



JUL 2019

DIGITAL ARCHIVE
EDITION

PRECISION ARMS WORKSHOP

AND THE AMERICAN GUNSMITH ARCHIVE

A TECHNICAL JOURNAL OF CRAFT, REPAIR & RESTORATION

07

ARCHIVE ISSUE NUMBER

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THE BERETTA OLIMPIA, PART TWO

SECUBIT WEAPON LOGIC • RBL SHOTGUN TRIGGER CONVERSION • AR-15 PISTOL BUILD • STARR REVOLVERS

ORIGINAL METHODS. MODERN ACCESS.

ARCHIVE EDITION 187

DIGITAL ARCHIVE EDITION

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AMERICAN GUNSMITH

DIGITAL ARCHIVE EDITION • JULY 2019

ISSUE RECORD

ORIGINAL DATE	July 2019
VOLUME	Archive volume not stated
ISSUE NUMBER	07
SOURCE ID	ag-4201a888cd53d20f55e992f9

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.

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MAINTENANCE & REPAIR

Secubit Weapon Logic

BY AMERICAN GUNSMITH EDITORS JULY 2019

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The Weapon Logic system from Secubit is an ecosystem of preventive maintenance and inventory management for large scale firearms management. Using an artificial intelligence-based system aimed at eliminating malfunctions in crucial situations, Weapon Logic is designed to improve mission success and personnel survivability. Weapon Logic is a set of tools that gathers and analyses comprehensive weapon usage data.

Data driven maintenance and smart weapon inventory management based on actual usage is gathered by constantly reviewing each weapon. The system provides optimization to 99% shot accuracy. This data provides immediate indications regarding weapon state and ammunition consumption. The system's Smart Counter learns each specific weapon's characteristics and provides analysis.

The system's Reader and Dashboard applications diagnose the data retrieved from each Smart Counter to create preemptive maintenance and ease inventory management. The system alerts the armorer which weapons require service and current supply status. The collected data is sorted and displayed in an easy to use interface with customization features.

Weapon Logic Smart Counter is a light-weight, simple to operate device, with an information storage capacity of up to one million shots, rapid data presentation, and a battery life with up to ten operation years. This information is transferred via RFID to the Reader and provides data on the weapon's status within seconds. The Dashboard application provides data analysis and representation of each weapon's condition and inventory management.

Both the Reader and Dashboard applications provide usage data and analytics reflecting the weapon's operational status for preventative and precise maintenance, along with inventory management features. "Weapon Logic was developed to meet the needs of the forces in Latin America and the weapons in use in the region," says Ruby Shasha, Secubit VP Marketing and Sales. "Secubit is looking forward to expand its cooperation in Latin America countries by providing a preemptive weapon maintenance system for enhanced cost-effective use of small arms." For more information, visit Secubit-LTD.com or call 972-9-899-8125.

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PEOPLE & COMPANIES

The Beretta Olympia, Part Two

Disassembly, parts breakdown, and schematic of Beretta's "semi-auto bolt action" rifle and carbine.

BY BRIAN R. SMITH JULY 2019

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Above: Step one of disassembly; with the magazine removed, open the action and lock bolt to the rear by placing the bolt handle in the rear notch. Ensure that no cartridge is chambered. Above right: Press in on the breech release button to unlatch the breech assembly from the rear tang. Right: With slight upward force on the release button, lift the rear of the breech assembly from the receiver.

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Below left: When the rear of the breech assembly clears the receiver, withdraw the breech assembly to the rear. The two tangs at the front of the breech assembly clear their recesses under the receiver ring. Below center: Lift up the bolt handle and allow the bolt to ride forward in a controlled manner to prevent the recoil spring from "launching" the bolt, spring, or its guide rod. Given the mass of the bolt, it won't launch far but who likes to chase parts around the shop? Below right: Top to bottom, breech, recoil spring and guide rod, bolt assembly.

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Disassembly of an Olympia rifle or carbine (carbine in the accompanying photos) starts with ensuring that the chamber is empty and the magazine has been removed. Next, pull back the bolt handle and rotate it in the rear notch to lock the breech open. Then push in the breech release button and lift up the rear of the breech and breech bolt as an assembly and withdraw to the rear, setting it aside. The hammer will be cocked.

To release it, the spring-loaded trigger catch lever located in front of the receiver tang will need to be depressed while the trigger is pulled and the hammer is released in a controlled manner. This is a "three-hand job"

but can be done with two hands if you're dexterous. Invert the rifle in a rifle vise or bench sandbags. Using properly-fit hollow ground screwdrivers, remove first the two outermost trigger. The two tangs at the front of the breech assembly clear their recesses under the receiver ring.

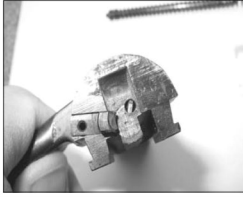
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screws. Ignore for now the trigger pull adjustment screw that is directly beneath the hole in the bottom center of the trigger guard.

Lift off the trigger guard and trigger plate, taking care to note the stamped push button safety, spring, and detent pin inset into the rearmost steel block in the receiver. Notice the position of the sliding safety with its two detents. The barreled action can now be removed from the stock. Note, on some Olympia rifles and carbines, the receiver is extremely well bedded without compound; that is, the receiver is a snug fit in the stock mor-

THE BERETTA OLIMPIA, PART TWO CONTINUED

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Above left: Underside of the bolt assembly. Note that the bolt handle rides in a circumferential dovetailed groove and is readily removed by rotating it around after applying some force for the detent ball to clear its recess. Above center: Boltface showing the extractor and firing pin face along with the robust bolt races at the bottom. Above right: Top view of the Olympia carbine receiver "under the hood." Starting with the receiver tang at lower left, the trigger catch lever is shown in its mortise. Appearing to overlap the trigger catch lever is the sear lever actuation lever attached to the top of the trigger. Next, the hammer is shown in its forward (uncocked) position, followed by the hammer spring and strut assembly. A steel receiver block containing the ejector is next, just to the left of the magazine well, in front of which is the cartridge feed ramp and the breech. The two short pins perpendicular to the feed ramp support and locate the two forward tangs of the breech from below. Notches cut into the receiver ring just in front of the pins locate the breech from in front and above, securely holding the breech in place at its front.

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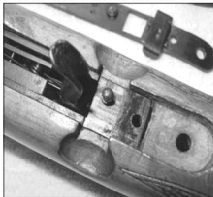
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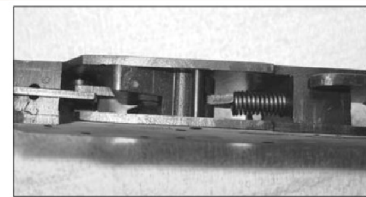
Below left: Underside of the Olympia carbine. From the stock upwards, trigger plate (flipped over to show the crossbolt-type stamped safety and the detents machined into it), stamped trigger guard, and four guard screws. The sear let-off screw is still installed in the trigger plate. Regarding the receiver shown in the stock and looking at the crossbolt safety button clearance cuts in the stock and viewing left, shown are the trigger, slotted sear lever, partially-hidden hammer spring and strut, steel block with magazine release button, and magazine well. Below center: Stamped safety's detent plunger slightly offset to the carbine's left side and directly to the rear of the trigger. Remember to remove the detent and spring and place them in a magnetic dish before removing the barreled action from the stock. Below right: Top of the receiver. From left, trigger catch lever, sear lever actuation

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A steel receiver block containing the ejector is next, just to the left of the magazine well, in front of which is the cartridge feed ramp and the breech. The two short pins perpendicular to the feed ramp support and locate the two forward tangs of the breech from below. Notches cut into the receiver ring just in front of the pins locate the breech from in front and above, securely holding the breech in place at its front. Some "persuading" with a rubber mallet may be necessary.

