



JUL 2018

DIGITAL ARCHIVE
EDITION

PRECISION ARMS WORKSHOP

AND THE AMERICAN GUNSMITH ARCHIVE

A TECHNICAL JOURNAL OF CRAFT, REPAIR & RESTORATION

07

ARCHIVE ISSUE NUMBER

INSIDE THE ARCHIVE

SUPER WINCHESTER .338

CHICK BLOOD QUOTES • CHARLES L. BLOOD • BRITISH ENFIELD HISTORY, PART TWO • SADLAK SCOPE MOUNT

ORIGINAL METHODS. MODERN ACCESS.

ARCHIVE EDITION 175

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 • JULY 2018

ISSUE RECORD

ORIGINAL DATE	July 2018
VOLUME	Archive volume not stated
ISSUE NUMBER	07
SOURCE ID	ag-ccac0a32c29c197c61a1d2ba

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 July 2018.

2**Chick Blood Quotes**

AMERICAN GUNSMITH EDITORS • ORIGINAL PAGES 2

3**Charles L. Blood**

AMERICAN GUNSMITH EDITORS • ORIGINAL PAGES 3

4**British Enfield History, Part Two**

PAUL MAZAN • ORIGINAL PAGES 4-7

8**Super Winchester .338**

RAY ORDORICA • ORIGINAL PAGES 8-13

14**SADLAK Scope Mount**

BILL SMITH • ORIGINAL PAGES 14-17

18**Big Modern Sporting Rifles**

DEAN MEIER • ORIGINAL PAGES 18-21

22**Improved AK Trigger**

ROBERT K. CAMPBELL • ORIGINAL PAGES 22-23

24**Reader Forum**

AMERICAN GUNSMITH EDITORS • ORIGINAL PAGES 24

PISTOLS

Chick Blood Quotes

BY AMERICAN GUNSMITH EDITORS JULY 2018

ORIGINAL PP. 2

To celebrate Chick Blood's contributions here, I'd like to remember him by how we worked and share some of my favorite "Chick-isms." "The yarn-spinning potential wrapped around this handgun and its genesis could use up an hour of gun gabbing." "No matter how poorly you speak German, spell it 'Anschutz.'" "Note: 'From away' is where all who visit Maine are said to come from when spoken of by a native-born Mainer. My Dad was born in Maine. He graduated from the University of Maine.

I spent the first 18 summers of my life at Sebec Lake, located in the middle of Maine. I went to Maine fishing for brookies with Dad for thirty years. I go to Maine every year to see old friends and still surviving family. Yet, I remain referred to as being 'from away.'" "Suppose you weren't working on a barrel fitting job. Suppose you were making a wooden picture frame. If any one of your four frame sides isn't squared and true on its ends there will be gaps instead of tight joints where the frame angles meet.

In such a situation, these gaps can be filled and blended smooth before the frame is painted. The last time I looked, I found no rifle barrels or receivers made of wood so we won't be able to cover such mistakes as easily." "Why is the name 'Buntline Special' in quotes? Because 'The Edward Zane Carroll Judson Special' wouldn't fit on the page. Mr.

Judson, the dime novel king to be, conjured up a nom de plume for himself stolen from old-time seamen when they referred to the rope at the bottom of a square sail and became Ned Buntline." "The handgun had been forbidden for import by the usual suspects. At taxpayer expense, they ponder in heavily secured conference rooms day after day to compose regulations affecting things about which they know little or nothing.

In this particular case, it was the CZ-75." "The eloquent explanation regarding gun and ammunition shortages provided by our editor in the September issue omitted a major factor.

Before he descends upon me in a dark fury, I'll explain further." "Every time Senators Feinstein, Schumer, or The Golfer-in-Chief mention more 'gun control' in seeking a cure for nutcase-inflicted mayhem, firearm production can't keep up with the subsequent public demand, the sale of reloading equipment soars, and the hoarding of related components begins.

If the Senators, et al., were wise enough they might realize they are all candidates for being handed Salesperson of the Year awards by every member of the National Shooting Sports Foundation." "Securing a squeeze bulb for this operation will call for a visit to your neighborhood pharmacy. I caution you against using the household poultry baster as a substitute.

The reaction of the resident kitchen master to that happening is too terrible to speak of here." "Turns out, someone 'up there' must have heard me and decided I wasn't a total kook." "In case you missed it the first five times, this will be your sixth warning about aftermarket triggers." "Like most of the 'auntie' gun laws enacted since the Brady Bunch initiated its campaign to eliminate handguns and handgun ammunition in the United States since 1976, this one also won't do a thing to stop crime." "Never heard of the Bloomberg Gun?

Surely you jest. If not, then you're likely among the multitude who prefer not to remember Michael Bloomberg, the multi-millionaire, TV channel owner, and former mayor of New York City. For no reason not attributed to pure party politics he was elected thrice. In

FROM THE ARCHIVE

Charles L. Blood

Remembering American Gunsmith's Technical Editor.

BY AMERICAN GUNSMITH EDITORS JULY 2018

ORIGINAL PP. 3

1 2/24/1929-4/15/2018 Chick, so nicknamed by his mother, was the only child of Lewis and Ethel Blood of Matawan. He was also convinced of his descent from the legendary pirate Captain Blood and Colonel Blood, notorious in the 1670s for stealing the crown jewels of England. Chick was a performer and storyteller all his life.

In the era of Shirley Temple, he was “discovered” as a child on a Times Square street corner with his mother, and spent his childhood acting on Broadway and in national tours in such plays as *Kiss and Tell*, *On Borrowed Time*, *The American Way* and *Watch on the Rhine*. Returning to Matawan for high school, he graduated in 1947 and went on to Columbia University. From there he enlisted in the Air Force, serving on Iwo Jima during the Korean War and as an armorer/ gunsmith for Air Force competitive shooting teams.

He married the former Marjorie Liggett in 1953. His son Charles L. Blood 2nd was born that year. That marriage ended in divorce; he married the former Deborah Paustian in 1988. Chick entered the advertising business in the mid-fifties, working as a copywriter for Young & Rubicam retrospect, many feel this was twice too often. “Hizzoner set off on his gun crusade. Bloomberg deeply believed guns were evil. All guns.

The most evil were guns of a color other than blue, blue-black, dull grey-green, dull grey, or chrome as those were how the guns being carried by the personal bodyguards and state troopers charged with protecting New York City’s Chief Executive looked. To The Mayor, the solution to this ever-arising for most of his career,

working there for 32 years (1954-1986) as a Writer, Copy Supervisor, Creative Supervisor, and the Vice President-Associate Creative Director.

He worked on many well-known campaigns of the Mad Men era and was especially proud of his work on Gulf Oil in the 60s, for which he won a CLIO award, and for Covenant House in the 80s, where he coached young recovering addicts in writing their own campaign, which won a Presidential citation from President Reagan. In addition, he was published numerous times in a variety of books, including children’s and pet care books, notably, *The Goat in the Rug*, *American Indian Games and Crafts*, and *First Aid for Dogs*.

Of course, he also was published in gunsmithing books such as *Practical Gunsmithing* as a contributing author, served as the Technical Editor and regular contributor to *American Gunsmith* from January 2001 until his last months, and was a member of the American Pistolsmith Guild. “Chick Blood will be long remembered for his technical prowess and his constant emphasis on safety,” said Timothy Cole, Executive Vice President and Editorial Director of Belvoir Media Group, *American Gunsmith*’s parent company. “He had manying concern during his administration was to outlaw all products used to paint guns.

Overlooked or deliberately ignored were any of the portable paint products sold in hardware, home improvement, hobby, and craft stores that could be used to paint a firearm.

Instead, it flat outlawed one product well known in the gunsmithing/customizing business for strength, surface integrity,

and prevention of rust: Lauer Custom Dura Blue. friends in the firearms industry, and he could always be relied upon to furnish technical specs of any firearm on demand.” “Chick was always a wealth of knowledge when I spoke with him on the phone along with his great writings,” said Robert Coles of M. O. A.

Gunsmithing. “He will be missed and my deep sympathy is extended to his family.” Chick had a gift for friendship and loved his family deeply. He never stopped acting and using his handsome baritone to give life to his stories. He was proud of his son, his Penobscot Native American heritage, and his theater and advertising careers. He loved summers in Maine, Giants football, golf, photography and keeping up with old friends.

