings off of the back of the stock results in a greater effect at the barrel end. Understand this geometry and take it easy with wood removal. Take care and frequently drop the barreled action in the stock to check your progress.

At this point the rifle should be tuned for maximum potential accuracy. Barrel bands area fertile field for experiments. There are several types and I will not pretend to be an expert, but the narrow half-inch bands seem to be the worst for accuracy. They often mismatch the stock and simply do not appear to get the job done. The alternate types that are an inch thick are much better at snugging up. The best type of barrel band by all reports seems to be the bayonet lug type but this is a bit difficult to find.

I WOULD CHECK WITH FULTON ARMORY FIRST, THEN

TIGHTENING UP THE .30 CARBINE CONTINUED

ORIGINAL PAGE 10

ARCHIVE IMAGE WITHHELD

The original image is not displayed while permission is being confirmed. If you are the author, photographer, or rights holder, contact editor@gunsmithmag.com and reference AG-120E5C0E3B-A1504-P10-F01. Know the rights holder? Please ask them to contact us.

AG-120E5C0E3B-A1504-P10-F01

ARCHIVE IMAGE WITHHELD

The original image is not displayed while permission is being confirmed. If you are the author, photographer, or rights holder, contact editor@gunsmithmag.com and reference AG-120E5C0E3B-A1504-P10-F02. Know the rights holder? Please ask them to contact us.

AG-120E5C0E3B-A1504-P10-F02

ARCHIVE IMAGE WITHHELD

The original image is not displayed while permission is being confirmed. If you are the author, photographer, or rights holder, contact editor@gunsmithmag.com and reference AG-120E5C0E3B-A1504-P10-F03. Know the rights holder? Please ask them to contact us.

AG-120E5C0E3B-A1504-P10-F03

ARCHIVE IMAGE WITHHELD

The original image is not displayed while permission is being confirmed. If you are the author, photographer, or rights holder, contact editor@gunsmithmag.com and reference AG-120E5C0E3B-A1504-P10-F04. Know the rights holder? Please ask them to contact us.

AG-120E5C0E3B-A1504-P10-F04

the pages of Shotgun News and good luck. You will probably be able to obtain decent accuracy with the standard barrel band if you check the recoil plate mortise but the superior wide bands do help. After working with the recoil plate and the recoil plate mortise, then making certain the barrel is free floating as much as possible, you should be able to observe a difference in accuracy. At this point barrel wear becomes a question.

The use of noncorrosive ammunition in the carbine is a great aid in barrel life and few carbines will be found with rusty bores, however, overly aggressive cleaning has shortened the life of many issue fire arms. There are gauges available to test the muzzle to see just how much damage the GI bore cleaner brush, which feeds from the muzzle, has done. A simple test with a centerfire rifle cartridge is adequate to test the carbine before it is purchased or to gauge the carbine on hand.

The This is an indication the carbine may be a good shooter. The stock on the right is in the more accurate rifle. This stock is inletted ideally for a free floating barrel. Carbine cartridge is too short to use as a gauge so use a .308 Winchester or .30-06 Springfield cartridge instead. Once certain it is unloaded and the action locked back, attempt to fit the ball portion of the cartridge into the carbine muzzle. If the bullet goes to the cartridge case

TIGHTENING UP THE .30 CARBINE CONTINUED

ORIGINAL PAGE 11

ARCHIVE IMAGE WITHHELD

The original image is not displayed while permission is being confirmed. If you are the author, photographer, or rights holder, contact editor@gunsmithmag.com and reference AG-120E5C0E3B-A1504-P11-F01. Know the rights holder? Please ask them to contact us.

AG-120E5C0E3B-A1504-P11-F01

ARCHIVE IMAGE WITHHELD

The original image is not displayed while permission is being confirmed. If you are the author, photographer, or rights holder, contact editor@gunsmithmag.com and reference AG-120E5C0E3B-A1504-P11-F02. Know the rights holder? Please ask them to contact us.

AG-120E5C0E3B-A1504-P11-F02

ARCHIVE IMAGE WITHHELD

The original image is not displayed while permission is being confirmed. If you are the author, photographer, or rights holder, contact editor@gunsmithmag.com and reference AG-120E5C0E3B-A1504-P11-F03. Know the rights holder? Please ask them to contact us.

AG-120E5C0E3B-A1504-P11-F03

ARCHIVE IMAGE WITHHELD

The original image is not displayed while permission is being confirmed. If you are the author, photographer, or rights holder, contact editor@gunsmithmag.com and reference AG-120E5C0E3B-A1504-P11-F04. Know the rights holder? Please ask them to contact us.

AG-120E5C0E3B-A1504-P11-F04

mouth your muzzle is pretty much shot out. If the bullet is stopped at about 1/8-inch you have a shooter. In between these extremes will probably exhibit so-so accuracy. I admit the gauge is more scientific but this simple test will work well enough in estimating the carbine's accuracy potential. There is little point in addressing the trigger action. The military two stage trigger usually breaks at 4.5 to 6.0 pounds and I would never attempt to file hardened parts to produce a clean break.

In any case, those few competitions which are specific the M1 Carbine also demand a 4.5 pound or heavier trigger action. What is beneficial is to carefully clean and lubricate the trigger action. You may find that the rifle has never been cleaned and the action never lubricated. The .30 caliber carbine is a versatile little rifle, normally completely reliable, accurate enough for personal defense and pest popping and, above The recoil plate has been removed for this illustration.

This barrel is good to go and should provide good accuracy. all, user friendly. While not as inexpensive as it once was the M1 Carbine remains an excellent addition to anyone's tactical repertoire. This is a design with no flies on it. With a few simple procedures you will be able to produce good accuracy and keep a customer's carbine running for another decade or so. AG

PEOPLE & COMPANIES

Remington Model 504 Bedding Pillar and Rear Action Screw

screws located centrally and at the front receiver ring. The addition of a third action screw at the rear tang, along with a well placed pillar, adds strength to the overall bedding system.