To further disassemble the receiver, have a bench block handy to support the receiver sideplates. With the hammer released as From the stock upwards, trigger plate (flipped over to show the crossbolt-type stamped safety and the detents machined into it), stamped trigger guard, and four guard screws. The sear let-off screw is still installed in the trigger plate.

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Remember to remove the detent and spring and place them in a magnetic dish before removing the barreled action from the stock. From left, trigger catch lever, sear lever actuation above, drive out the hammer pivot pin from right to left

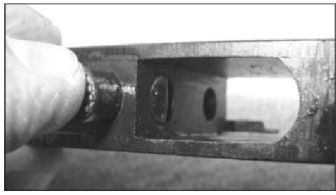
and remove the hammer through the top of the receiver. The hammer spring and its spring rod are retained in the receiver block where the magazine catch assembly is located; the end of the hammer spring rod opposite the hammer is round-headed.

Next, I find it helpful to drive out the trigger pivot pin and the sear lever pivot pin and then remove the sear lever and trigger as a group from the bottom of the receiver. Notice how the sear lever actuation lever extends from the top front of the trigger and rests in the top of a slot in the sear lever. Take a few photos for reference and see the group photo of the hammer, sear lever, sear spring, and trigger to get an idea of how they are positioned in assembly.

In operation, when the trigger is pulled, the top of the trigger moves forward, pushing the notched sear lever actuator forward against a mating surface in the sear lever, lever, cocked hammer, hammer spring and strut assembly, and steel receiver block containing the ejector.

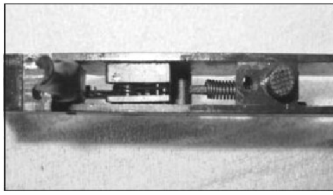
THE BERETTA OLIMPIA, PART TWO CONTINUED

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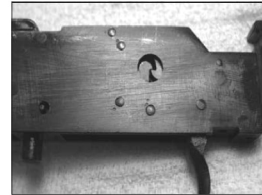
Above left: Underside of the receiver showing (L-R) the trigger, slotted sear lever, bottom of hammer, hammer spring and strut assembly, and receiver block with knurled magazine release button. Above center: Index finger is on the knurled magazine release button, with the magazine catch in the magazine well just to the right. The straight edge of the half moon shaped magazine catch engages the slot in the magazine spine. Above right: Left receiver plate exhibiting the window through which the engagement hooks of the sear lever and hammer can be viewed.

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Below left: The trigger and sear lever pins have been driven out, freeing the sear lever spring shown on the bench cover, with the sear lever and trigger partially withdrawn from the receiver. Removing both pivot pins makes removal of the trigger and sear lever the easiest. Below center: Closeup of hammer spring and strut. Below right: Trigger catch lever. It is retained by a crosspin and is spring loaded. The recess for the spring and plunger is visible partway back in the slot in the receiver tang block.

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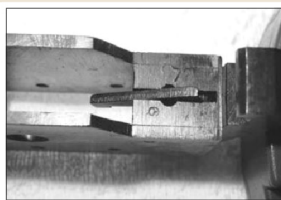
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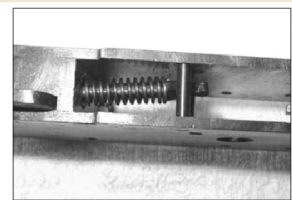
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Above center: Index finger is on the knurled magazine release button, with the magazine catch in the magazine well just to the right. The straight edge of the half moon shaped magazine catch engages the slot in the magazine spine. tilting the sear lever forward and releasing the hammer to strike the firing pin. The trigger reset spring and pin can be withdrawn forward from the rear receiver block. The magazine catch, magazine release button, and spring are retained by a crosspin.

Pressing the magazine release button “cams” the magazine release to the rear. Drive out the crosspin and withdraw the release button from the bottom of the receiver and the magazine catch toward the front into the magazine well. Take note of which side the slot in the magazine catch is to be placed in assembly. On the carbine that I disassembled, removal of the magazine release button and magazine catch and spring also released the fixed end of the hammer spring strut.

To disassemble the rear sight, first take some measurements with the depth measurement “tail” of a digital caliper or a small machinist’s scale to get an idea of the present elevation and windage settings. There are usually windage hash marks on the rear sight ramp and leaf that make resetting the windage easy but elevation requires either counting revolutions of the elevation screw or taking rear sight leaf height measurements.

Remove the two opposing serrated windage screws and slide out the rear sight leaf to either side. Remove the rear sight ramp by removing the elevation screw. The front sight insert is removed by removing the retaining screw and pushing or driving the insert out to the front. Reassembly is in reverse order but I find it easier to place the receiver on a bench block on its right side and position the sear lever and trigger. Removing both pivot pins makes removal of the trigger and sear lever the easiest.

Below center: Closeup of hammer spring and strut. It is retained by a crosspin and is spring loaded. The recess for the spring and plunger is

visible partway back in the slot in the receiver tang block. as a group into the receiver after replacing the trigger reset spring and plunger, ensuring that the sear lever actuation lever is properly positioned in the sear lever slot, then tapping the sear lever axis pin into the receiver and into the thin side of the sear lever to retain the sear lever.

Then push the trigger up and under the trigger catch lever in the rear tang so that the hook on the top right of the trigger engages the mating hook in the bottom front of the trigger catch lever. This helps to fix the trigger in position for installation of the trigger pivot pin. Then push the trigger back against the trigger reset spring and plunger while inserting a pin punch or slave pin into the trigger pivot pin hole.

Start the trigger pivot pin in the receiver hole and continue to seat the pivot pin while the pivot pin simultaneously pushes out the slave pin or punch. The hammer can then be installed in similar manner. Once all pivot pins are installed, function

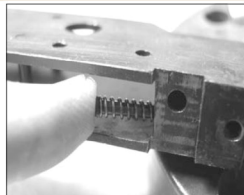
THE BERETTA OLIMPIA, PART TWO CONTINUED

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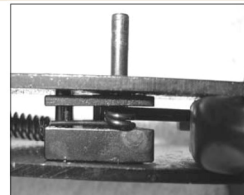
Above left: Proper orientation of the sear lever (left) and trigger with sear lever actuation lever (right), trigger reset spring (lower right), and sear lever spring (lower left). The sear lever actuation lever extends through the top of the slot machined into the underside of the sear lever. The sear lever spring must be in this orientation when installed into the sear lever slot so that the curved tail (right) fits into a capture slot machined lengthwise into the bottom of the sear lever actuation lever. Note, the fire control group will not function properly if the sear lever spring tail is not inside that capture groove in the actuation lever. Above center: Fingertip is replacing the trigger reset spring and plunger into the receiver tang block in preparation for re-installation of the trigger and sear lever. Above right: The trigger and sear lever have been installed and the sear lever pivot pin is partially installed, just in the thin section of the sear lever above the slot to retain the sear lever. The sear lever spring is shown in its proper orientation. Push the spring in and finish driving in the pivot pin.

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Above left: Proper orientation of the sear lever (left) and trigger with sear lever actuation lever (right), trigger reset spring (lower right), and sear lever spring (lower left). The sear lever actuation lever extends through the top of the slot machined into the underside of the sear lever. The sear lever spring must be in this orientation when installed into the sear lever slot so that the curved tail (right) fits into a capture slot machined lengthwise into the bottom of the sear lever actuation lever. Note, the fire control group will not function properly if the sear lever spring tail is not inside that capture groove in the actuation lever. Above center: Fingertip is replacing the trigger reset spring and plunger into the receiver tang block in preparation for re-installation of the trigger and sear lever. Above right: The trigger and sear lever have been installed and the sear lever pivot pin is partially installed, just in the thin section of the sear lever above the slot to retain the sear lever. The sear lever spring is shown in its proper orientation. Push the spring in and finish driving in the pivot pin.