He is fondly remembered by his relatives from the Blood and Marshall families in Dover-Foxcroft and Boothbay Harbor, Maine, and his niece and nephews of Tenafly, New Jersey and Santa Cruz, California. He is survived by his wife and son. Donations in Chick’s memory can be made to: New Jersey Blind Citizens Association Leonardo NJ 07737 AG “Lauer Custom’s Dura Blue Bloomberg Gun has an overall background in red brick with grey mortar joints.

Each of the five boroughs is spelled out in its dedicated color along with imitation bullet holes and graffiti in the brick pattern. Among the most memorable of the graffiti is, ‘For a good time call 212-xxx-xxxx’, the x’s here substituting for the actual direct number to the phone on Bloomberg’s desk.” AG

HISTORY

British Enfield History, Part Two

Wrapping up our history of British Enfield service rifles, we'll finish with the bolt-action repeaters.

BY PAUL MAZAN JULY 2018

ORIGINAL PP. 4-7

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-7C61A1D2BA-A2165-P04-F01. Know the rights holder? Please ask them to contact us.
AG-7C61A1D2BA-A2165-P04-F01

In Part One we took a look at the muzzleloading and single-shot British service rifles manufactured at the Royal Small Arms Factory in the London Borough of Enfield. In this segment we will look at the bolt-action repeaters. The Long Lee-Metford Beginning in 1879, the British held trials to select their next service rifle. Satisfied with the Martini-Henry, they didn't adopt anew rifle until 1888.

This was the bolt-action, magazine-fed Lee-Metford chambered for the same .303 cartridge they were using in the Martini-Enfield. Once again, the name of the rifle was derived from the names of the of the designer and barrel. James Paris Lee was a Scottishborn, Canadian- American inventor that designed a turn bolt rifle with a detachable box magazine. Originally a single stack magazine, it was later modified into a ten-round, staggered, double-stack style.

The Metford name refers to William Ellis Metford, an English engineer who perfected the .303 jacketed bullet and the barrel rifling for it. Originally it was not designed for smokeless powder but in 1895 the design was modified to accommodate it and resulted in the Lee-Enfield. The design of the rifle incorporates several refinements that make it faster to operate in combat conditions than the Mauser.

A rear locking lug right next to the bolt handle provides a mechanical advantage over the front locking lugs of the 1. Made to replace the long infantry rifle and the carbine versions made for the cavalry with one size for all troops. Mauser system but at the same time limits the power of the cartridge it can use due to bolt flex when the gun is fired. The action of the No. 1 also cocks on closing, accomplishing several things that contribute to speed of cycling.

The initial opening of the bolt is easier because the shooter isn't working against the firing spring. The closing stroke of the bolt is more powerful than the opening stroke, making it faster to manipulate the bolt. The 60-degree bolt rotation of Enfield design as opposed to the 90-degree bolt rotation of the Mauser along with a shorter bolt stroke allow the shooter to leave his cheek on the stock and never lose sight of his sights and have to take the time to reacquire them as is necessary with the Mauser.

The Lee-Metford was adopted for British service in 1888. In 1895, when smokeless powder was adopted and the rifling and sights were changed, the name of the rifle was changed to the .303 calibre, Rifle, Magazine, Lee-Enfield, or more commonly, the Magazine Lee-Enfield. Never satisfied

with a design, changes continued to be made to the rifle over time. From 1903 though 1909, many of the rifles had their barrels shortened and charger bridges installed.

This was the first British rifle to accept a magazine that could be reloaded while still on the rifle by means of stripper clips. Kind of a belt and suspenders solution. As it turned out, rifles were issued with one magazine and spare magazines were not issued to individual soldiers. Instead, they were issued less expensive stripper clips (chargers.) Several carbine versions were made and in 1896, the Lee-Enfield Cavalry Carbine Mk I was approved.

The Magazine Lee-Metford and Magazine Lee-Enfield were 49.5 inches long and referred to today as the "Long Lees." The No.1 Trials were again conducted at the Royal Small Arms Factory at Enfield in 1901 with an eye to replacing the Long Lees and the carbines with one rifle that would serve all branches of the service. In December 1902, the Army adopted a "Short Rifle" version of the Lee-Enfield that measured 44.5 inches overall length.

These were the first Short Magazine Lee-Enfields (short referring to the length of the rifle, not the magazine) and it probably took the Tommies

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-7C61A1D2BA-A2165-P05-F01. Know the rights holder? Please ask them to contact us.

AG-7C61A1D2BA-A2165-P05-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-7C61A1D2BA-A2165-P05-F02. Know the rights holder? Please ask them to contact us.

AG-7C61A1D2BA-A2165-P05-F02

1. 1 with a ten-round box magazine and charger guide. The detachable magazine was rarely removed or replaced as ammunition was provided in stripper clips. about two seconds to start calling the SMLE a “Smelly.” These were marked STH L. E. 1. Production began in 1903. At the same time production of the new rifles began, the British undertook converting the old Long Lees to SMLE specifications and naturally felt the need to tell the world about it by marking them SAHT L. E.

Con DII with the various stampings of asterisks, stars, moons, and shamrocks for all we know. In 1907, additional conversions were authorized and marked SHT L. E. Con D IV (Con D is the abbreviation for “Converted”). During production, the factory found ways to simplify the rifle and speed production. Each time they did they would add a mark or a star to the end of the name stamped on the rifle. This culminated in 1916 with the adoption of the SMLE Mk III*.

Early SMLE rifles had a cutoff that would block the magazine and keep the rounds in it for reserve or emergency use. The rifle was then used as a single shot to discourage wasting ammunition. It didn’t take much WWI combat to convince everyone that the era of the single-shot service rifle was long over and the cutoff was removed. As other factories picked up production for WWI, Enfield started to research producing a rifle with aperture rear sights.

The P14 As early as 1910, the British War Office had seen the advantages of a one-piece stock as used on the Mauser and Springfield rifles as well as a receiver-mounted aperture rear sight and forward locking lugs. They also considered a rimless cartridge that would produce a higher velocity than the old rimmed .303. They produced several prototypes and test rifles over the next two years and in 1913 conducted extensive field trials.

Enfield produced about 1,000 of the new rifles, chambered in .276 Enfield and called the Pattern 1913 Enfield (P’13) rifle. With the beginning of WWI in 1914, the War Office decided to go ahead with production of both the SMLE and the new rifle but dropped the experimental cartridge and produced the new rifle in the same old .303 caliber to ease production and supply problems that having two different calibers would have created. This was called the Pattern 14.

The War Office contracted with Vickers to produce 100,000 of the Pattern 14 rifles because all the other factories were busy making the vast numbers of SMLEs that would be needed. Unfortunately—or fortunately, depending which side of the Atlantic you live on—Vickers was having problems getting the new rifle into production, so the War Office contracted with Winchester and Remington to produce the P14. Production started in January of 1916.

To fulfill the orders, Remington purchased a factory in Eddystone, Pennsylvania, latter to be unofficially known as the “Eddystone Arsenal.” At the time of the purchase, Eddystone was a partially-finished locomotive factory. Each of the three factories worked independently and made design improvements to speed production. This led to some parts incompatibility between models.

As hard to believe as it is in this age of interchangeable parts, they were in such a hurry to get the rifles that the British War Office accepted the differences and simply had the rifles marked Pattern 14 Mk I E (made at Eddystone), Pattern 14 Mk I R (made at Remington), and Pattern 14 Mk I W (made at Winchester). This was followed by a design change with a different locking lug and all of the rifles made with that change were marked the same but with an asterisk (Mk I* and E, R, or W).

By April of 1917, 1.2 million P14 rifles had been produced and the contracts were nearing completion. With America’s entry into the war and Springfield Armory unable to produce enough rifles to arm the new army being raised, both Remington and Winchester offered to produce the P14 in .30-06 rather than .303. Because it was faster and cheaper to retool to make the rifle in .30-06 rather than produce new tooling to make the 1903 Springfield, the U. S.

Department of War accepted the proposals and United States Rifle, cal .30, Model of 1917 was born.

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-7C61A1D2BA-A2165-P06-F01. Know the rights holder? Please ask them to contact us.

AG-7C61A1D2BA-A2165-P06-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-7C61A1D2BA-A2165-P06-F02. Know the rights holder? Please ask them to contact us.

AG-7C61A1D2BA-A2165-P06-F02

Shortly after the first combat experiences in WWI, this was removed. Once the magazine cutoff was removed, the star would have been stamped behind the III. These are commonly known as the M1917 Enfield although none of them were ever manufactured at the Royal Small Arms Factory. Production was so successful at Eddystone, Remington, and Winchester that virtually all U. S.

Army troops, with the exception of the very first troops that went over with Pershing, were armed with the M1917 Enfield and the 1903 Springfield production was issued to the Marines.