BY NORMAN E. JOHNSON DECEMBER 2010

ORIGINAL PP. 12-13

ARCHIVE IMAGE WITHHELD

The original image is not displayed while permission is being confirmed. If you are the author, photographer, or rights holder, contact editor@gunsmithmag.com and reference AG-120E5C0E3B-A1505-P12-F01. Know the rights holder? Please ask them to contact us.
AG-120E5C0E3B-A1505-P12-F01

ARCHIVE IMAGE WITHHELD

The original image is not displayed while permission is being confirmed. If you are the author, photographer, or rights holder, contact editor@gunsmithmag.com and reference AG-120E5C0E3B-A1505-P12-F02. Know the rights holder? Please ask them to contact us.
AG-120E5C0E3B-A1505-P12-F02

From the factory, the Model 504 Remington rifle is equipped with action draw down screws located centrally and at the front receiver ring. The remainder of the receiver rearward is essentially free floating back of the central pillar for a distance of more than three inches. The addition of a third action screw at the rear tang, along with a well placed pillar, adds strength to the overall bedding system.

On close inspection you will see there is sufficient room for a small tang pillar and a third action screw on the 504. The new pillar is positioned immediately rearward of the trigger body and forward of the new tang screw. The screw is positioned upward through the rear screw hole of the trigger guard. A pilot drill is directed through the rear trigger guard hole through the brass anchor and stock wood into the base of the rear tang.

The lead drill serves only as a precise marker as it makes its mark on the underside of the tang. This shows precisely where to drill and tap the new tang hole. A number 21 tap-drill is used for the 10-32 flat-head screw. The hole is then tapped using a good, sharp

tap. I placed the action in the stock while tapping the screw hole, which served as a perfect in-line, tapping guide. Following the hole drilling, careful measurements are taken to form the relatively small metal pillar.

I used brass for this piece, cut to a 0.50 x 0.40 x 0.125-inch. A small, sharp wood chisel is used to enlarge the space for the pillar, which is positioned just slightly forward of the screw hole. The top of the screw hole can be used to estimate the height of the pillar top surface, allowing about 1/16-inch of bedding material beneath the pillar. It will be necessary to make a groove into one side of the pillar to make room for the new tang screw.

This groove completes half of the screw hole as well and can be made with around file or a small, ball-shaped end mill. A small amount of metal was removed from the back end of the trigger housing to make room for the brass pillar. A file does a good job here. The pillar is then placed in position and the action is placed in the stock. It should fit freely. Be sure the tang doesn't contact the pillar at

REMINGTON MODEL 504 BEDDING PILLAR AND REAR ACTION SCREW CONTINUED

ORIGINAL PAGE 13

ARCHIVE IMAGE WITHHELD

The original image is not displayed while permission is being confirmed. If you are the author, photographer, or rights holder, contact editor@gunsmithmag.com and reference AG-120E5C0E3B-A1505-P13-F01. Know the rights holder? Please ask them to contact us.

AG-120E5C0E3B-A1505-P13-F01

ARCHIVE IMAGE WITHHELD

The original image is not displayed while permission is being confirmed. If you are the author, photographer, or rights holder, contact editor@gunsmithmag.com and reference AG-120E5C0E3B-A1505-P13-F02. Know the rights holder? Please ask them to contact us.

AG-120E5C0E3B-A1505-P13-F02

ARCHIVE IMAGE WITHHELD

The original image is not displayed while permission is being confirmed. If you are the author, photographer, or rights holder, contact editor@gunsmithmag.com and reference AG-120E5C0E3B-A1505-P13-F03. Know the rights holder? Please ask them to contact us.

AG-120E5C0E3B-A1505-P13-F03

ARCHIVE IMAGE WITHHELD

The original image is not displayed while permission is being confirmed. If you are the author, photographer, or rights holder, contact editor@gunsmithmag.com and reference AG-120E5C0E3B-A1505-P13-F04. Know the rights holder? Please ask them to contact us.

AG-120E5C0E3B-A1505-P13-F04

As described in text, the rear tang screw is added later. Note how this third screw is conveniently positioned in the rear trigger guard screw hole. We see here where additional bedding material is used along with the brass pillar to form a perfect bed. This stage as the tang contacts the stock. Also try the new stock screw for thread freedom and alignment. The screw can now be cut to length, leaving a few extra threads for final length to be trimmed later.

I ended up making a special screw for this purpose to get the length I needed. Pillar Bonding, Tang Bedding The new pillar can now be permanently bonded in place as the rear tang is also bedded into the stock, flush with the pillar. I used Brownells Steel-Bed here. This produces a most sturdy bed for the

tang as well as the pillar. It isn't going to take much bedding material to do the job, just a light coat for the tang-to-wood surface and just enough around the tang to fill any voids.

Be sure there is sufficient bedding material beneath the new pillar. As the pillar extends above its final position the action is used to push it down into the bedding material. Be very careful as the action is lowered into the stock. Of course, there is release agent applied to the action metal which is allowed to dry before contact with bedding material. I did not use the new action screw to draw the tang down while the bedding material was setting. The tang should not be sprung down at this time.

The two existing action screws hold the rear tang in perfect alignment. Allow several hours for the action bedding material to set and remove the action from the stock and clean up excess material. It also shows the additional bedding of the rear tang forming a complete bed. This fully bedded tang is on a very solid foundation. Conclusions Anything that can be done to improve the action-to-stock fit on a good rifle will likely result in marked accuracy improvement.