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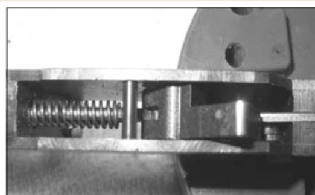
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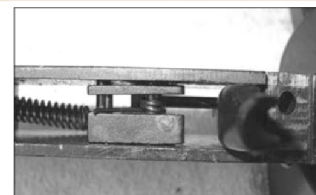
Below: Breech and bolt assembly with the bolt handle locked in the rear notch are shown tilted to facilitate ease of replacement of the front tangs into the recesses of the receiver ring and stock.

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Below left: The sear lever, sear lever spring, sear lever pivot pin, and trigger all shown properly installed. Below center: A slave pin or punch serves as a third hand to retain the hammer while seating the hammer pivot pin. Below right: Hammer shown in cocked position prior to re-installation of the breech and bolt assembly. The hammer strut is properly seated in its recess in the hammer.

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Below left: The sear lever, sear lever spring, sear lever pivot pin, and trigger all shown properly installed. Below center: A slave pin or punch serves as a third hand to retain the hammer while seating the hammer pivot pin. Below right: Hammer shown in cocked position prior to re-installation of the breech and bolt assembly. The hammer strut is properly seated in its recess in the hammer.

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The sear lever actuation lever extends through the top of the slot machined into the underside of the sear lever. The sear lever spring must be in this orientation when installed into the sear lever slot so that the curved tail (right) fits into a capture slot machined lengthwise into the bottom of the sear lever actuation lever. Note, the fire control group will not function properly if the sear lever spring tail is not inside that capture groove in the actuation lever.

Above center: Fingertip is replacing the trigger reset spring and plunger into the receiver tang block in preparation for re-installation of the trigger and sear lever. The sear lever spring is shown in its proper orientation. Push the spring in and finish driving in the pivot pin. check the trigger control group before further assembly.

When reinstalling the carbine two-piece sheet metal trigger guard and trigger plate, it helps to first install the large guard screws at both ends of the trigger guard; this helps align the holes in the trigger guard and trigger plate for the two smaller screws. Install the two smaller screws tight, then tighten the large guard screws. Below center: A slave pin or punch serves as a third hand to retain the hammer while seating the hammer pivot pin. The hammer strut is properly seated in its recess in the hammer.

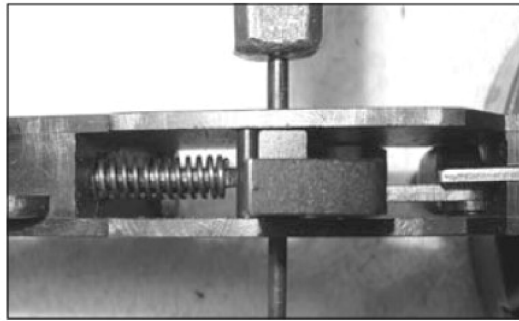
I did get some trigger time with my friend's Olympia, putting three magazines full of Mini-Mags down range recently and found it to be a captivating rimfire rifle. It's hefty but in that mass is stability. The bottom of the forends of both the carbine and rifle stocks are inletted with

a sheet metal plate with four positions for mounting the front sling loop in order to optimally fit a target sling to a shooter's arm length and stature.

With a fitted target sling and properly adjusted sear let-off, the Olympia is extremely stable and accurate, especially seeing how the 0.900" diameter, target-crowned barrel virtually eliminates vibration. Being halfway to 126, I have a very short "short list" of gun wants. After shooting the Beretta Olympia that short list grew one gun longer. Two useful parts references are from Italian parts dealer OMPS 2 (Bit.ly/2NcgEy4, contact information omitted in this digital edition) and Numrich (Bit.ly/2x1lXpR, AG

THE BERETTA OLIMPIA, PART TWO CONTINUED

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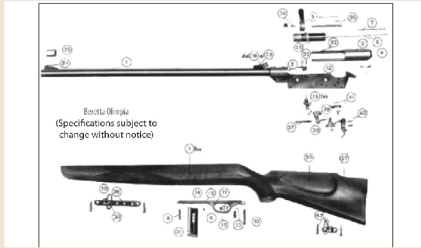


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THE BERETTA OLIMPIA, PART TWO CONTINUED

ORIGINAL PAGE 7



Below left: Two-screw Beretta scope mount. Only one mount is used between the scope reticle adjustment block and objective bell, and the scope is cantilevered back over the receiver. Below right: The one-screw scope mount is intended for the earliest production Olympias but will work if mounted such that the screw is positioned in the rear-most slot in Olympias with two screw slots in the barrel's receiver ring.

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Below left: Two-screw Beretta scope mount. Only one mount is used between the scope reticle adjustment block and objective bell, and the scope is cantilevered back over the receiver. Below right: The one-screw scope mount is intended for the earliest production Olympias but will work if mounted such that the screw is positioned in the rear-most slot in Olympias with two screw slots in the barrel's receiver ring.

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Below left: Two-screw Beretta scope mount. Only one mount is used between the scope reticle adjustment block and objective bell, and the scope is cantilevered back over the receiver. Below right: The one-screw scope mount is intended for the earliest production Olympias but will work if mounted such that the screw is positioned in the rear-most slot in Olympias with two screw slots in the barrel's receiver ring.

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Beretta Olympia (Specifications subject to change without notice) 1 barrel 1bbs stock 2 firing chamber 3 breech 4 breech release button 5 bolt handle 6 bolt recoil spring 7 recoil spring rod 8-10 trigger plate screws 11 trigger plate and trigger guard 12 receiver for cocking mechanism 13 safety with spring and pin 14 magazine well slot 15 magazine-catch hole 15b magazine-catch with spring and pin

16 hole for trigger pull adjustment screw 18 rear sight with base 20 sight mount 21 two knurled buttons 23 aiming notch Only one mount is used between the scope reticle adjustment block and objective bell, and the scope is cantilevered back over the receiver.

24 front sight with base 25 front sight guard 26 cheek rest 27 stop 28 front swivel plate 29 adjustable front swivel 30 swivel screw 31

magazine 32 bolt handle locking notch 33 breach bolt 34 extractor with spring and pin 35 firing pin and spring 36 ejector with pin 37 hammer spring and spring rod 38 hammer and pivot 39 sear lever and spring 40 release lever, pin, trigger recoil-spring 41 trigger-catch lever with pin and recoil-spring 42 rear swivel and screws

HISTORY

RBL Shotgun Trigger Conversion

A double trigger shotgun can be converted into a single trigger even at a small shop. Here's how it's done.

BY SERGEY LYALKO JULY 2019

ORIGINAL PP. 8-10

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BL (Round Body Launch) Ris a line of shotguns designed and manufactured by the Connecticut Shotgun Manufacturing Company (CSMC, RBLshotgun.com, Created and guided by Antony Galazan, this company manufactures some high-end shotguns of classic design as well as their own in-house designs. For this article, the gun of interest is a 28 gauge 2017 side-byside boxlock with double-trigger mechanism. The customer came to my shop and declared that he cannot use this gun.