In 1918 a telescopic sight sniper rifle was authorized and the Winchester P14s, having proven to overall more accurate than the others, were selected and were marked 1 rear sight lead to the adoption of the Pattern 1914 Enfield and No. 4 rifles with an aperture sight mounted on the receiver, with a "T" indicating Telescopic sight, labeled as Mk I* W T. After WWI, the P14 and M1917 rifles were designated as "Substitute Standard" and put into storage. In the U. S. many were sold through the NRA to members.

In 1926, the Pattern 14 rifles were redesignated as Rifle No. 3 Mk I and Mk I*. In 1939, with WWII just starting, the British

Government took P14 rifles out of storage, refurbished them, and returned them to service after having them reworked to the Weedon Repair Standard (WRS). The work was done at Enfield as well as several private firms. The rework was not extensive. The rifles were degreased, volley sights were removed, and the rifles were then inspected and repaired if necessary.

New stocks were made without the volley sight inletting and the rifles with new stocks were designated Rifle No. 3 Mk II. After Dunkirk, the British need for rifles was so critical that the United States removed over 100,000 M1917 rifles from storage, reworked them to service condition, and shipped them to England for use by the Home Guard. 150,000 or so were sent to China and another 40,000 were provided to other allies. The remainder were issued to U. S. troops.

Near the end of the war in 1944 and 1945, P14s were dropped to the allied resistance fighters in France and the low countries by the British. No. 4-series Lee-Enfield Shortly after WWI, the British sort of picked up where they had left off in 1913 by holding trials to develop a rifle with a rear aperture sight similar to the Pattern 14.

Not feeling any particular pressure to actually choose anew rifle, the Enfield factory continued to conduct trials through the 1920s and 1930s, first coming up with the No. 1 Mark Vin 1922 and the No. 1 Mark VI in 1926. In 1931, the No. 1 Mk VI was altered slightly once again and redesignated the No. 4 Mk I and it was accepted in 1939 as the new British service rifle. So, after 20 years of development the result was a modified No. 1 Mk III* bolt action rifle in the same old .303 chambering.

I have not found any information on why after deciding in 1913 that they needed a rifle with a one piece stock and a receiver sight they scrapped the P14 and went back to the two piece stock. However, the new rifle was made with anew and different standard in screw threads, making pretty much all of the threaded components non-interchangeable with the No.1 rifles.

Once again finding themselves facing a war with Germany and in need of large quantities of small arms, two new Royal Ordnance Factories were built to manufacture the No. 4 rifles: ROF Maltby in South Yorkshire and ROF Fazakerley near Liverpool. In addition, Birmingham Small Arms Company Limited (BSA) built a factory in Shirley, near Birmingham, to manufacture the

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-7C61A1D2BA-A2165-P07-F01. Know the rights holder? Please ask them to contact us.

AG-7C61A1D2BA-A2165-P07-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-7C61A1D2BA-A2165-P07-F02. Know the rights holder? Please ask them to contact us.

AG-7C61A1D2BA-A2165-P07-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-7C61A1D2BA-A2165-P07-F03. Know the rights holder? Please ask them to contact us.

AG-7C61A1D2BA-A2165-P07-F03

4 rifle. After 20 years of trials this modified version of the No. 1 was adopted. It had the receiver mounted aperture sight but abandoned the one-piece stock of the P14 and maintained the .303 British cartridge that many considered under powered. 4 with the barrel modified to accept a bayonet, eliminating the heavy No. 1 bayonet mounting hardware. No.4. By the middle of 1941 these facilities were all in production.

Even with all this production capacity the War Office felt the need for more capacity and contracted with Savage Arms in the states and Small Arms Ltd. in Canada to make the No. 4 Mk I rifles. Naturally by 1942 with service rifles rolling in, a telescopic-sighted version was approved and just as naturally it needed its own designation as the No. 4 Mk I (T). Some 25,000-30,000 of these rifles were produced.

So as not to end the confusion of marks, some of the No. 4 Mk I* rifles were converted to the "T" variation by SAL at their Long Branch factory in Canada and were marked No. 4 Mk I* 4 receiver. This example has a non-military target sight attached but its similarity to the No. 1 is easy to see. It maintains the tenround box magazine and the bridge for the stripper clips to charge it. (T). If you're not confused yet, it gets better.

A modification of the bolt release was approved for rifles manufactured by Savage and Long Branch, changing the markings once

again. These are marked No. 4 Mk I*. In case you're wondering where that "*" came from, rifles produced by Savage under the Lend-Lease Act were additionally marked "U. S. Property" on the left side of the receiver. I suspect that was chosen because it was the only place that hadn't been stamped.

In 1943, the British felt the need to once again return to the carbine concept that they had abandoned with the No. 1 rifle and began trials on a shortened and lightened No. 4. In 1944 the No. 5 Mk I, commonly known as the "Jungle Carbine" was released. These were produced by ROF Fazakerley and BSA-Shirley from 1944-1947.

In 1947, the mounting of the trigger was changed from the trigger guard to the action body, beech wood was approved for stocks, and the practice of using Roman numerals was changed to use of Arabic numbers. These "monumental" changes were adopted in 1949 and, of course, these rifles carried anew stamp, marked as No. 4 Mk2. We have strayed quite far from Enfield and although there were many more changes to the No. 4, they all occurred at other places, so we will skip over them.

All that remains are the assault rifles that we cannot own without a BATF Class III license. Much was made, at the time, of the EM-2 (Rifle No. 9 Mk1 or Janson rifle) which was a bullpup-style rifle that was chambered for the .280 British but never put into production.

The next service rifle was the L1A1, a British version of the FN FAL in 7.62. The FN FAL was developed in Belgium beginning in 1946 and the first FALs were in .308, available in 1953. Britain adopted it in 1957 and produced them at Enfield.

In the 1970s, Enfield designers were looking for a replacement for the FAL and went back to the bullpup design. Originally chambered for an experimental .190 caliber cartridge, this was cancelled because of NATO standardization and later chambered in 5.56mm and designated the XL70. This became the basis for the development of the SA80 and then the L85.

The first production runs of the L85 displayed a lot of problems, so many that the troops named it the "Civil Servant" because it wouldn't work and you couldn't fire it. Naturally, the bugs were worked out of the new design and in the grand British tradition of confusing everything, it was renamed the L85A2. In 1984, the Royal Small Arms factory at Enfield was privatized and the factory finally closed in 1988. The L85A2 remains the standard British service rifle.

About all we can say for certain about what the next British service will be is that it will not be designed or built at Enfield. AG

PEOPLE & COMPANIES

Super Winchester .338

Here's how to make an outstanding Winchester M70 chambered in .338 Winchester Magnum.

BY RAY ORDORICA JULY 2018

ORIGINAL PP. 8-13

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-7C61A1D2BA-A2166-P08-F01. Know the rights holder? Please ask them to contact us.

AG-7C61A1D2BA-A2166-P08-F01

Back when the Ruger 77 first came out, riflemen liked its lines and, generally, most of its features. One thing I never liked—and I know I was not alone— was the use of aluminum for the trigger guard and floorplate on that rifle. I complained in print, as did many others, and Ruger finally fixed that problem. Recently I bought anew Winchester Model 70 in .338 Winchester Magnum, despite knowing Winchester had lost its collective mind.

This modern adaptation of the classic Model 70 had an aluminum trigger guard and floorplate. Now, on a rifle of good and impressive power which will clearly be put to hard work in the field, one doesn't want lighter and weaker parts. He wants them heavy to help offset the recoil (the rifle is on the light side) and strong for the jobs this rifle will see. He wants them made of steel. I tested this .338 Mag. for Gun Tests magazine twice.

Once in the December 2012 issue in stock condition up against a Ruger and then in the July 2015 issue up against a custom .338 Win. Mag. rifle built by the late Iver

Henriksen, whom Elmer Keith mentioned frequently as being one of his favorite gunsmiths. Before I tested the Model 70 against the Henriksen I made a few significant changes to the Winchester to make it a more even comparison.

The Henriksen had along magazine and extended throat so the rifle could handle the kind of ammo I had long read of in the works of Mr. Keith. It would accept rounds handloaded with bullets seated about a quarterinch farther out than factory .338 Win. Mag. ammo. Factory rounds have the The rifle has had a few easy modifications to vastly improve an already good gun. longer, heavier bullets jammed drastically down into the case so they will fit a 30-06-length magazine.