The Remington Model 504 is a perfect example where the addition of a rear pillar and tang screw showed such improvement. To date, I have completed this work on three Model 504 Remington rifles and all resulted in improved action bedding and excellent accuracy. AG

PISTOLS

Notes On Glock Barrels

compatibility. Here's how to replace or improve the barrel.

BY ROBERT K. CAMPBELL DECEMBER 2010

ORIGINAL PP. 14-16

ARCHIVE IMAGE WITHHELD

The original image is not displayed while permission is being confirmed. If you are the author, photographer, or rights holder, contact editor@gunsmithmag.com and reference AG-120E5C0E3B-A1506-P14-F01. Know the rights holder? Please ask them to contact us.
AG-120E5C0E3B-A1506-P14-F01

We have heard it before, “Glock Perfection.” Glock pistols of all models have seventy five per cent parts compatibility. The compatibility claims I will sign off on as correct but perfection is beyond mortal kin. Part of gunsmith experience is fitting barrels and the Glock has its own unique parameters. I have fitted a number of Glock barrels over the years and my experience has been generally good. Occasionally there have been lowered expectations simply because the customer purchased an inexpensive barrel.

There have been less than perfect results but we have also enjoyed exceptional results from the better breed of barrel including Jarvis, Wilson Combat and Bar-Sto Precision. I have encountered less than perfect jobs by amateurs but I have also observed exceptional fitting with custom barrels. The important point is that in every instance I have produced good results and a reliable handgun when I had quality parts to work with. Accuracy is often increased.

The results with the Bar-Sto barrel in particular has been excellent. In simple terms the addition of a custom grade barrel coupled with well designed aftermarket sights will often turn the Glock into a 50 yard pistol while the piece is arguably a 25 yard pistol as issued. Some shooters decide upon a custom barrel whether or not they are able

to utilize the additional accuracy potential. There are other reasons for changing the Glock barrel. I do not think a worn out barrel is a consideration.

I have examined Glock barrels at the 20,000 round count and the barrels are still serviceable. Many of these high round The case on the right burst in a Glock with unsupported chamber. The case on left was an over charge fired in a Kimber 1911. Neither is a good place to be. count pistols remain reliable and accurate enough for service use, despite having been fired exclusively with jacketed bullets. There are three main reasons for fitting a custom barrel to the Glock.

First is the customer's desire to use lead bullets. Factory Glock pistols use polygonal rifled bores. The primary difference is that the bore is rifled with hills and valleys that are quite smooth rather than the traditional lands and grooves. This results in little friction and generally higher velocity than conventional bores of a similar length. Accuracy potential is claimed to be high due to the prospect of little bullet deformation. However, there is no place for lead fouling to accumulate.

Sport shooters using cast lead bullets for economy cannot use great quantities of lead in the Glock barrel. There is also the

fact that the Glock has a sharp transition from the chamber to the leade, or beginning of rifling, which also accumulates lead. This lead build up may prevent the pistol from fully closing and the resulting build up will allow the pistol to fire when not locked in battery.

While the Europeans may think we are mad for using lead bullets this is the only way for the shooter of average means to afford to fire the piece in the quantity demanded for proficiency in competition. The Glock barrel as supplied from the factory also has an unsupported chamber in order to insure feed reliability. Almost every aftermarket barrel will offer a more fully supported chamber. The second reason for replacing the barrel is a search for increased accuracy. A custom grade barrel will increase accuracy.

This is partly due to careful manufacture and partly due to superior fitting. The third reason is for a caliber change. Often a shooter will prefer another caliber or simply wish to use several calibers in their Glock. You may convert a .357 Glock to .40 and vice versa or convert a .45 ACP Glock to .400 Cor-Bon. There are other conversions as well. The majority of Glock barrels sold are drop in barrels that are designed to fit to factory specifications. These

ARCHIVE IMAGE WITHHELD

The original image is not displayed while permission is being confirmed. If you are the author, photographer, or rights holder, contact editor@gunsmithmag.com and reference AG-120E5C0E3B-A1506-P15-F01. Know the rights holder? Please ask them to contact us.

AG-120E5C0E3B-A1506-P15-F01

ARCHIVE IMAGE WITHHELD

The original image is not displayed while permission is being confirmed. If you are the author, photographer, or rights holder, contact editor@gunsmithmag.com and reference AG-120E5C0E3B-A1506-P15-F02. Know the rights holder? Please ask them to contact us.

AG-120E5C0E3B-A1506-P15-F02

Above left and When you understand the proper fit and function of a Glock barrel, barrel swaps are straightforward operations. The hood is easy enough to fit and the barrel lugs seldom require attention. The bottom foot controls lift and is similarly trouble free. are most often purchased in order to allow the Glock shooter to use lead bullets. After using many of these barrels I have to make a few comments on handloads.

It is difficult to order a custom barrel and then tell a shooter who has spent good money on custom loads that his handloads are not up to par. We must understand handloading and ballistics in order to make that judgment. Just the same in proofing and fitting the custom barrel we should use a proven factory loading of proven reliability and accuracy. This means a load that is not too light or too heavy but with sufficient momentum to function in the pistol.

I have taken to keeping a good stock of Fiocchi USA ball ammunition for this purpose. I use the 124 grain 9mm, 180 grain .40 and 230 grain .45 ACP. In the occasional 10mm pistol I use CCI Blazer loads when available. I have used Speer Lawman .357 SIG loads for the same purpose. I proof the handgun with these ball loads before pro-

gressing to lead or hollow point bullets. Once the pistol is proofed with these loads a malfunction with handloads will be a qualified malfunction related to the ammunition.