The reason was simple—he has a small palm with short fingers. As a result, he could not reach the front trigger. Extending the front trigger to the rear—which presents a challenge by itself—would not solve this problem as the rear trigger becomes unusable. The evident solution would be a single trigger. I called CSMC but Bolt extension (1), automatic safety activator (2), left sear (3), trigger blade (4), and safety block (5).

Far Right sear engagement step (1), left seat engagement step (2), inertia block hinging hole (3), inertia block return spring and plunger (4). their technical staff explained to me that they do not have a conversion kit and would not take the gun in for single trigger conversion, despite the fact that they have a version of their RBL-28 with single trigger in their current production. The customer needed a solution, and we decided that I would do it by myself.

He also added the request to convert the automatic safety to manual and make a nonselective trigger. He wanted the gun to shoot the right barrel first and the left second. During this conversion I was trying to make the least amount of changes to the original receiver as possible. My fix was accomplished with the rear (left) trigger, sears, and a portion of safety block as the only mechanically-changed parts. Nothing was changed on the main body.

Decisions and Parts The single trigger mechanism can either be mechanical, when the switch from one sear to another is a result of the trigger motion, or inertial, when this switch is caused by the motion of an inertia block in response to a counter-recoil of the gun. Either way, each single trigger mechanism has to incorporate the “third pull” blocker which often is the most challenging part of this mechanism.

What exactly is a “third pull?” Simply put, this is another trigger pull immediately after the first shot. It is an unconscious pulling motion of the trigger finger. If this “third pull” is not blocked and the second sear is engaged with the trigger, the result is the gun doubling. I published a more detailed analysis of an inertial mechanism in the September

RBL SHOTGUN TRIGGER CONVERSION CONTINUED

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The post (2) is for restricting the motion of the inertia block. Sears shaped and modified identically for engagement with inertia block steps. 2000 issue as, "Understanding Inertial Devices On Single-Trigger Double Guns." The advantage of an inertia block device for the single trigger action is that it can combine two functions: The switch from one sear to another and the disconnect of the trigger from both sears during the time of counter-recoil when the third pull happens.

When the counter-recoil is over and the gun stops, the inertia block moves toward the sear under spring tension. The angle (2) distributes the force of the spring so that it pushes the fork-shaped link down. The slot (3) in the inertia block slides over the fork, and engages the trigger with the second sear. The inertia principle has become the most popular design in single-trigger shotguns and

I decided to go with it for this conversion. I used a standard inertia block from SKB, just because I had it.

In fact, any other inertia block could have been used or just made from scratch. The single trigger itself for this conversion was made out of the original RBL rear (left) trigger by cutting and bending forward its arch. It also had to be heat treated. Trimming it to remove the unnecessary material, I left the post for restricting the motion of the inertia block. Another necessary preparation was shaping the sears for engaging with steps on the inertia block.

Having the inertia block itself, the next major question is how to place it in the action. Note the tiny space inside the action and a need of several more parts like a trigger return spring, link between triggers, inertia block, and safety. After some trials and errors I fabricated a link in the shape of a fork. This

fork-shaped link is made from a high carbon steel flat 0.065" thick (1.65mm) which I heat treated to a spring hardness.

The inertia block hinging hole is for inertia block hinging, and the fork hinging hole into the bolt extension is for hinging the fork in the bolt extension. The angle of the left side of the fork is for distributing forces of the spring, pushing the fork along with pushing the inertia block down. The bottom part of the inertia block with a step cut on the sear has a slot sliding over the lower hand of the fork for stabilization. The trigger now is installed into the right slot of the floorplate.

A screw serves for engaging the fork with the trigger. The assembled action without safety has a spring performing three functions: Forward trigger return, tight connection between link and trigger, and lowering the link into position for engagement with each sear. This multi-functional spring saved space and simplified the action.

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The screw (1) for engaging the fork and the post (2) restricting inertia block motion. Inertia block and other step (4) engaging the left sear and the trigger screw (5) engaging the fork. Trigger Sequence The sequence of events before, during, and after each shot is thus. First, when the barrels are opened by turning the top lever, the bolt extension moves to the rear with the inertia block and the lower hand of the fork sliding over the screw.

The hammers are cocked, raising both sears up to the level of the inertia block steps. Second, when the barrels close the bolt extension with inertia block moves forward and the right sear engages with the step on the right side. The left sear on the level of the other step remains unengaged. Pulling the trigger will trip the right hammer and the shot goes off. During the recoil of the A, safety is off. B, safety is on. first shot none of the parts change their position.

Third, during the counter-recoil when the gun moves forward, the inertia block tries keeping its position, swinging to the rear and releasing the right sear, moving it down. The trigger post restricts the swing of the inertia block and ensures that the sliding bottom part of it will stay on the lower hand of the fork. Keeping at rear for the duration of the counter-recoil, the inertia block prevents the engagement with the left sear and the "third pull" does not cause the double shot.

Fourth, when the gun stops after counter-recoil the inertia block moves forward and the other step engages the left sear. Then, the next trigger pull will trip the left hammer and the second shot goes off. With all this accomplished, the manual safety should be fabricated and installed. Among many ways of doing that the easiest one is to use the internal part of the original safety. The original safety

block is modified by brazing a small U-shaped part on it and allows for the original safety to work.

Conclusion The result of this conversion moved the trigger position back 10mm to a convenient place for my customer. In addition to this, his two other requirements of having a manual safety and a non-selective trigger were implemented. Since this conversion the gun went through numerous shoots and hunts, proving itself reliable. An inertia single trigger is not anew design and the conversion could have been done in many different ways.

My goal, though, was to make it as simple as possible and avoid structural changes to the main body of the receiver. In fact, only the original sears, rear trigger, and the safety bar were slightly modified. The major principle part of this conversion is the fork link, which may be fabricated for any other conversion of this type. AG

PISTOLS

AR-15 Pistol Build

Whether you buy a complete kit or you get it one piece at a time, now is the time to build. Here's how I made an inexpensive AR-15 pistol.

BY ED NUTTER JULY 2019

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It seemed like just when I started looking at the AR-15, prices went through the roof and everything was out of reach. In some ways, it reminded me of the old Johnny Cash song, “One Piece At A Time”. Though I didn’t have access to parts on an assembly line, the idea stuck in my head. If I could find the parts—one piece at a time—I could assemble them myself, hopefully with better luck than the Cadillac in the song. Let’s start with the lower receiver.

Skipping forward a few years, I stopped at a gun show where they were selling \$40 AR-15 lower receivers. Finding this too hard to pass up, I filled out the paperwork and left with a basic receiver. This is an important distinction. A plain receiver can be made into a pistol or a rifle, while a rifle receiver can only be a rifle unless you fill out more paperwork and pay more money. The lower receiver houses the fire control group, the magazine, buffer tube, and is where the upper attaches.

Except for the buffer, there isn’t a lot of major movement going on in the lower. As I was reading about assembly, most sources said that polymer lowers were best kept as rifles due to the added strain from the shorter gas system on the pistol. It was also recommended to use a lower made from 7075 T6 aluminum instead of 6061 for bet-

ter long-term durability. Next came a squad automatic weapon (SAW) grip. I have tried the basic handle and found it to be rather small. I wanted something easier to hold.

Handles can be found in many different styles, sizes, and materials. The SAW grip felt OK and was twelve dollars, so I went with it. The next set of pieces was the lower parts kit. To make the lower receiver usable, the easiest thing to do is buy a complete parts kit. This will include pins, springs, trigger, sear, handle, and everything to make the lower receiver functional.

If you are going to change things (like using Wolff springs, a custom trigger, or ambidextrous safety) and you don’t want to have spare parts laying around, you will want to price individual parts and buy them that way. The end result was a receiver and grip that vaguely looked like a firearm but was not capable of doing anything. The search for parts continued. As I looked, I thought about the firearm I wanted to make.