The heavy bullets reduce powder capacity and cut potential velocity. I discovered it was not hard to make similar changes to my new Winchester. But before I began, I "fixed" things a bit. At the time of my first test of the .338 I had on hand another new Model 70 Winchester, that one in .375 H&H Magnum. The .375 had all-steel parts

on its lower surfaces. That got me thinking. Could they? Would they? I got curious and did some disassembly.

To my joy the all-steel parts from the .375 fit right into the wood of the .338 with no alterations nor inletting needed. I got on the phone to Browning and in short order had the all-steel trigger guard, floorplate, and related parts designed for the to me. These are not exactly inexpensive but they are indeed available. Longer Box I found the .375 magazine box was longer than that of the .338. Installing the .375 box into the .338 stock would have required some serious inletting and some other problems.

I came up with a simpler solution. I removed the rear spacer from the .338 box, which gave me nearly a quarter-inch more length, making it the same length as the box in the custom Henriksen. I didn't have to inlet anything. When I removed the rear spacer the steel .338 box was no longer joined at the back. However, the fit of the magazine into the action steel is such that there's no need to join the rear of the box back together.

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-7C61A1D2BA-A2166-P09-F01. Know the rights holder? Please ask them to contact us.

AG-7C61A1D2BA-A2166-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-7C61A1D2BA-A2166-P09-F02. Know the rights holder? Please ask them to contact us.

AG-7C61A1D2BA-A2166-P09-F02

The magazine fits entirely within the lower part of the action, which holds it together perfectly. Of course, the longer .375 mag box would not have fit the action, so I'd have had lots of fudging to do to get a longer mag box in there. I forgot to buy a .375 ejector but there was an easy solution. With the opened-up magazine box the front of the .338 ejector was not far enough rearward and it interfered with the operation of the modified magazine.

I fixed the problem by annealing the ejector, drilling a hole for the axle farther forward, filing off the rear portion to the right contour, and rehardening the modified part. Works like a champ. I had worried that ejected cases would foul on the rear part of the ejection port—the right side of the rear bridge—on the way out. Would I need to grind it away, like I did on my modified .416 Rigby? No. It works just fine in its original configuration. Empty cases fly freely out of the rifle.

Freeboring So far my “gunsmithing” of this rifle required mighty little gunsmithing. However, I needed to lengthen the leade of the rifling, essentially freebore the barrel, so the seated-out bullets had somewhere to go when chambered. I borrowed a throating 375 Model 70. They fit right in without the need for any inletting. Author used the original magazine box but removed the rear spacer.

The box sits completely within the action and cannot open at the rear, so there's no need to weld it. reamer from my old friend

Don Fisher, the noted Colorado gunsmith. Don had used that same throating reamer on my fine .338 OKH custom Mauser rifle many years ago. That rifle has an extended throat, actually free-bored quite a lot, that permits it to accept 300-grain Barnes round-nose bullets seated all the way out, their bases flush with the bottom of the neck of the cartridge.

Though the long rounds won't fit the magazine, they can be easily loaded one at a time. That rifle is the most accurate bolt-action rifle I've ever owned, something of a happy surprise to me because with the free-bore I didn't expect it to be a tack driver. But it is. The success of the free-bored .338 OKH was the inspiration for lengthening the .338 Winchester Magnum's throat.

I knew a longer throat would do no harm to its accuracy and, as noted, would give higher velocity with the long (1.75") 300-grain Nosler bullets I wanted to use. When I got the reamer from Don I found it just barely touched the rifling when I poked it in through the very back of the action. Don had throated the barrel of my OKH before mounting it into the action. The tool was on a short shaft and handle and I didn't have a good way to extend it.

I ended up using a Crescent wrench to turn the cutter and lots of diligent finger work. The reamer was held in its handle with only one set screw and the cutter kept slipping. I couldn't see what it was doing very well and didn't know it was slipping, so a job that should have taken minutes took

me hours. I didn't own the tool or I'd have modified its handle. It needed two set screws. Of course, I could have made a better tool to hold the thing but I was already at it and just kept it up.

Persistence paid off and I managed to get the throat cut deep enough. I went into the barrel just a bit more than the length I gained in the modified magazine, about 3/8". Bedding The factory barrel was free floated, a condition I've never liked. The solution was to glass bed it. I thought I'd need to incorporate buried cross screws to ensure the stock wood would never split. This Model 70, like some of the older ones, had a lump in the barrel to accept the rear sight.

Early versions of the Model 70 sometimes incorporated a forend attaching screw, going into the lump. I considered doing this but the potential gain didn't seem worth the effort. Some wonder about the intent of the fourth screw on early Winchester M70s. Elmer Keith had somewhat of a hand in designing that rifle and had long stated he liked his rifles fully inletted, never free floated. I suspect he might have pushed for tying the stock to the barrel with that forend screw. In support of Mr.

Keith's findings, the most accurate rifles I've owned have had their barrels fully bedded, with

SUPER WINCHESTER .338 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-7C61A1D2BA-A2166-P10-F01. Know the rights holder? Please ask them to contact us.

AG-7C61A1D2BA-A2166-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-7C61A1D2BA-A2166-P10-F02. Know the rights holder? Please ask them to contact us.

AG-7C61A1D2BA-A2166-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-7C61A1D2BA-A2166-P10-F03. Know the rights holder? Please ask them to contact us.

AG-7C61A1D2BA-A2166-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-7C61A1D2BA-A2166-P10-F04. Know the rights holder? Please ask them to contact us.

AG-7C61A1D2BA-A2166-P10-F04

The circle shows where the author has installed hidden cross bolts in other rifles to prevent splitting. With Winchester's new design having two recoil points, there's no longer a need for the cross bolt. Winchester put a small square shoulder on the action steel at this point. This clever idea eliminated the need for cross bolts and even the third action bolt installed under the floorplate. none of the free-floating concept applied. The wood has to be stable and well sealed for the zero to stay put, of course.

When I examined the inside of this M70 stock I learned that Winchester has created a rifle that does not need any cross screws. The stock doesn't really need any crossways bracing at all. It appears to have one through the stock just in front of the trigger but if there's anything in there it's not steel. Why is this so? Most rifle stocks that split do so as a re-

sult of bowing of the thin sides of the stock—where the wood goes. The weights induce upward pressure on the barrel at the tip of the forend.

When the epoxy is set the weights are removed but the pressure is still there. The butt stock has a coffee can on it with weights added to counterbalance the front weights, so the stock wood pinched at the vise doesn't have to do all the work. How much did this improve accuracy? Read the story to find out. around the magazine—under recoil.

The forward recoil lug takes all the recoil force and because the stock is nested solidly in contact with the rifleman's shoulder, as the recoil lug moves rearward it bows out the stock sides and causes a split, usually just in front of the trigger. This split usually spreads forward to the recoil-lug area, which means

total stock failure. One might argue that the rear bolt should clamp the metal firmly to the wood but in truth it does not.

That rear screw ought not to be anywhere near as tight as the one at the main recoil lug. The metal at the back can and does move rearward, allowing the stock wood to bow outward. But now Winchester has prevented the possibility of bowing of the wood by the simple expedient of including a small square shoulder at the very rear of the action. Recoil pushes equally in both places, both of which were glass bedded at the factory. This means the thin wood sides can't bow out unless the action collapses like a tin can.

Thanks to this great new design I didn't need to inlet any cross screws. Winchester also eliminated the third action bolt that used to hide under the floor plate. However, I needed to fix the freefloated barrel with the excellent

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-7C61A1D2BA-A2166-P11-F01. Know the rights holder? Please ask them to contact us.

AG-7C61A1D2BA-A2166-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-7C61A1D2BA-A2166-P11-F02. Know the rights holder? Please ask them to contact us.

AG-7C61A1D2BA-A2166-P11-F02

5 inches long and takes up lots of space in the brass case. The farther out one can seat it the faster it can be driven. The loaded round has the bullet deep enough to fit the original rifle. That's not good enough, says the author. The barrel had to be throated and the magazine lengthened to permit this. If you want to use long, heavy bullets in the .338 this is a useful and simply achieved technique, and you don't really need to get a steel trigger guard and floorplate to do it. Acraglas from Brownells.

I've used Acraglas Gel, Steel Bed, and the original Acraglas in the red box over the years. When I looked to see what was on hand I found only one unopened red box. The rest of my stuff on hand was so old the resin had lost its solvent and was not usable. Following the instructions, I carefully mixed up enough for the job but found it to be too wet for what I was going to do. Accordingly I added all the supplied flocking, a stiffener, so the bedding would not run out when I inverted the stock.