That being said handloads may be produced that are at least as reliable and more versatile than factory loads once the pistol is proofed. Recently, I worked with a .40 caliber Glock that simply would not function with any standard handload. I was using the proven Zero Bullets 165 grain FMJ over enough Tite Group powder in Starline brass to demonstrate 900 feet per second. The new barrel seemed to be fitted OK but the problem was insidious. About every tenth round would not properly cycle.

The shooter had dropped the overall length of the cartridge, although he assured me he was in safe pressure limits, but the problem remained. The bullet taper cannot be allowed to breach the cartridge case mouth and deep seating bullets is counter productive to feed reliability. When manually operated the cartridges fed fine. These cartridges passed the Brownells Go/No Go gauge and they fit perfectly when dropped into the barrel. Even with the barrel tilted they still worked as far as chambering.

Some of the failures presented the bullet nose at a thirty degree angle to the barrel chamber. Yet every time the slide was manually racked the loads functioned. I made certain the spring was a full power Glock recoil spring. A possibility was that the pickup rail picked the cartridge up at the extractor groove rather than the rim. This would result in the cartridge not getting a full travel. While a good bet, this hypothesis did not pan out.

Often a high capacity magazine that extends past the grip frame will give trouble but this was not the case either. I did another firing test with a slightly different load and encountered the same problem except that now the cartridge did not always feed when I dropped the slide manually. By holding the slide a bit further to the rear and releasing the slide the rounds fed every time. With all else failing to resolve the issue I decided to address the chamber.

As it turned out certain dimensions were tighter than the original Glock barrel. In the end I carefully polished a rounded edge from two o'clock to ten o'clock on the chamber. I hit pay dirt with this one. The Glock ran smartly after this simple polish.

ARCHIVE IMAGE WITHHELD

The original image is not displayed while permission is being confirmed. If you are the author, photographer, or rights holder, contact editor@gunsmithmag.com and reference AG-120E5C0E3B-A1506-P16-F01. Know the rights holder? Please ask them to contact us.

AG-120E5C0E3B-A1506-P16-F01

ARCHIVE IMAGE WITHHELD

The original image is not displayed while permission is being confirmed. If you are the author, photographer, or rights holder, contact editor@gunsmithmag.com and reference AG-120E5C0E3B-A1506-P16-F02. Know the rights holder? Please ask them to contact us.

AG-120E5C0E3B-A1506-P16-F02

This barrel offers conventional rifling. When installing the barrel hood and the locking lugs may require attention. The Wilson Combat drop in barrel is usually just that, a drop in, but sometimes fine tuning is necessary with custom barrels. Overall, the Wilson Combat barrel is a good combination. Another drop in barrel gave considerably more trouble. Perhaps it was a gunsmith fit barrel that was mistakenly packaged in a drop in pack!

Glock frames are the same internally without fail through all generations, they claim, so the fault must have been in the barrel. Just the same, several holster makers tell me you have to know the Glock generation to get a properly fitted holster, although this does not mean effect anything internally. The hood of the suspect barrel presented no problem but the rear lug struck the frame lock bar. I proceeded to cautiously mill and file, then stone the lug. I removed 0.016-inch off the rear lug.

The rear lug then cleared the lock bar. I did not like the amount of work needed on this drop in barrel but it worked. Another experience was with a .357 SIG barrel from Bar-

Sto Precision. This barrel was an eye opener. The primary purpose of this barrel was the owner's wish to experiment with the .357 SIG cartridge back when the cartridge was new and there no factory Glock pistols were chambered for the round.

The Bar-Sto barrel was a drop in without any sort of fitting. however, we were very surprised at both the accuracy and velocity results. In those days most factory .357 SIG was no hotter than a good warm 9mm +P. The first Cor-Bon loads fired clocked 1503 fps with a 115 grain bullet. Accuracy was excellent. We fitted after market sights and the pistol often grouped five shots into less than two inches at twenty five yards, a far cry from the four inch-plus groups at 25 yards with .40 factory ammunition.

I did have to fit a heavy duty W. C. Wolff recoil spring to preserve cycle reliability. The .400 Cor-Bon conversion in the .45 Glock was uneventful as well. I have done only one, but this was simply a drop in conversion. There were no problems and the pistol simply ran as well as with the .45 ACP loads. Remember, when fitting a .400 Cor-

Bon barrel to a 1911 you may have to open the feed lips of the magazine. This would not have been possible with the Glock.

Some notes on fitting procedure for gunsmith-fit and semi drop-in barrels. I first attempt to drop the barrel in the slide and frame. If the barrel does not fit correctly it is most often the barrel lugs binding. I remove very small amounts of metal from the hood area. Then I check to see if the under lug is perpendicular to the bore as it should be. If off center, material is removed from the opposite of the offending side. Look toward the muzzle to gauge right and left alignment of the locking lugs.

Off to the left, remove metal on the right. When done with the lugs, fit the barrel into the slide and check for fit. Remember to respect the locking lugs as these lugs control lift and chambering angle. The bottom foot controls lift and usually gives a good tight lockup without any type of modification. The Glock is a straightforward pistol, simple enough to work with and durable. The only common reason that you will see a Glock in the shop is for barrel work and this is the most beneficial change to it. AG

PEOPLE & COMPANIES

Working The Uberti Lightning II Slide-Action Rifle

Originally manufactured by Colt, this ultra-fast pump is known for its speed and compact size.

BY DAVID R. CHICOINE DECEMBER 2010

ORIGINAL PP. 17-21

ARCHIVE IMAGE WITHHELD

The original image is not displayed while permission is being confirmed. If you are the author, photographer, or rights holder, contact editor@gunsmithmag.com and reference AG-120E5C0E3B-A1507-P17-F01. Know the rights holder? Please ask them to contact us.