Rifle versus Pistol As you search for parts for any AR build, you will have to decide whether you want a rifle or pistol and what caliber you want. A .223/5.56 barrel can be had in a 7.5" pistol-length to a 20" or longer rifle length with options in between. As the barrel length decreases, the amount of flash

and volume increases. Other than that, it seems that the pistol would be compact and easy to handle.

The main difference is the barrel length; the upper receiver is the same length and the buffer tube is within a couple inches. Unlike an AK style pistol, the AR pistol will still need the buffer tube, unless you find one that operates by blowback like a 9mm upper. This makes for a rather large and somewhat unwieldy pistol in .223/5.56.

AGI Online Class It was during this time while contemplating my build options that I received an email from the American Gunsmithing Institute with an offer for their “Certified Law Enforcement Armorer” class online. The offer was too good to pass up, so I started the class. This version of the class was completely online. It consisted of watching videos, then taking a rather lengthy test at the end. Topics covered included design, function, assembly/disassembly, maintenance, cleaning, and different options.

It doesn’t matter how much a gun costs, what state-of-the-art materials it is made from, or how “cool” it looks if it doesn’t function when it needs to. This is vital for any firearm but especially those used in law enforcement where someone’s life depends on it. Being relatively new to the platform, I was a little apprehensive taking the test

AR-15 PISTOL BUILD CONTINUED

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A hand stop, on the other hand, is necessary due to the short length of the barrel. but passed with a 90%. I would take the course again or take others in the price range. Pistol Choice Having weighed the advantages and disadvantages of a pistol versus a rifle, in the end the pistol won. There are a few disadvantages to an AR-style pistol. If you do not have a tax stamp, you can't put a rifle stock on a receiver with a pistol upper; doing so makes it a short barreled rifle. Muzzle flash is greatly increased.

Muzzle blast seems to be best handled with ear plugs and ear muffs. A heavier buffer must be used to compensate for the shorter gas tube. These are countered by One is a 1/4" clevis pin, the other is designed for that purpose. the fact it is a rifle cartridge in a relatively portable package. As I mentioned, buffer tubes will vary based on your AR-15's intended role.

While there are many styles of buffer tubes, the important thing for this build is that it is an explicitly-designated pistol buffer tube and not a rifle buffer tube. Adding a rifle buffer tube makes it an unregistered short-barreled

rifle which is subject to legal problems. Some pistol buffer tubes are essentially basic tubes with foam on the end.

Others have straps so you can fasten them around your arm to allow you to hold on better, though they are more controversial and their legality seems to be tied to public and political opinion. This controversy also greatly affects the price and availability. I found a vendor at a gun show selling basic pistol tubes, springs, buffers at a low price and purchased one of each. The fastest way to complete a pistol build is to buy a complete upper and attach it to the prepared lower.

As with the lower, there are numerous companies selling numerous variations on the upper and its contents. If you are wanting something different, it may be more cost efficient to buy individual pieces and assemble them yourself. The best thing with a pistol is to buy a kit from a manufacturer and assemble it. Finishing out my parts acquisition one piece at a time, charging handles have many styles available. I picked a basic charging handle. It also happened to be the lowest priced one available.

For the bolt carrier group, there are also many different options available online while the offerings at gun shows (around here at least) are usually more limited. I was told by the seller that magnetic particle inspected (MPI) bolt carriers were the best to buy. Note that the firing pin retaining pin is a special, hardened pin and not a cotter pin—they are not interchangeable. Speaking of the firing pin, you can purchase a plain steel firing pin or a titanium version.

Some consider the titanium pin to be superior. Arma Lite doesn't hide their feelings for the titanium pin having published Technical Note 2: Titanium Firing Pins Considered Generally Useless [Arma Lite's Tech Note series were authored by the late Lt. Col. Mark Westrom, former owner of Arma Lite and Army Reserve Marksmanship Program commander, can be found free online, and are worthwhile reading for all AR-15 builders and aficionados.—Ed.] Though it reduces the possibility of a

AR-15 PISTOL BUILD CONTINUED

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slamfire, Arma Lite says in the Tech Note that titanium “doesn’t handle impact well.” Some may have great success with them but I kept the steel firing pin. Many variations of forends are available. When you pick a forend and barrel nut, make sure you have the wrench that fits the nut. A quick count showed 17 different wrenches but there are probably many more. Starting torque for the barrel nut is 35 foot-pounds. The armorer’s class recommended that torque be increased until things line up as the nut is tightened.

I’ve found at least one company that sells washers to help with that. Barrels for a non-pistol AR-15 are easier to find than traditional pistol lengths. Though a pistol could technically have a 20" barrel, that would make it even more ungainly and awkward that it already is. Remember, as barrel length decreases, velocity decreases, especially with rifle cartridges. Muzzle blast also increases, possibly leading to some impressive displays as daylight fades. Twist rates are available for different bullet weights.

The particular barrel I used has a 1:7 twist rate. Chambers are available for .223, 5.56, and the Wylde variation. Note that headspace gauges are specific to the chambering. Many other cartridges, such as 9mm, are available, too. I looked for 5.56/.223 because I didn’t want to have to stock another caliber at the time. On the topic of vertical foregrips, though a rifle can have one a short pistol cannot unless it has been registered with the BATF as an “Any Other Weapon” category.

With the short barrel and my fondness for my fingers, a hand stop was mounted on the end. Since the bolt and the barrel are both cut to spec, the headspace on the AR-15 is determined by the barrel extension. A great resource for this is AR-15 Builder’s Resource by Jordan Edgar first

published in 2006 and available for free download at GunsNet.net/manuals/BUILD-ERS_GUIDE.pdf. See page 31. According to that manual, if you buy quality parts new, you should not have any headspace problems after assembly.

Having completed the AGI course and wanting a full experience and also purchasing unknown parts from different vendors, I checked the headspace before initial firing. Gas tubes are available in different lengths based on barrel length. A 7.5" barrel requires a very short gas tube. Some use an adjustable gas block to help aid proper cycling. For sights, I chose a very basic “Walmart Special” red dot. I’ve had decent results with this model on a 9mm carbine and thought I would try one on my new AR-15 pistol.

Having been caught with a dead battery on the 9mm, I purchased a few extra but wanted non-powered sights as a backup. One of the tables at a recent gun show had spring-loaded backup sights at a good price, so I bought a set. Originally, I had bore sighted the pistol with a laser and then shot it at 10 yards, mainly to see if it actually worked. It worked very well, but then I added the backup sights. When I flipped up the backup sights, I couldn’t see them through the red dot scope.

This would mean removing the scope to use the backup sights or buying a riser to mount it on. Amazon had a riser at the right price and now the backup sights can be seen through the scope. Tools Some tools are necessary, and others are very handy to have on hand when you assemble an AR-15. A 5/8" long piece of 5/32" rod, whether cut off a drill bit or turned down on a lathe, can be used to hold the trigger, disconnect, and spring together in the receiver until you drive the regular pin in.

You can buy a tool to greatly aid in installing the front pivot pin or you can use a 1/4" clevis pin. If you prefer to make either of these, there are drawings in the Army manual TM 9-1005-319-23, which is available online. Real Avid (RealAvid.com), offers a multi-function bench block to assist with assembly and disassembly. It includes a place to set the bolt while you turn a screw to compress the ejector for removal. Sinclair International (SinclairIntl.com), also sells a bolt vise for this.