Why invert the stock whilst glass bedding? I wanted to add some upforce on the very end of the stock by the simple expedient of hanging a weight on the end of the barrel with the rifle held inverted. I chose two steel bars that together weighed a little over three pounds, tied them together and hung them on the end of the barrel, the rifle being held gently upside down in a vise.

Because the weights were more than twice as far from the forend tip as the forend tip is from the action, the extended moment arm gave an effective upward force at the forend tip of a little over eight pounds. My photos show the setup, with the rifle in my vise. I had to hang a can full of odd weights on the butt to balance the load because I didn't want to tighten the vise on the wood any more than necessary. Here's a tip: Don't use tape to support the weight.

As the epoxy slowly cures, the tape can slip and let the weights drop off, which is not what you want. Been there. There was a deep, wide slot inside the forend wood which gave the factory an easy way to install the forward sling swivel. I filled that

with modeling clay before my glassbedding operation to preserve that channel in case someone wants to add weight at a later date for whatever reason, such as rebarreling to a more powerful cartridge.

The wood along the sides of the barrel was open and needed filling but the inletting on the action was good enough that I could see no reason to glass bed it. Though I sealed the sides of stock against the barrel, I didn't put any epoxy under the barrel except for the last 2" at the forend tip. Externals The Winchester's rear sight was a folding U-notch blade with a huge white diamond to help you find the center. I inverted the U and filed a 'V' into the blade and cold-blued the raw edge.

This vastly improved the ironsight picture. However, I can't use them easily. The Henriksen was fitted with one of the old, formerly very costly, Bausch & Lomb Balvar 8A variable scopes with the adjustments in the base. I had no personal experience with those marvelous old telescopic sights and wanted to learn something about them. I made a diligent search

SUPER WINCHESTER .338 CONTINUED

ORIGINAL PAGE 12

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-7C61A1D2BA-A2166-P12-F01. Know the rights holder? Please ask them to contact us.

AG-7C61A1D2BA-A2166-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-7C61A1D2BA-A2166-P12-F02. Know the rights holder? Please ask them to contact us.

AG-7C61A1D2BA-A2166-P12-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-7C61A1D2BA-A2166-P12-F03. Know the rights holder? Please ask them to contact us.

AG-7C61A1D2BA-A2166-P12-F03

It was not. The spring was captive in the sealed unit, so backing out the adjustment screw completely gave a pull of over four pounds—too heavy for the author. The only way to lower it still further was to press out the pull spring and cut it. He then cut a small bit off the large end of the spring and reinserted it. This permitted an adjustment to just over three pounds.

Compared to the original Model 70 trigger this is a piece of lawyer-mandated junk, says the author. On eBay and found a Balvar 8A and a set of bases for the Model 70, all in like-new condition, bought them, and put them on my rifle. The B&L bases are high enough that I can't see the iron sights when I remove the handdetachable scope. If I ever want to use the iron sights I'll have to remove the scope bases with a screwdriver.

As to the quality of the scope, it beats most of today's common scopes for resolution, flare control, and overall usefulness. It also added needed weight to the rifle. I'm mighty

glad I got it. I could see no reason to alter the externals of the stock in any way. The checking is excellent, the pull length is ideal, the recoil pad is a good one by Pachmayr, the lines of the rifle are very good, and the overall finish on the wood is excellent. I would not gain anything by refinishing it.

The upper screw, for the sear engagement, was not touched. Testing When I tested the rifle in 2012 I shot it with 225-grain Hornady and Remington factory ammo and a lighter-bullet handload. In 2015 I tested with Winchester 225-grain and Remington 250-grain ammo and a 300-grain handload, so unfortunately I have no precise comparison between velocity with and without the lengthened leade or freebore.

I would expect a slightly lower velocity now with all factory loads because of the lack of immediate pressure jump due to the distance the bullet can travel without encountering resistance (the freebore). However, velocities

between the Henriksen and the modified Winchester were very close to each other with all three bullet weights tried.

The Model 70 slightly beat the Henriksen with my hastily developed 300-grain Nosler Accubond handload but there's lots more testing to be done to determine the best powder for this rifle and this bullet. My best guess is I'll get close to 2400 fps with the 300 Nosler with the right powder. My current handload gives about 2300 fps. The Winchester has a 25-inch barrel. The Henriksen's was 26 inches long. Trigger Pull I was not at all happy with the trigger pull on the Winchester.

It has a new-style trigger, not the good, old simple one. The adjustments for engagement and weight on the new one were epoxied in place. I scraped off the goo, found a small Allen wrench to fit (1/16"), and unscrewed the weight-adjustment screw. This did nothing. The pull was around I wanted three pounds. In order to get that weight

SUPER WINCHESTER .338 CONTINUED

ORIGINAL PAGE 13

I had to remove the spring and cut off a loop. To get the spring out I removed the trigger assembly from the action and discovered there was no easy way to get the spring out. However, there was a hole on each side of the trigger assembly that let me view the spring. I used a suitable punch and pressed carefully on the spring and it came out the opposite side. One end was twisted tighter to catch a small protrusion on the back of the trigger itself and keep the spring in place.

The other end had a flattened loop and that's where I carefully snipped a tiny bit of it off. Reinsertion was not hard and I took care to get the small end properly around the protrusion. My trigger gauge indicated I now had about 3.5 pounds. Good enough for me. Shame on Winchester for putting that piece of junk in this fine rifle. When you have one of the best and simplest triggers in existence, as the British would put it, leave well alone.

Or as we put it back in '74 working on the Viking Lander at White Sands, "If it ain't broke, don't fix it!" The final test was to see how the accuracy stacked up to what it was before my careful glass bedding. To that end I duplicated the Reloder 22 handload and fired several threeshot groups. The original rifle with free-floated barrel got hundred-yard groups of 1.1 inch with

that load. Imagine my joy when my carefully glassed rifle sprayed that load all over the paper.

Remington 250-grain loads gave similar results, leading me to believe there might be something wrong with my bedding job. Inspection revealed that I had omitted to relieve the bedding behind the barrel lug, which effectively made it a recoil lug. I relieved it at the back, checked everywhere else there might be binding, and tried it again. No luck. Next trick was to put a shim under the front lug to basically eliminate all the glass bedding work I had done. Yep, that did it.

I was back to the excellent accuracy I had before I started. I was now left with the task of removing all the glass bedding I had carefully installed and, very unhappily, that is what I did. There were several options open to me other than restoring the wood to the condition in which it left the factory. One was to bed the entire action, including eliminating the small rear bedding area and installing across bolt.

However, that looked like an awful lot of work for a huge "maybe." The "new" Model 70 has not one but two recoil areas. The action is clamped to the stock at the main lug and at the small rear lug by the two action bolts. As originally set up those were the only two places in the stock

where the steel firmly met the wood. This setup introduces an entirely new means of holding the parts together.

In between, and in front of, the two stock bolts the steel can rock or sway or flex in ways that might well mandate the barrel fly free for best accuracy. The barrel is on the slim side and can flex easily. Another thing to try is to move the upward-pressure point back along the barrel channel until I find the "best" spot. I'm looking for half-minute accuracy, not because the rifle needs it but because I think it's there for the finding. As of now I'll have to look for it sometime down the road.

I'm extremely happy with the replacement steel parts and the extended throat and magazine. So, should you do this to your rifle? If you want to use heavy bullets, 275 up to 300 grains, by all means extend the magazine and throat. It's not necessary to replace the aluminum trigger guard and floorplate with steel. You can remove the mag-box spacer at the back, put in a shortened ejector and lengthen the leade, and you'll have a lot more rifle for not a lot more money.

If your rifle shoots like mine did before I glassed it, i.e., groups with all loads of 1.5 inches at the worst, you may choose to leave the barrel floating in space. Based on my experiments so far, that's the right thing to do. AG

HISTORY

SADLAK Scope Mount

SADLAK's scope mount is an ideal way to add optics to M14/M1A rifles.

BY BILL SMITH JULY 2018

ORIGINAL PP. 14-17

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-7C61A1D2BA-A2167-P14-F01. Know the rights holder? Please ask them to contact us.

AG-7C61A1D2BA-A2167-P14-F01

Optics are becoming increasingly more common on military rifles. While classic selfloading military rifles such as the M14/M1A were released a generation before this trend, SADLAK Industries (sadlak.com), has a ready solution. Mike Sadlak started in the industry in 1989 as Sadlak Innovative Design, an engineering studio developing solutions for manufacturing and assembly companies. As his company grew, he sought out new opportunities and began looking into components for firearms.