AG-120E5C0E3B-A1507-P17-F01

Colt firearms originally manufactured the Lightning slideaction/pump-action rifle from 1884 until 1904. The original Lightning was known for its ultra fast, short-stroke slide action and compact size and was quite a remarkable gun for its day.

Roughly 180,000 Lightning magazine rifles were manufactured in all and were offered in three different sizes including a small-frame chambered for .22 rimfire, a medium-frame for pistol sized rounds like the 44-40, and the large or express-frame size to handle the large, high powered, rimmed rifle cartridges of the late 1800's.

Those Colt pump-guns were high quality products and were very different from the Winchester pump rifles many of us are so familiar with, but they were made with the kind of great craftsmanship the world had come to expect from the old Colt factory. As those of us who work on the original Lightnings know too well, they like to be operated "vigorously." If you balk or try to operate the action slowly you may encounter problems, especially in the cartridge feeding area.

Aldo Uberti founded the Uberti company that has been making shootable, replica firearms that are familiar to all of us since 1959. In fact, any Cowboy Action shoot you attend today will be heavily populated with Uberti's replicas of Colt Single Action Army and Photo: A. Uberti, Gardone V. T., Italy Winchester lever guns. Sadly, Aldo passed in 1998. In 2000 a controlling interest in Uberti was acquired by Beretta Holdings.

After hearing rumors about an Uberti slide-action for years, Uberti introduced their version of the Lightning, retaining the original name, in 2006. A "kissin' cousin" called the Gold Rush was introduced under the Beretta name. The original Lightnings had some teething problems, not unlike the originals and especially in 357 caliber, they were experiencing jams of various sorts in the feeding system.

Under the careful direction of Giacomo Merlino, long-time Uberti employee and now CEO of that company, these problems have now been addressed. As result of those efforts anew/improved version of the Lightning, called the Lightning II pump-action rifle is currently available. Uberti is offering both rifles and carbines on the medi-

umsized frame in a package that offers a real taste of the Old West for Cowboy Action shooters, Old West aficionados and lovers of old Colt products alike.

This is an entirely new line, a clean break from traditional lever actions and it's aimed specifically at the Cowboy Action Shooting market. In some ways the new Lightning has been simplified, such as the removal of the separate dust-cover, but in other ways the design has been made more complicated by the addition of several new safety features. We did put one of the new Lightning II carbines in .357 caliber through its paces and then we had the chance to disassemble the gun and compare it to an original.

We could see right away that they've made some subtle changes internally for both dependability and safety while retaining the external appearance and the original Colt locking system. In function tests with an early Beretta Gold Rush .357, which is the same as Uberti's 2006 Lightning, we found the gun jammed so much that the best function we were able to achieve were to get two shots in a row.

Sometimes the thing would "log-jam", that is stick two rounds under the carrier with another one stuck on top of the carrier,

WORKING THE UBERTI LIGHTNING II SLIDE-ACTION RIFLE CONTINUED

ORIGINAL PAGE 18

ARCHIVE IMAGE WITHHELD

The original image is not displayed while permission is being confirmed. If you are the author, photographer, or rights holder, contact editor@gunsmithmag.com and reference AG-120E5C0E3B-A1507-P18-F01. Know the rights holder? Please ask them to contact us.

AG-120E5C0E3B-A1507-P18-F01

ARCHIVE IMAGE WITHHELD

The original image is not displayed while permission is being confirmed. If you are the author, photographer, or rights holder, contact editor@gunsmithmag.com and reference AG-120E5C0E3B-A1507-P18-F02. Know the rights holder? Please ask them to contact us.

AG-120E5C0E3B-A1507-P18-F02

ARCHIVE IMAGE WITHHELD

The original image is not displayed while permission is being confirmed. If you are the author, photographer, or rights holder, contact editor@gunsmithmag.com and reference AG-120E5C0E3B-A1507-P18-F03. Know the rights holder? Please ask them to contact us.

AG-120E5C0E3B-A1507-P18-F03

ARCHIVE IMAGE WITHHELD

The original image is not displayed while permission is being confirmed. If you are the author, photographer, or rights holder, contact editor@gunsmithmag.com and reference AG-120E5C0E3B-A1507-P18-F04. Know the rights holder? Please ask them to contact us.

AG-120E5C0E3B-A1507-P18-F04

When the trigger is pulled the transfer bar type safety moves up in the hammer allowing the blow to be transferred into the firing pin. If the hammer falls without the trigger being pulled the firing pin enters the hollow in the hammer so the gun won't fire. and this all with one partial stroke of the slide, thus mandating a partial disassembly to get the jam clear.

In stark contrast, the Lightning II we just tested fed three full boxes of .357 Magnum Black Hills Cowboy ammo perfectly without giving us so much as a hiccup. Although the rifle will certainly chamber and fire .38

Special ammo, the Uberti factory recommends a steady diet of .357 Magnum, advising against loading .38 Specials into the magazine. The Lightning II Carbines are currently being offered with a blued frame while the rifles are advertised with a color cased frame.

They are available as carbines with a twenty-inch round barrel, as short rifles with a twenty-inch octagon barrel and as a full-rifle, sporting a twenty four-inch octagon barrel in either .357 Mag or .45 Colt. Caliber 44/40 is still available on special order. All models come with nicely checkered walnut forends

as an aid to a sure grip in fast action-cycling and are equipped with straight-grip walnut butt stocks.

Check out the Lightning II for yourself online at www.uberti.com/firearms/lightning.php This step is accomplished by removing the tang screw and then pulling the buttstock to the rear. Disassembly Instructions Be sure the weapon is empty before you handle it. Let's start by pointing the muzzle in a safe direction as you are picking the rifle up. Hold the rifle with your right hand by grasping the stock at the wrist while at the same time being careful to keep

WORKING THE UBERTI LIGHTNING II SLIDE-ACTION RIFLE CONTINUED

ORIGINAL PAGE 19

ARCHIVE IMAGE WITHHELD

The original image is not displayed while permission is being confirmed. If you are the author, photographer, or rights holder, contact editor@gunsmithmag.com and reference AG-120E5C0E3B-A1507-P19-F01. Know the rights holder? Please ask them to contact us.