Geisse Automatics (Geissele.com), carries their Reaction Rod that holds the barrel while you work on it. There are also vise blocks to hold the receiver. Other companies sell their own version of either of those. A laser bore sight from a reputable manufacturer seems to work well for initial sighting. Some troubleshooting hints. With the hammer spring, check for an improperly installed hammer spring that won’t let the hammer strike the primer hard enough.

With carrier keys, they should be torqued to 35-40 inch-pounds and then double staked. If they loosen up, there may be cycling problems. Conclusion The AR-15 pistol in .223 is very loud and semi-practical. I have read that they can be very particular to cycling ammunition, especially if they are assembled from a variety of manufacturer’s parts. So far, I have only tried about four boxes of 55 grain Tula ammunition but it has functioned every time.

I haven’t had any problems with cycling or feeding and everything fit together without any “adapt-a-kits.” The backup sights are good enough to hit pieces of clay pigeons that were left on the 50 yard backstop. I imagine I get odd looks as I carry a tennis racket case to the bench at the range but that’s the size of case it fits. It’s not a tennis racket... but it sure does make a racket!
AG

PISTOLS

Starr Revolvers

Working and repairing a Civil War-era revolver.

BY ROBERT K. CAMPBELL JULY 2019

ORIGINAL PP. 14-17

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Original caption: Top: Starr revolvers were well designed and effective combat arms. cylinder may be damaged or well worn. If someone exerts pressure on the hammer this often happens. The hammer cannot be used to cock the mechanism, only the trigger (or cocking lever as Starr called it) can. The rotator hand and ratchets may be damaged. The hand is the problem usually encountered and parts replacement is indicated.

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One of the reasons I took on a Starr revolver rebuild was that I consider it an honor to work on such a storied and significant firearms. This piece has been around our nation in warfare and served both the good and the bad in the Old West. The Starr is a double-action revolver designed by Ebenezer Townsend Starr and made by the Starr Arms Co. The revolver illustrated was used by a Pennsylvania regiment during the Civil War. That's America!

There are a few parts for the revolver here and there and, at present, the Starr isn't nearly as expensive as Colt, Remington, and Smith & Wesson revolvers. Let's look at what is needed to take apart and repair this interesting revolver. We'll start with disassembly. The thumb screw at the top of the frame is removed first. This relieves pressure on the barrel. Press the barrel

downward and it tilts down to allow the removal of the cylinder. The screws in the side of the revolver are removed to free the action.

It is common with revolvers of this design to have to tap the barrel hard to get it to actually move. The main-spring is released and the internal parts are removed by taking out the screws in the frame. There are a few problems encountered with the Starr revolver. One issue is a cylinder that won't rotate when the trigger is pressed. The most common problem is the rotator hand.

THE CYLINDER RATCHET ON THE BACK OF THE

There may be some relief by taking out the hand and placing it on an anvil and beating it until it becomes longer.

STARR REVOLVERS CONTINUED

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Above center: Note the cocking lever forward and actual trigger in the rear of the guard. This often causes the piece to begin working. If the cylinder does not rotate when fired normally, but will rotate when the barrel is pointed toward the floor or ground, then the rotator hand spring is at fault. You may make a spring or simply remove the spring and stretch it to the limit, then replace. The rotator hand spring fits into a slot in the rotator hand. If you have access to another proper spring, replace it.

The spring is against the frame and pushes against the ratchets. The spring length stretches to about the top of the hand. Sometimes the spring may be stretched and bent but then it may need to be re-hardened to stay in place. A note, the rotator hand should have a serial number stamped into it. If not it is not original.

A common problem that the revolver illustrated exhibited is that the cylinder will rotate when the hammer is actuated by pulling the trigger in its long double action

trigger press, but only if the barrel is pointed straight down. The hand spring fits into a slot in the rotator hand and will need to be replaced. Should the spring need to be made locally remember it should be even with the top of the hand in length.

If the spring is bent out of shape, Below center: Take down lever that must be removed in order to tilt the frame to remove the cylinder. re-tempering may be needed. The hand spring's thickness affects the action. If the hand spring is thick then it may suffer binding. If too thick it may not engage the hand properly. The spring tapers from where it fits the slot in the hand. This taper is no more than about 0.0018, so be certain to use the correct spring when replacement is necessary.

Another common problem is a failure of the cylinder to lock properly. The cylinder bolt stop may be to blame. The locking part on the end of the trigger (cocking

STARR REVOLVERS CONTINUED

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lever) may be well worn. This simply means that the notch has been worn to the point the nose of the locking part will not contact the cylinder notches. Note that there are twelve cylinder notches, not six. This piece may even be broken off. It may be beaten, heated, or welded to increase its length. As for hardening a weld, if the customer is actually going to fire the piece then that may be the best

procedure. This allows the hammer to be placed on the safety notch between the cylinders.

I have read of cylinder pin wear but never seen a Starr revolver that has suffered this much wear. I would imagine if the cylinder pin is worn then the action and other parts would be even more severely worn. This is an action of irreducible complexity, all parts depend upon the other. If one part is tightened Below center: This angle shows the first-class

machining of the Starr revolver cylinder pin. then another may be stressed. If one part needs service and repair then perhaps all parts will need repair.

The question of the value of the revolver must be asked at that point. Then there is the question of authenticity of the revolver. Using parts for the modern Pietta replica is a good resource but then the revolver will be a hybrid rather than an original. There is also a common fault with the Starr action involving

STARR REVOLVERS CONTINUED

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the trigger return. The trigger will sometimes refuse to return after the action is actuated. The most common fault is a broken trigger return spring. Another fault is that the hammer has no tension as the action is operated and the trigger is being rocked back. The trigger return spring will be replaced in the first instance; in the second, the mainspring. The stirrup that connects the hammer to the mainspring might be a problem but more likely the mainspring is the problem.

You will have to search out a mainspring and replace the part. A problem I encountered many years ago was that the shooter did not

understand how the adjust- Far ment slide on the rear of the trigger worked. Some adjustment is needed to perfect it. Some settings cock the hammer, others allow a straight through double action trigger press. The hammer notches are often worn and may be welded up but the easier fix is to replace the hammer.

The actuator on the end of the cocking lever (trigger) may not fully contact the hammer and may need to be built up or the trigger replaced. When you are replacing parts please understand that the .36 and .44 revolvers differ. Small parts of a spring were found on dis-

assembly— pretty much requiring we find another spring. Far They are also a tight press fit. The Starr revolver is generally well made of good material but even the youngest originals are now about one hundred and fifty five years old.

When new they cost twice as much as Colt or Remington revolvers. This is the reason that Starr simplified their double action revolver to the single action type and became competitive with Colt, at the cost of the more modern double action trigger. AG

PISTOLS

Rival Arms Glock Builds

Improving a Glock by fitting a Rival Arms slide and barrel. Here's what to look for and practical considerations.

BY ROBERT K. CAMPBELL JULY 2019

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Original caption: Top: Rival Arms slide as delivered. made with very distinctive and attractive machining.

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Whatever your opinion of the looks and handling of Glock pistols, they are tremendously popular handgun. The Glock is a baseline for personal defense. They are reliable and respond well to a trained shooter. If you instead go with a less expensive firearm, consider what corners have been cut; if you pay more, consider what you are getting for the additional money. The Glock is durable and has survived well in long term use, even if nobody buys them for aesthetics.

I used to call the 1911 “Old Ugly” but Glocks are worse with a black, business-like, angular, and homely look. Firearms have been the object of customization for hundreds of years and it was only a matter of time before Glock pistols had their share of accessories. Barrels and sights came first, then custom dust covers and triggers. Now we have gorgeously machined aftermarket slides that offer not only crazy good looking lines but improved durability and function.