SADLAK Industries has two primary product lines, one in the AR market featuring their gas blocks and the other for M14/M1A rifles featuring their Premium Scope Mount. Prior to SADLAK's design, Brookfield Precision Tool was the original designer and manufacturer of this type of mount. Commonly known as a three-point contact M14 scope mount, the Brookfield was an improvement over the original aluminum military mounts.

When Brookfield ceased operations in the mid- 1990s, Mike Sadlak offered his own design with a number of important improvements. First was the increased length and addition of two outboard set screws to the clip guide key. The outboard setscrews wedge the key into the dovetail groove of the stripper clip Bottom, slotted hole in mount for clip guide screw with the clip guide key. Far Middle, added semi-circle notches to access set screws on the clip guide key.

Bottom, increased screw size of third contact point. guide for maximum surface contact and holding power. The key acts as an immobile stationary nut, which is more secure than the Brookfield design and offers a better anchoring point for the mount at the stripper clip guide area that is better able to withstand the recoil forces without loosening. With the clip guide key securely

SADLAK SCOPE MOUNT CONTINUED

ORIGINAL PAGE 15

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-7C61A1D2BA-A2167-P15-F01. Know the rights holder? Please ask them to contact us.

AG-7C61A1D2BA-A2167-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-7C61A1D2BA-A2167-P15-F02. Know the rights holder? Please ask them to contact us.

AG-7C61A1D2BA-A2167-P15-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-7C61A1D2BA-A2167-P15-F03. Know the rights holder? Please ask them to contact us.

AG-7C61A1D2BA-A2167-P15-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-7C61A1D2BA-A2167-P15-F04. Know the rights holder? Please ask them to contact us.

AG-7C61A1D2BA-A2167-P15-F04

wedged and locked into the dovetail groove, the elongated slotted hole allows more adjustability without sacrificing holding power and allows the screw to better mate up with the stationary nut. Rather than depend exclusively on a small #10 socket head cap screw for secure holding as with the Brookfield design, SADLAK's approach is more robust. An added five-degree case deflection angle on the mount's underside allows spent cartridges to better clear.

With a worn ejector, the spent case can be thrown vertically and hit the mount. SADLAK's additional clearance helps alleviate this. Added semi-circle notches on either side of the mount allows the clip guide key to be tightened in the receiver groove while the mount is attached for more convenient installation. The increased screw size of With the paper strip on the groove bottom under the secured pin, the paper should be able to slip out.

If not, the pin is contacting the groove bottom. the third contact point (from 1/4-28 to 5/16-24) contacts the top front of the receiver for greater contact surface with the receiver. Finally, only two hex wrenches are required to service the mount. Receiver Assessment Before installing on a given M14/M1A, the receiver must be inspected due Far The small pin measures 0.1410 and the large pin 0.1563. The pin contacts the angle face but doesn't touch the bottom groove.

Middle, incorrect as the too-small pin contacts groove bottom. Bottom, also incorrect fit as the too-large pin contacts only the corners. to a number variations in manufacture. SADLAK has a receiver groove inspection kit to help troubleshoot scope mounting problems due to an out-of-spec receiver groove. Especially if a shooter is experiencing windage or elevation problems, a receiver inspection will determine specific dimensions and confirm if the mount is correctly installed.

This inspection kit consists of a set of precision-ground pins used to inspect the receiver to determine if the left side groove is within normal specifications. The large pin measures 0.1563 and the small pin 0.1406. The groove has tapered side walls and must be measured over around pin to accurately determine the width. In addition to the inspection kit, you'll need an accurate measuring tool, such as a six-inch dial caliper (good) or a two-inch micrometer (best). A magnifying glass or eye loop is recommended.

The first step is to identify which of the two inspection pins best fits your receiver. Cut a strip of paper no wider than the width of the groove bottom and allowing for a tab for grasping. Secure a pin in place with rubber bands on top of the paper strip in the groove. If you can pull the paper strip out from under the secured pin, you'll know the pin is not in contact with the bottom of the groove and is the appropriate size. With the correct pin chosen, there are four important dimen-

SADLAK SCOPE MOUNT CONTINUED

ORIGINAL PAGE 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-7C61A1D2BA-A2167-P16-F01. Know the rights holder? Please ask them to contact us.

AG-7C61A1D2BA-A2167-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-7C61A1D2BA-A2167-P16-F02. Know the rights holder? Please ask them to contact us.

AG-7C61A1D2BA-A2167-P16-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-7C61A1D2BA-A2167-P16-F03. Know the rights holder? Please ask them to contact us.

AG-7C61A1D2BA-A2167-P16-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-7C61A1D2BA-A2167-P16-F04. Know the rights holder? Please ask them to contact us.

AG-7C61A1D2BA-A2167-P16-F04

The cross section at center of the left side is a #12-32 threaded hole. With the correct pin inserted in the receiver groove, measure the receiver width over the pin. Shown here using a six-inch caliper. sions when using this kit. Dim. 1 is the groove width, which is the same as the appropriate-sized and secured pin height above the left surface. Find this by measuring the receiver width and then subtracting that from the total thickness of the receiver width with the pin in the groove.

Dim. 2 is the groove depth and is found by measuring the depth of the groove with a dial caliper or depth micrometer using the probe function in the normal manner. Magnification helps here. Dim. 3 is the groove bottom width and Dim. 4 is the groove top #2 (groove depth) is 0.062-0.072. If Dim. #2 is under 0.050, there is a high probability that custom fitting will be required. SADLAK can help. 2, groove depth, is found with a caliper's or micrometer's probe function in the normal manner. width.

Both are taken with an inside caliper or micrometer. While these dimensions are difficult to measure precisely due to the small corner radius breaks, they aren't as critical as

the first two dimensions and serve as an additional sizing reference when all are combined. Do your best to get the measurements to a theoretical sharp corner. Magnification is really helpful. Start with the appropriate-sized pin.

The pin should rest on the angled face inside the groove without touching the groove bottom or contacting the corners on the widest part of the groove—hence the paper strip test. The small pin works best when the groove depth (Dim. 2) is less than 0.055" or the groove top width (Dim. 4) is less than 0.135. For USGI specifications, Dim. 1 with the large pin measures 0.102- 0.106 and the small pin measures 0.079-0.083. For Dim. 2, the same USGI spec will have a groove depth of 0.062-0.072.

The SADLAK readily adapts to non-GI spec receivers and handles Dim. 2 measurements from 0.055- 0.075 without customization. With the measurements taken, we're ready to install. Installation Begin by removing the stripper clip guide from the receiver. Inspect for burrs on the angled surface and inside the dovetail groove, moving any with a stone. Note, careless removal of the stripper clip

guide can crack the receiver. Remove the stripper clip guide by removing the receiver from stock.

From the inside of the receiver, insert a 3/32 diameter or slightly smaller pin punch and gently tap the spring pin out. While supporting the left side of the receiver below stripper guide with a block of wood, gently tap the stripper guide on the right side only. The stripper guide is removed from right to left. Inspect that the tapped hole in the receiver has good clean threads by manually threading the hex screw into the hole.

Don't use a wrench as damage to the receiver or screw may occur if threads in the receiver are dirty or damaged. If threads are good and clean, the screw will easily thread into it without binding. Use solvent, a small brush, and/or compressed air to get them that way. If required, chase the thread with a #12-32 UNEF (Extra-Fine) chase screw. A hand tap may be required if the threads are severely damaged. The chase screw, repair tap, and 3/32 Starrett Pin Punch are available from SADLAK.

NOTE, SADLAK'S CHASE SCREW USES A MORE FINE PITCH THAN

SADLAK SCOPE MOUNT CONTINUED

ORIGINAL PAGE 17

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-7C61A1D2BA-A2167-P17-F01. Know the rights holder? Please ask them to contact us.

AG-7C61A1D2BA-A2167-P17-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-7C61A1D2BA-A2167-P17-F02. Know the rights holder? Please ask them to contact us.

AG-7C61A1D2BA-A2167-P17-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-7C61A1D2BA-A2167-P17-F03. Know the rights holder? Please ask them to contact us.

AG-7C61A1D2BA-A2167-P17-F03

the #12-32 UNF or UNC commonly found in hardware stores, though some large industrial tool supply companies might carry the item. To install the mount, place it in the receiver groove on the left side. Slide the mount toward the barrel and then back to check surface contact. To help confirm contact, Permatex Prussian Blue high-spot marking paste can be used. The left side key on the mount should fit completely into the receiver groove.