AG-120E5C0E3B-A1507-P19-F01

ARCHIVE IMAGE WITHHELD

The original image is not displayed while permission is being confirmed. If you are the author, photographer, or rights holder, contact editor@gunsmithmag.com and reference AG-120E5C0E3B-A1507-P19-F02. Know the rights holder? Please ask them to contact us.

AG-120E5C0E3B-A1507-P19-F02

your finger away from the trigger (#10). Operate and open the action by grasping the forend stock wood (#s705 and 706) with your left hand and slide this vigorously all the way to the rear. This opens the action. Now peer into the chamber at the rear of the barrel to be sure there is not a cartridge in there. You will also want to examine the top of the carrier (#7, this is inside the now opened action), located below and directly in front of the open bolt (#97).

If there is a cartridge present here there may be more cartridges in the magazine tube. You must remove all cartridges in order to render the rifle safe. Leave the rifle with the action open. Even with cartridges present this is a safe position for the moment because the rifle cannot be fired unless the action is closed. Unloading a loaded rifle. Please follow the steps in this first paragraph even if the chamber and carrier were empty to make certain the magazine is also empty.

We will first unload the magazine tube. Leaving the action open, unscrew the knurled magazine cap (#114) from the front of the magazine tube. Remove the magazine spring (#96) out from the front of the magazine tube (#118). Tipping the barrel forward over your workbench, the weight of the cartridges in the magazine

should push out the magazine follower (#113) and the remainder of the cartridges should fall out. Lastly, the magazine follower will fall out the front of the tube.

Now, we have to remove that last cartridge from the follower. Be careful that we keep the muzzle pointed in a safe direction and slowly slide the action closed while keeping away from the trigger as this will chamber the cartridge. Beware, the gun is now loaded and ready to fire.

Using the right hand which is holding the stock, use your thumb to grasp and gain control of the hammer while at the same time you pull the trigger, releasing the hammer while you slowly and gently ease the hammer all the way forward with your thumb. Now, operate the slide action again, moving the bolt to the rear and the cartridge you just chambered will be ejected from the rifle. Let's remove the butt stock and the magazine tube assembly.

Using the appropriate size hollow-ground screwdriver, loosen and remove the tang screw (#63). Now you may pull the buttstock assembly (#57) straight off toward the rear of the rifle. The buttplate (#58) is easily removed from the stock by unscrewing and removing the two buttplate screws (#62), then simply lifting off the buttplate.

In removing the magazine for rifles, we've already removed the magazine cap (#114), the magazine spring (#96) and magazine follower (#113) out the front of the tube.

Support the barrel in a padded vise and, using an appropriate size cup-tipped pin punch and hammer, drive out the magazine retaining pin (#281) from either side of the magazine ring (#275). Slide the magazine tube (#118) forward, out of the magazine ring and off the rifle. Notice its position for later re-assembly. The magazine ring (#275) can be removed by rotating it 90 degrees in either direction.

To remove the magazine for carbines, we take the magazine cap (#114), the magazine spring #96 and magazine follower (#113) out from the front of the tube. Support the barrel in a padded vise and use an appropriate size cup-tipped pin punch and hammer to drive out the magazine retaining pin (#544) from either side of the magazine band (#80). Using an appropriately-sized, hollow ground screwdriver loosen and remove the band screw (#121). Now slide the band forward, off the barrel and magazine tube and off the rifle.

PULL THE MAGAZINE TUBE (#118) STRAIGHT FORWARD AND OUT OF THE RIFLE,

WORKING THE UBERTI LIGHTNING II SLIDE-ACTION RIFLE CONTINUED

ORIGINAL PAGE 20

ARCHIVE IMAGE WITHHELD

The original image is not displayed while permission is being confirmed. If you are the author, photographer, or rights holder, contact editor@gunsmithmag.com and reference AG-120E5C0E3B-A1507-P20-F01. Know the rights holder? Please ask them to contact us.

AG-120E5C0E3B-A1507-P20-F01

ARCHIVE IMAGE WITHHELD

The original image is not displayed while permission is being confirmed. If you are the author, photographer, or rights holder, contact editor@gunsmithmag.com and reference AG-120E5C0E3B-A1507-P20-F02. Know the rights holder? Please ask them to contact us.

AG-120E5C0E3B-A1507-P20-F02

ARCHIVE IMAGE WITHHELD

The original image is not displayed while permission is being confirmed. If you are the author, photographer, or rights holder, contact editor@gunsmithmag.com and reference AG-120E5C0E3B-A1507-P20-F03. Know the rights holder? Please ask them to contact us.

AG-120E5C0E3B-A1507-P20-F03

ARCHIVE IMAGE WITHHELD

The original image is not displayed while permission is being confirmed. If you are the author, photographer, or rights holder, contact editor@gunsmithmag.com and reference AG-120E5C0E3B-A1507-P20-F04. Know the rights holder? Please ask them to contact us.

AG-120E5C0E3B-A1507-P20-F04

) Note also the knurled magazine cap which is unscrewed not only easing emptying the magazine tube but making unloading far safer. We think this is a really neat innovation! Notice how the entire assembly is moved forward and down off the frame, noticing its position for later re-assembly. Not shown in the parts but illustrated in the photo is the magazine tube adapter, which may now be pulled out the front of the action as shown in the photo. Notice its placement within the action for correct assembly later.