Glocks are responsive to modification and are easily modified by those with skills. The slide is the first priority for many and an aftermarket slide is often less expensive than having forward cocking serrations cut into an existing slide. Rival Arms (Rival-Arms.com) offers a number of slides, barrels, frame parts, and sights for Glocks. Their Precision Upgrade slides have a number of custom features

In addition to iron sights, they are also optics ready with a removable top plate to allow mounting a Ruggedized Miniature Reflex type red dot sight. On my build I added a set of fixed sights with a narrow front post in order to maximize accuracy and make the set up compatible with a red dot optic. The result is useful on many levels, offering real versatility. The windowed slide has gained a great deal of popularity for its lighter weight and awesome looks.

This type of slide is even popular in the cinema and has a similar look to firearms used in *Far From the Tree*. The dovetail cut is standard for the Glock pistol.

RIVAL ARMS GLOCK BUILDS CONTINUED

ORIGINAL PAGE 19

in the John Wick movies and other shows. A combination of popular aesthetics and tactical design is a winner. When re-engineering Glock slides, Rival Arms made certain that the front and rear cocking serrations offer good abrasion and adhesion when firing without abrading the holster unnecessarily. How to do this is simple enough but I learned more than a little when putting together my first example. It isn't more or less difficult than the 1911, as an example, but there are considerations.

The Rival Arms slide did not include internal parts or sights so I added a Slide Completion Kit for Glock 17 GEN 3 (Brownells 100-025-310WB) which contained an extractor with loaded chamber indicator, extractor depressor plunger and spring, firing pin, firing pin safety and spring, firing pin channel liner, firing pin spring cups, firing pin spacer sleeve, slide cover plate, and recoil spring assembly. It isn't difficult to fit these parts to the slide.

Each part fit without any type of added effort, just as if the Rival Arms slide were a Glock slide. The Rival Arms slide with matching barrel in Bronze PVD fit along with the Slide Completion Kit retails for \$680.98, not including my fee for assembly. I checked for both higher and lower prices and this seems the average retail for these parts. Rival's barrel mated with their slide like a Far For this particular instance the fit was ideal. factory fit.

Assembly time would increase greatly if you choose to a gunsmith-fit barrel requiring standard fitting instead. The barrel was snug but did not require fitting for a

good fit to the slide. The customer went with a suppressor-ready threaded barrel with protector. I added a rubber O-ring to the barrel to set between the barrel and thread protector to allow good tightening but easy removal as the thread protector must be removed to remove the barrel from the slide during routine maintenance.

This barrel features conventional rifling. While offering potentially more accuracy, the true advantage for high volume competitors over Glock's standard polygonal/hexagonal rifling is use of non-jacketed bullets. Lead bullets in polygonal's shallow rifling provides nowhere for lead build up, coating the barrel and possibly increasing pressure and leading to a blown cartridge case head. While some have gotten by with very hard cast bullets (hard cast isn't the same as soft lead) this is a safety factor.

Shooters using thousands of lead bullets in practice for economy should go with a conventionally rifled barrel. The handgun was assembled with both a Generation 3 and a Generation 4 slide before settling on a Gen 3 with the smaller opening for the recoil spring rod and guide and the appropriate size guide rod. The set up was simple enough, with all parts flowing together and the final fit good.

Part of the work was to provide the customer with a viable competition handgun that would compliment his skills and part of

RIVAL ARMS GLOCK BUILDS CONTINUED

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the project was experimental to determine the fit, finish, and accuracy potential of the set up. Glocks are consistent in manufacture but the step of trying the slide assembly on several frames was worthwhile. The finish on these parts is attractive but my customer wished even more contrast. It is possible to build a customized slide and barrel on Generation 3 and 4 frames with a completely black surface, but this customer wanted a bit of a showpiece. I agreed that the contrast is excellent.

Sights were chosen next, leading to much discussion. While night sights might be a good set up for home and personal defense,

this Glock's primary chore was competition and informal target practice. Sometimes bright sunlight strikes the tritium inserts and causes a glint that interferes with the sight picture. Looking over the list at Brownells, we went with Ameri Glo (AmeriGlo.com) Suppressor/Optic Height sights (Brownells 100-009- 854WB) at \$44.99.

Rival Arms also offers competitively priced sights in several variations as well. These sights were chosen to work with optics and/or a suppressor in the future. The front blade is serrated on the rear face and relatively thin and has a very clean, precise sight picture for accurate shooting. When fitting the

sights with the MGW (Maryland Gun Works) Sight Pro there was no difficulty of any type. The sights area good snug fit. The front sight screwed into place normally.

Testing The pistol was now ready for test firing. The slide and barrel were lubricated on the barrel hood and locking lugs and the rear of the cocking block per Glock recommendations. The magazines were factory Glock that have been in use for some time and proven reliable along with a Mag Pul magazine provided by the customer. Ammuni- Far According to the author's test with a Tulster (Tulster. com) holster, among the best in service, yes.

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Shown here with a Tru Glo (TruGlo.com) Tru Point light. tion was the reliable Black Hills Ammunition 9mm Luger 115 grain FMJ. Initial testing involved 118 rounds fired as quickly as possible to determine reliability. While firing quickly the shooters also fired at a row of six steel plates at a distance of 25 yards. The first shooter held the pistol at arm's length and fired two shots into the berm. The pistol fired, fed, chambered, and ejected normally.

However, during the firing tests the pistol failed to fully go into battery about one in four times during the initial testing. Three full magazines were fired with these results. The fourth magazine—now at 68 cartridges—suffered two failures to fully lock into battery. The following magazines, totaling 50 rounds, fired without event.

Add the cost of ammunition to the firing test. (\$125.20 for 200 rounds from TargetSportsUSA.com) puts the total The fit is fine and the combination is a good one. cost at \$851.17 without shipping and labor

costs. This will aid in the quote. The customer may prefer to do the break-in firing but if you do it, you'll know exactly what is going on. The pistol was taken home and cleaned. We experienced a modest break in period.

Routine cleaning can be done by wiping the breech face in the slide and then cleaning the barrel. Every 1,000 rounds the slide should be stripped and cleaned of grit, dirt, unburned powder, carbon, and brass shavings. Since this pistol uses a well made but non-standard slide, the extractor, extractor depressor plunger, firing pin, and firing pin safety were closely examined. There was no eccentric or excess wear. Neither was there any wear on the barrel where it meets the slide or slide window.

The pistol was returned to the firing range with sixty rounds of a handload consisting of the Oregon Trail 125 grain RNL bullet and enough Hodgdon Titegroup powder for 1,050 feet per second. The Black Hills Ammunition 124 grain JHP was also tested. The lead bul-

let load gave good results and acceptable accuracy. Firing a magazine of the Black Hills Ammunition 124 grain JHP without issue, a number of five shot groups were fired from a solid bench rest at 25 yards.

The Rival Arms/Glock combination exhibited accuracy of 1.9 to 2.5 inches for a five shot group at 75 feet. Summary Fitting was not needed and the barrel and slide fit together well. The sight dovetails were fine for standard dimension Glock sights without any extra effort needed to fit and zero the sights. Cleaning the slide may require slightly more effort since there are slide windows but this is minimal. Fit to a Glock Generation 3 or 4 frame is good.

A consideration is that it seems the barrel and slide may need a breakin period. This is reasonable for a custom grade part that is designed to provide good accuracy in long term use. In short, the Rival Arms combination is good and well worth its price. AG

PISTOLS

Bob Marvel 1911 Pistol Build Class

Learn the method Bob Marvel uses to build world-class 1911 pistols from the one who developed it.