When pressed firmly against the receiver, no light should be visible between the mount and receiver. Full contact between the mount and the machined surface on the receiver's left side will help assure maximum reliability, help return to zero when the mount is removed, and prevent loosening due to recoil. Insert the cam washer into elongated slot in left side of the mount at 9 o'clock.

Install the hex screw after applying Loctite (SADLAK recommends 222MS for their mount) and inserting through the cam washer and into the receiver. Partially tighten the 3 (groove bottom width) and Dim. 4 (groove top width) are found with outside calipers. screw with a 3/8 box wrench about a 1/8-turn past hand tight. This creates full contact with the receiver while being able to slide towards the stripper clip guide angled face.

The mount should not have contact with the receiver angled face and a small light gap should be visible. Lightly tap the tab on the cam washer with a plastic mallet clockwise until the mount rides up the angled face

while the hex screw remains moderately tight. Prepare the clip guide key by removing two small set screws in the clip guide key and apply Loctite. Re-install into the key until flush.

Install the clip guide key by sliding into the dovetail slot in the receiver and visually align with the center-threaded hole in the key. Note, the key may require fitting due to variations in the dovetail dimensions. The key is made of soft steel to allow hand filing to obtain a tight slip fit, so file it to fit as needed. After threading the screw into the clip guide key, partially tighten it, and lock the key into the dovetail slot. Tighten with an inch-pound torque wrench.

The hex screw needs to be 60-65 in-lbs, the two set screws in the clip guide to 20, and the clip guide screw to 30-35. Screw down front post screw until contact is made with the top of the receiver after applying Loctite, tightening to a 1/2 turn past hand tight. The scope mount installation is complete. SADLAK recommends retorquing scope mount screws after the first 1,000 rounds.

Troubleshooting Original USGI M14 specifications will fit great as the mount was designed for that but later military and civilian makes may have been machined differently.

Four problem areas are the left side horizontal groove (sometimes the groove is not cut deep enough), the stripper clip guide angled face (sometimes it is too far forward), the left side surface (sometimes it is not milled par-

allel to the barrel or is tapered), and the tapped hole (sometimes the location isn't correct from receiver front.) Older receivers tend to have a better track record. If your M1A receiver is made correctly on the left side, this mount will fit against it perfectly.

The key on the inside of the mount is made smaller to fit inside the horizontal groove with only a small amount of play. Any visible light gap between the mating surfaces indicates a non-GI specification receiver. Most fitting problems are due to the left side groove being machined too shallow. This causes the scope mount key to contact the groove, forcing the mount off the receiver and cocking the rail to the right with visible light showing.

According to USGI receiver drawing #7790189, the 60-degree groove on the left side should be 0.070-0.078" wide at the bottom and 0.149-0.153" wide at the top as calculated from the gage point, which is 0.0312 below the left side surface. The reason variation among receivers is that private manufacturers are not under a government contract, do not have to strictly adhere to the government-issued blueprint specifications, and are not inspected using government source inspectors and approved gauges.

The mount can accommodate any of these "other spec" receivers and SADLAK can modify your mount as needed. Be sure to take measurements as stated above to get the modification done right. AG

RIFLES

Big Modern Sporting Rifles

The AR-15 and AR-10 may be ubiquitous but this platform can be made to handle much larger cartridges.

BY DEAN MEIER JULY 2018

ORIGINAL PP. 18-21

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-7C61A1D2BA-A2168-P18-F01. Know the rights holder? Please ask them to contact us.

AG-7C61A1D2BA-A2168-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-7C61A1D2BA-A2168-P18-F02. Know the rights holder? Please ask them to contact us.

AG-7C61A1D2BA-A2168-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-7C61A1D2BA-A2168-P18-F03. Know the rights holder? Please ask them to contact us.

AG-7C61A1D2BA-A2168-P18-F03

Well, they weren't going for curb appeal with these. That was my initial thought when first handling a truly big AR-type rifle. Having handled AR-15 and AR-10 rifles in military and civilian configurations for competitive shooting and other types of training, my first exposure to truly big ARs made them seem ungainly long. However, compared to large-to-Magnum cartridges, .223/5.56mm is downright diminutive.

Due to the AR-15's popularity, it seems everyone with a combo tool, torque wrench, vise blocks, and a bench vise is offering an AR-15 for sale. There are a small number of

actual AR-15 "chip makers" (manufacturers making parts from scratch) and most of these AR-15 companies 300 Winchester Magnum. Gas is fed through an adjustable MPAdesigned gas block. The match-grade barrel is surrounded with a Precision Reflex Inc. Gen III Delta Rifle Length Handguard. are assembling components sourced elsewhere.

Eugene Stoner's masterpiece—which is the longest serving service rifle in U. S. military history and the dominating platform for accuracyintense Service Rifle and speedoriented 3 Gun Rifle— is relatively straight forward to build. As gunsmiths building High Power ri-

fles have put it, building a competitive National Match M14 is an exercise in the gunsmith's art and building a competitive National Match AR-15 is Erector Set assembly.

Since filing the original patent in 1956, Eugene Stoner's design has been copied in a near endless array 308 M110. The Miller Precision Arms Guardian is a .300 Winchester Magnum AR-15 hand built for precision performance. MPA is a custom shop operated at the Montana-based Acutech shop. The company machines matched receivers in-house.

BIG MODERN SPORTING RIFLES 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-7C61A1D2BA-A2168-P19-F01. Know the rights holder? Please ask them to contact us.

AG-7C61A1D2BA-A2168-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-7C61A1D2BA-A2168-P19-F02. Know the rights holder? Please ask them to contact us.

AG-7C61A1D2BA-A2168-P19-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-7C61A1D2BA-A2168-P19-F03. Know the rights holder? Please ask them to contact us.

AG-7C61A1D2BA-A2168-P19-F03

of varieties and options, however, given that most sellers aren't actually making their own parts, most AR-15 companies are limited to assembling other company's components. Like Ford's Model T, you can have any option you want as long as it's .223/5.56mm; .308 if they offer an AR-10 variant. Most deviations from these chamberings are cartridges using .223 or .308 as the parent case.

This keeps the bolt and action nearly identical with the only major change being the particular reamer used to cut chambers in the rifled blanks. Here are some options if you're interested in something unique—and bigger—than what is commonly available in the AR-15 and AR-10 world. Miller Precision by Acutech (Acutech Works. com) is a collaborative effort of Montana-based gunsmith Brandon Miller and Acutech.

Located in Flathead Valley, Montana, Acutech is a 16,000 square foot manufacturing facility featuring a full-service CNC machine shop, precision CNC waterjet, laser, and plasma cutting shop, and a metal fabrication and sheet metal shop. This collaboration makes for efficient, precise manufacturing of com-

plete firearms and their components—including barrels, suppressors, muzzle brakes and receivers—all under one roof.

Miller received his degree in Gunsmithing Technologies from Murray State College and apprenticed under John Holliger of White Oak Armament. He specializes in long range precision rifles for military and law enforcement, competition, and hunting enthusiasts. The BN36 takes .30-06 and similar length cartridges. In addition to fitting standard length actions, the .300 Win. Mag. has proven quite effective for hunting very large game, and long range sniping and marksmanship.

This round has become the most popular .30 caliber Magnum round to date, achieves its full ballistic performance in 24-26 inch barrels, maintains supersonic velocities beyond 1200 yards and is notably accurate. For along time the .300 Win. Mag. was the king of long range competition. The cartridge still holds numerous long range competition records and remains competitive today. .300 Winchester Magnum, purchased by the government as the Mk248, is a popular choice for sniping.

The M24, its reconfigured M2010 variant, and the Mk13 sniper rifles are available in this chambering. As the military now employs a self-loading sniper rifle in .308 guise, notably the M110 Semi-Automatic Sniper System, a .300 Win. 300 Winchester Magnum or 7mm Remington Magnum and was initially motivated by recreating the M1 Garand in a AR-style rifle. Mag. can also make sense and Miller Precision Arms has a good one in the Guardian.

Weighing the same as the .308 M110, the Guardian's more potent chambering greatly increases effective range. Noreen Firearms (Peter Noreen founded Noreen Firearms OnlyLongRange.com) and has been gunsmithing for nearly three decades, having made his mark custombuilding dangerous game rifles based on scaled-up pre-'64 Model 70 Winchester actions. Mentorship of his son, Phil, began in the family-owned shop and covered rifle building from the ground up.

Both father and son were keenly interested in ultra long range shooting (beyond 1,000 yards) which led to the development of their Ultra Long Range Rifle in 2007. Featuring a custom single-shot bolt action and collapsible stock of their own design, this

BIG MODERN SPORTING RIFLES 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-7C61A1D2BA-A2168-P20-F01. Know the rights holder? Please ask them to contact us.