Breaking the action apart. Open the action by moving the forend fully to the rear, leave the hammer cocked while you move the forend

forward slightly so that the action stays about half-way open. Remove the two frame screws (#167) from either side of the receiver. These are the rear-most screws on each side of the frame (#1) and are also the largest screws. The trigger guard assembly (#26) may now be withdrawn from the frame by pushing it forward, down and out of the frame. Disassembling the receiver.

Slide the bolt assembly (#97) all the way back to the rear, then use along pin punch and hammer to drift out the locking brace pin (#177) from left to right through the holes provided for this purpose at the rear of the frame. Pull the bolt out the rear of the receiver

and lift the locking brace (#170) and its spring (#709) out through the bottom of the receiver.

Remove the loading gate spring screw (#128) and the loading gate spring (#707), and the loading gate (#127) will drop out into the receiver for easy removal. Be sure to make note of the position of the spring for re-assembly. Remove the two ejector screws (#185) (there is one screw on either side of the receiver)

WORKING THE UBERTI LIGHTNING II SLIDE-ACTION RIFLE CONTINUED

ORIGINAL PAGE 21

and lift out the ejectors (#249) Left and (#248) Right. Be sure to make a careful note of their positions so the ejectors are re-assembled into their correct sides. For normal maintenance, this is as far into disassembly as you may want to go as disassembly from here on becomes more complex. Disassembling the bolt. Using a correctly-sized pin punch and hammer, drift out the firing pin lever pin (#30). You can now remove the firing pin lever (#180) out the bottom of the bolt (#97).

Make note of the position of this part for later reassembly. The firing pin (#98) and its return spring (#95) may be withdrawn through the rear of the bolt, again, taking note of the position of the slot in the firing pin for re-assembly later. Use a small pin punch and hammer to drift out and remove the extractor pin (#30). The extractor (#790) may be lifted up and off the bolt.

The breech block piston (#726) and its spring (#600) are also retained by a small pin located at the front/side of the bolt although there may be no need to remove these for normal maintenance. Disassembling the trigger guard group. Slide the forearm forward and pull the trigger (#10) while once again controlling the hammer (#2) with your thumb, allowing the hammer to move forward gently. Unscrew and remove the four grip screws (#183) from the forend wood, then lift off the left (#706) and right (#705) forends.

Unscrew and remove the mainspring screw (#36) and lift out the mainspring (#20). Unscrew and remove the trigger spring screw Schematics Available Online A complete set of schematics and parts list for the Uberti Lightning II Slide-Action Rifle and Carbine is available for free download from our website. <http://american->

gunsmith.wordpress.com (#35), then lift out the trigger spring (#19). Using an appropriately sized pin punch and hammer, drift out the hammer pin (#177) and lift out the hammer assembly (#2).

At this juncture, note the hammer block safety (#689) to understand how it fits into the hammer and how it is positioned within the action. This part may be pulled out of its place in the rear of the trigger (#10) and removed. Unscrew and remove the carrier screw (#52). Use caution here as the screw is holding a spring under tension that will come out, followed by a tiny ball bearing. Lift out the carrier spring (#18) and the carrier sphere (ball, #545).

Drift out the carrier pin (#99) from either side of the guard and lift out the carrier (#7). Using an appropriately sized pin punch and hammer, drift out the trigger pin (#99) and remove the trigger (#10). Next, drift out the cartridge stop spring pin (#713.) Once the trigger is out, move the slide rearward and tilt up the rear of the cartridge stop assembly, at the same time pushing the front of the cartridge stop down until it becomes disengaged with the slide.

Remove the cartridge stop from the guard being careful to make note of its positioning within the slide for later re-assembly. Move the slide (#708) forward and out of the guard. Unscrew and remove the cartridge stop spring screw (#712) from the bottom of the cartridge stop and lift off the cartridge stop spring (#711). Further disassembly of the trigger guard is not recommended. Reassemble the rifle by reversing the order of above.

READER FORUM

Reader Forum

BY AMERICAN GUNSMITH EDITORS DECEMBER 2010

ORIGINAL PP. 23-24

Marlin 1894 I have a early '70's Marlin 94 in 357 mag serial number 2109XXX. The problem is when levering a cartridge through it binds up in the chamber. I have tried different bullets with a variety of ogive profiles and the problem persists. I have disassembled the gun and found no problems with any of the component parts.

Cycling the action without cartridges seems to lever through just fine with no binding, but the minute you try to feed around through the action it will bind up and take more force than is normally needed. Any suggestions would be appreciated. Joe Powers Mapleton, Maine Unless it is the legendary "Marlin Jam," a cure for which can be found on the Internet by searching for this phrase, what you describe sounds like a cartridge guide problem.

If the rifle is an Mmodel the culprit may be due to the guide screw loosening up or to upper or inner guide damage. If it is a C, CS, or Smodel, all of which have no separate cartridge guide components, make sure the finger lever screw is secure and the carrier has no excessive play. Coat the interior of the receiver with an indicator and use a dummy round to reveal the presence of any drag areas in the action.

If they exist, smooth them up. 1911 Sight Cuts I am having trouble with the sight cuts for popular 1911 pistol makes, such as Bomar, Novak, Kimber, Colt, etc. Is there any information in archives explaining how you know what the manufacturers dimensions are or how to measure to order the correct sight from a supplier catalog? Robert Allaben Bentley, MI Charles Mc Donald If you have the pistol in hand, measure the depth of the dovetail cut, its width top and bottom, and the angle front and rear. Too much trouble?

Contact the manufacturer and ask for dimensions. Alternately, contact the maker of the desired sight to see if they produce a sight for the pistol in question.