BY ROBERT "DALE" ANNIS JULY 2019

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In the summer of 2013, I attended my first 1911 class at Montgomery County Community College in North Carolina. It was a two week class taught by Bob Marvel, one of the nation's most renowned 1911 pistolsmiths, and the light bulb finally lit. I had been "gunsmithing" for nine years by that time, and due to the large number of "1911 guys" online at the time, I had avoided the 1911 believing that the field was saturated.

Little did I know that my knowledge of who was good was only surpassed by the number of those who weren't. Once I understood the platform and what 'right' looked like I began a journey and a friendship which continues to this day. Bob Marvel taught at Montgomery County Community College from 2010 to

2016. After his time at MCC Bob began teaching exclusively at Deep River Custom in North Carolina.

Eventually, the sixteen hour trip from Nebraska to North Carolina and the long periods away from home became too onerous for Bob to continue. The good news is Bob has begun his own 1911 school in Nebraska and anyone wishing to learn from the master should really consider taking this class! Bob has a unique teaching style, he is no nonsense, and will dish out praise and critique with equal enthusiasm.

The depth of knowledge based on years of experience building world-class 1911s coupled with hundreds of thousands of rounds fired

in research and testing pistols have provided Bob a level of knowledge equaled by few. Knowledge which he is very generous with. Bob's class is a build class. In other words, components have been machined oversize to his specs and are final fit by hand. Nothing is "drop-in." A typical Marvel class begins with initial component inspection, slide to frame fitting, and barrel fitting.

This is followed by fire control components. Note, the accompanying list here is a basic outline and your class may be taught in a different order. Likewise, much of the knowledge passed on occurs during the process of the build, when an amount of blending is required to get them to a finished state.

PEOPLE & COMPANIES

Reader Forum

BY AMERICAN GUNSMITH EDITORS JULY 2019

ORIGINAL PP. 23-24

Remington Model 10 The article by Mark R. Hollensen on the Remington Model 10 in the May 2019 issue was interesting and informative. They are interesting guns and somewhat challenging to work on. I've rebuilt three from parts. I would like to add a little information I have gotten from experience and from Remington. On the chamber length, if you have a shotgun that does not say "2 3/4" chamber" stamped on the barrel it is not 2 3/4".

Another way to check is, if the barrel is removable, Digital and rail micrometers are the tools of choice at this portion of the class where the accuracy is gained or lost during the build. pect along with the resulting pistol you'll build but bear in mind the class at Deep River is no longer A typical class outline: 1. Component Inspection 2. Slide to Frame Fit a. Slide/Frame measuring & deburring b. Breech Face/Feeding pathway correction via Bob's method c. Frame rail adjustment to slide dimensions d.

Final dressing of Slide to Frame fit e. Barrel Hood Fitting to slide f. Barrel leg fitting to Slide/Frame System g. Barrel Link selection and fitting h. Fitting Extractor i. Fitting firing pin retainer & firing pin j. Shaping and tuning Extractor k. Fitting Slide Lock l. Fitting Fire control components/Magazine Catch i. Trigger ii. Sear iii. Disconnect iv. Hammer m. Fire con-

trol component refinement n. Fitting Grip Safety o. Blending Grip Safety and rear of slide p. Fitting sights q. Fitting Grips r.

Slide and frame blending s. Test firing drop a wood dowel that just fits into the chamber and mark with a pencil. Then drop the dowel into a known 2 3/4" barrel that is so stamped and mark the difference with a pencil. As stated in the article, you must not shoot a standard 2 3/4" shotshell in these guns. You could, however, cut down a hull and use a roll crimp with a light load. The Model 10 was NOT made for black powder only.

I checked with Remington on that but they did say, considering the age of any Model 10, they would not recommend shooting it. Of course, I taught by Bob and the timeframe of the class may vary. Registration information for Bob's class is available from Nelson Custom Guns (Nelson Custom Guns. com/bobclass, So, are you ready to up your 1911 skills? A visit to Nebraska could certainly help in that endeavor. Thanks to Guns America for their assistance. AG would have been surprised if they didn't say that.

If Mark wants to know when that gun in his article was made he can email Remington. They have always been helpful with any questions I have had. Dennis Seitz Seitz From author Mark R. Hollensen. Thanks so much for the information; I'll be adding this to my file for the Remington 10. I also wondered about

READER FORUM CONTINUED

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the blackpowder-only information that I had found as by that time period manufacturers had already moved primarily to smokeless powders and away from blackpowder. I think the confusion on the type of powder was due primarily to the short chamber length. In most cases, the shorter chambered guns were blackpowder guns. Good to know that smokeless "could" be shot if someone wanted to give it ago but I personally would not and agree with Remington on that. Anyway, I appreciate the information.

I feel for you working on the old Remington 10! One can lose some hair working on them. The Stevens 39A I read "Working The Stevens 39A" by David W. Manney in the May 2013 issue and have a question. Can you safely fire a .45 Long Colt or .41 from the Model 39A or 59A? I remember reading that it is safe to fire a pistol cartridge such as the .45LC or a .41 caliber in .410 shotguns. Richard "Bud" No. It is a bad idea to fire any cartridge in a firearm that it wasn't purposely designed for and especially bad here.

Cartridges such as the .45 Long Colt, .41 Special, and .41 Remington Magnum develop more pressure than a .410 shotshell. A .410 slug is about .40 caliber and 100 grains of soft lead. Shotgun barrels are thinner and lighter in construction than revolver cylinders and barrels. The confusion here likely lies with revolvers such as the Taurus Judge which were designed for the .45 Long Colt and to safely fire .410 shotshells. Carbon Caper: Rico Morgan Book 2 American Gunsmith authors also pursue other writing.

Ray Ordorica released the second novel of his Rico Morgan series, Carbon Caper. Available as e Book or print from Amazon, [Amazon.com/dp/B07QZVYWNT](https://www.amazon.com/dp/B07QZVYWNT) A triple murder in back-woods Idaho has Rico Morgan stumped. Two well-known TV personalities and a bum, dead for what reason? Could it be diamonds? Maybe

one big one? The murders lead Rico, Mole and the gang to adventures in Mexico City, then into the lion's den in Caracas. Thing is, the lion hired 'em!

Rogue CIA men throw a wrench in the works, and the Russian presence in Venezuela doesn't help. It's a rock-hard tale as modern as tomorrow, and it has nothin' to do with climate! Interview with Ray Ordorica: So Rico and Mole are at it again, eh? Why Caracas? Actually I had no idea we'd be going to Caracas when I had the guys in the canoe in chapter one. Nor did I know what was stolen. The story evolved from news events. But then, why not Caracas?

The Venezuelan scene is hot in today's news and even more turbulent than in the book. The rock mentioned is also a big news item. Most of the big news events in the story are true, though I took some liberty with the leaders in Vee Zee... There are some really spooky images of the blacked-out city online. It's also the murder capitol of the world, with 98% never solved. That bit about the big Linebaugh revolver... True? The .475 and .500 Linebaughs have indeed killed elephant.

I had one for some years and sold it for the reasons discussed in the book. If you hold a hugely powerful gun like the .500 Linebaugh wrong you're going to get badly hurt. Current loadings for it are even more scary than what's presented in the book. Remington RM380 I have a customer that brought in a RM380 that is missing a magazine release spring. Have you done a disassembly article on this? I have a spring but am unsure how it fits; it appears to fit inside the magazine well but can't tell how it engages.

Sam Caudell SC Mercantile & Gunshop, LLC From author Mark R. Hollensen. I looked and found no American Gunsmith articles on this. The online owner's manual from Remington has the best schematic for viewing but still does not show exactly how the spring fits into the frame. Sorry I can't be of more assistance here. AG

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