Winchester Model 1886 I have a Winchester Model 1886 rifle chambered in .45-90. The ejector, spring and collar fly out of the bolt when the lever is operated. I have examined both the bolt and ejector and done an assessment but am at a loss. George Weiland You are missing something in the breech block.

Specifically, the lever/breechblock pin that retains the parts escaping from you. It is either that or the ejector recess for the pin is so badly worn away it allows a disconnect between the pin and parts. The same could be true of the pin itself. Touch-up Blueing I normally use Brownells Oxpho-Blue to do touch-up blueing and have had great results, however, I have a current project gun that I am working on that has a little brass brazing work done on it.

Do you know of any way to darken it up so it will better match the blueing on gun? The Oxpho-Blue does not work here. R. J. We once heard, what could be an old wives tale, about blackening brass with white vinegar. We've yet to try it. Check in with the techs at Brownells to see if they've something better than an old wives tale. Striking out there, spray some black Rustoleum in a bottle cap and thin it down to a watery consistency and apply to the brass.

Before it is completely dry, swipe it with a clean cloth then allow to dry. A coating should remain on the surface. If it's not dark enough, repeat building up the coatings until it is. If it's too dark, apply whatever thinner you used with a cue tip to the surface, wait Blueing a Remington 11 I have Remington 11 in for a blueing job. I'm concerned about doing this as there is a fiber washer in the back of the receiver that is riveted in. Is there some way to remove it and blue the receiver?

I'm also having problems with the front bead that is aluminum and seems to be pressed into the front ramp. Any suggestions on how to blue this gun? David Manney Locke, Stocke and Barrell

READER FORUM CONTINUED

ORIGINAL PAGE 24

The “washer” served as a buffer to help prevent recoil damage to the receiver. Find anew buffer in the after-market before drilling out the rivets and install new rivets with the replacement buffer after blueing has been completed. Locked up F. I. E. I have a F. I. E. .22 revolver that I’m working on The hand was broken so I ordered one from Numrich Gun Parts. After reinstalling the base pin the action locked up.

If I pull the pin out from the locking groove the revolver works fine but pushing it back in locks it back up. I tried installing another base pin from and the same thing happens, so I don’t believe it is a bent pin. As an experiment I put the pistol back together turned it upside down and removed the grip frame. When I removed the bolt spring the action works but putting it all back together locked it tighter than Fort Knox. How do I remedy this? Do I need to adjust the hand? Could it be the bolt spring?

The fact it’s an F. I. E. concerns us but the last time we looked the gun was similar enough to a S&W for us to reply as follows. Though we suspect it is a timing problem, which usually involves the hand, the list of other possibilities is too extensive to speculate upon here. Brownells and VSP Publishers (Box 887, Mc Call, Utah 83638) both offer Jerry Kuhnhausen’s Shop Manual on S&W J, K, Land Nframe actions.

It is the same book recommended to this respondent while attending S&W Armorer’s School on more than one occasion, “In case any of you forget what we’ve told you here.” In it you’ll find the complete list of possibilities and how to correct them including the proper fitting of anew hand. Rossi Lever Action I have a Rossi Lever Action rifle in my shop for cleaning and routine maintenance. The only markings on it are .38/.357. The rifle looks much like a Winchester ‘94, but I’m sure the internals area bit different.

I need take down procedures but I have nothing in my library. My membership goes back to 2003 and I don’t know if it was covered prior to then. Bill Pratley We’re going to assume you have a Model 92, similar to a Winchester Model 94. The mainspring is coiled and captured in take-down by inserting a straightened paper clip in the hole of the mainspring rod after cocking the hammer. There are ample sources Model 94 disassembly so once the spring is under control you’re pretty much home free the rest of the way.

Just don’t forget to keep the pin in the rod until it goes back into the rifle. 1100 Problem A customer has fired numerous 3-inch shells in his 2 3/4-inch Remington 20 gauge LT-20 Special and wanted me to check it for any damage. After cleaning, I inspected it for damage and could not find anything obvious, however, the bolt and action assembly will not lock open. First, I replaced the Carrier assembly and then the link and action bar. No luck. Then I replaced the entire trigger assembly.

Still no luck and now I’m totally stumped. What do you think the problem could be? Doesn’t the carrier dog lock back the action bar? Or am I wrong about what I’m looking for? Stu Grell It is entirely possible the misuse if ammunition has expanded the receiver. Don’t attempt a fix. The gun must go back to Remington and don’t fail to charge the careless customer for return shipping plus the cost of repair and any applicable taxes.

He may have to pay for anew receiver, which, as you know, is classified as a firearm by BATF. Charles Daly Parts I have a 12 gauge KBI (Charles Daly) Auto Field that needs a bolt handle. I have tried Jack First, Numrich, and several others with no luck. Where might I find a bolt handle? Name Witheld Duane Wolfersperger Try contacting KBI at or AG

SEARCHABLE ISSUE RECORD

Archive index

Hunters Report They Are Hunting American Gunsmith Editors	2	Notes On Glock Barrels Robert K. Campbell	14-16
Disassembly/Reassembly of the Taurus 709 Slim Chick Blood	3-7	Working The Uberti Lightning II Slide-Action Rifle David R. Chicoine	17-21
Tightening Up The .30 Carbine Robert K. Campbell	8-11	Reader Forum American Gunsmith Editors	23-24
Remington Model 504 Bedding Pillar and Rear Action Screw Norman E. Johnson	12-13		

Rights and corrections. Images without confirmed permission remain reserved in place. Authors, photographers, and rights holders may contact editor@gunsmithmag.com. Corrections to searchable text are tracked against the source-page record.



American Gunsmith

The complete searchable archive of a technical journal devoted to craft, repair,
maintenance, machining, and restoration.

GUNSMITHMAG.COM • EDITOR@GUNSMITHMAG.COM