AG-7C61A1D2BA-A2168-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-7C61A1D2BA-A2168-P20-F02. Know the rights holder? Please ask them to contact us.

AG-7C61A1D2BA-A2168-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-7C61A1D2BA-A2168-P20-F03. Know the rights holder? Please ask them to contact us.

AG-7C61A1D2BA-A2168-P20-F03

32 pound beast is triggered with an adjustable Timney unit and chambered in .50 BMG, .416 Barrett, .408 Chey Tac and .338 Lapua. This would evolve into a self loader in 2010, the Bad News Ultra Long Range Semi-Automatic Rifle, an external piston driven, side-charged semiautomatic available in .338 Lapua, .338 Norma and .300 Winchester Magnum. The Bad News was the first AR-15 chambered in such large cartridges and has been praised in various tactical circles.

The BN36 continued this trend, adapting a more standard stationary internal piston AR platform (sometimes referred to as “direct impingement”) to standard length. The BN36 operating system is an internal piston design derived directly from Eugene Stoner’s original patent and will be instantly recognized by any AR-15 shooter. Cartridges such as .30-06 Springfield, .270 Winchester, and 25-06 Remington.

The company makes most of the components for its rifles inhouse, manufacturing the upper and lower receivers, making a muzzle brake of their own design, and turning the rifled blanks. About eighty percent of Noreen’s

employees are military veterans. Maintenance and Setup Anyone ever taught to handle an AR-15 will instantly be familiar with these big AR’s manual of arms. The safety, trigger, take down pins, bolt catch, and magazine release works the same.

Clearing and disassembly procedures are the same, the parts are just bigger. Cleaning is also the same. Avoid harsh cleaning treatment, specifically never use wire brushes or any type of abrasive, and stick with common solvents such as Hoppe’s No. 9 and lubricants such as CLP (Cleaner, Lubricant Preservative.) Wipe everything down and keep the moving parts lubricated. Pay attention with chamberings for cartridges that have been in service for along time.

For example, Noreen specifically advises against using any ammunition made before 1990, their reason being older ammunition can cause pressures above specifications and can cause damage. These sorts of differences in conjunction with the greater degree of gas pressure are one reason why big ARs often have user-adjustable gas blocks.

Soldiers deploying to Iraq and Afghanistan through the mid-2000s and later were occasionally digging into World War II era ammunition reserves and feeding “Ma Deuce” with cartridges bearing headstamps from the 1940s. Given .30-06 is older still, it’s possible to come across cartridges many decades old. There can be a break down of propellant in long term storage. Even slight moisture inside the case can cause corrosion, rendering the propellant into a gluelike substance and causing higher than normal pressure.

Gas Block Setups Large AR rifles with an adjustable gas block need to be tuned to use properly. The main purpose of adjustable gas blocks is to allow adjusting the port pressure to the operating system, thereby fine-tuning the bolt velocity, which will result in a smoother shooting rifle. Additionally, the adjustable gas block is also useful in obtaining optimum port pressure on otherwise difficult-to-run setups, such as suppressed weapons, short-barreled weapons, or unusual chamberings for nonstandard cartridges.

MOST RIFLES CYCLE FASTER THAN NECESSARY AND THE RESULTING “BOLT

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-7C61A1D2BA-A2168-P21-F01. Know the rights holder? Please ask them to contact us.

AG-7C61A1D2BA-A2168-P21-F01

slamming” effect is a noticeable part of the recoil impulse. A new rifle or bolt assembly may have a great deal of friction between the gas rings and carrier and may require a break-in period during which the gas block must be run on a higher-than-normal setting until the gas rings wear into the bolt carrier. When new, the bolt is extremely stiff and may not cycle completely until broken in. Once the gas rings have worn in, re-adjust the gas block.

This is especially true with cartridges much more powerful than typical AR-15s and will likely see long range performance ammunition with differing pressures at the gas port, which can cause a timing issue such as the bolt opening too fast, leaving the cartridge case swollen and attempting primary extraction too soon. This can leave pressure signs, such as marred brass, cratered or flattened primers, or ruptured cases.

Closing the gas port slows the gas flow and can ease harsh felt recoil, stove piping, or an the extractor tearing the case rim. On the other hand, if the bolt is not traveling far enough back to chamber the next round, there is not enough gas in the system and you will need to open the gas port up more. When new, the tight fitting parts may have more friction while breaking in and may require more gas as well. Typical tuning adjustments will be in quarter turn increments.

Begin with the gas flow set to a minimal setting, load one round, and fire. If the bolt holds open, the gas block is set. If the bolt does not stay open, it is short-stroking and the valve should be opened about another 1/4 turn. Continue backing the gas adjustment screw out until the bolt holds open consistently on last round lock back. Changing ammunition can require an adjustment. Try the new load with the current setting and then adjusting accordingly.

When the load and gas setting is finalized, non-permanent (blue) Loctite on the valve screw keeps it set. It is also possible to shut the valve completely if you want to cycle the rifle as a straight-pull bolt action. Alexandria VA 22310 During initial testing the factory setting proved completely reliable with all ammunition used. Offering Big ARs The BN36 Long Range variants were driven by the thought of recreating the M1 Garand and revamping it into an AR-style rifle.

Given the desire for a longer, more powerful cartridge and AR-15 receivers limited to .223 size or variations, AR-10 is the next step up. However, even with larger bore wildcats, the AR-10 is still limited to ammunition that fits a short action, typically a maximum length of less than 2.8 inches. Larger receivers expand this to full-length, even Magnum cartridges. For example,

Noreen offers BN36 rifles based on their receivers chambered in .300 and 7mm Remington Magnum.

Their Gen 2 “Bad News” rifles include a .338 Lapua chambering. As a gunsmith offering custom work, one advantage is the higher potential price point. Noreen’s cheapest BN36 offering is \$1,749.99 and goes up from there. Contrast that to .223 AR-15s that are available from almost everyone with a bench vice, set of blocks, and a torque wrench.

For a customer set on a self loader chambering something bigger than .308, there just aren’t as many options and a gunsmith that can offer them is potentially a step ahead of the pack. Also of advantage is that these parts tend to be made in the United States by quality builders. Both Miller/Acutech and Noreen are Montana-based companies. Noreen doesn’t source any parts out and has made over 40,000 receivers for gunsmiths, all from 6061 and 7075 aluminum billet or forged receivers.

Their “Bad News” line in .338 Lapua has become a signature rifle for Noreen Firearms. The components are available for any gunsmith interested in tackling big ARs and adding it to their list of services. Beauty is in the eye of the beholder but measured performance is irrefutable. Big ARs can deliver performance and be a unique (and profitable) offering. AG

HISTORY

Improved AK Trigger

Kalashnikov rifles are the most produced in history. Every firearm can benefit from an improved trigger. Here's an evaluation and installation instructions for FIME Group's FCG trigger for AK/RPK rifles.

BY ROBERT K. CAMPBELL JULY 2018

ORIGINAL PP. 22-23

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-7C61A1D2BA-A2169-P22-F01. Know the rights holder? Please ask them to contact us.

AG-7C61A1D2BA-A2169-P22-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-7C61A1D2BA-A2169-P22-F02. Know the rights holder? Please ask them to contact us.

AG-7C61A1D2BA-A2169-P22-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-7C61A1D2BA-A2169-P22-F03. Know the rights holder? Please ask them to contact us.

AG-7C61A1D2BA-A2169-P22-F03

No matter how great the history or performance of a given firearm, there is always room for improvement. I do not carry a 1913 Colt, instead, I carry the most modern 1911. Those that favor a truly reliable and capable Kalashnikov rifle choose the Arsenal. Any rifle will do to hang on the wall but for those that keep such a rifle on hand for extensive shooting and for emergency use, the Arsenal is a favorite. There have been issues with some AK rifles.

Some of this issues are related to cheap production of certain units and some issues are related to the original design. The trigger mechanism is one such component. To help with this, FIME Group (FIMEGroup.com), has spent over a year developing, engineering, and proofing their Fire Control Group

AK/RPK trigger, an American-made, hardened, two-stage replacement trigger made with mil-spec ratings on the steel. The trigger itself is of all steel construction and has a black protective coating over the hardened steel.

The workmanship and finish are good and the trigger group should provide many years of reliable service. The unit is routinely available for forty dollars, and often available for less, which is inexpensive and more than fair for this type of quality. They will have to sell a lot of these to recoup tooling costs and I believe they will.

The issue I am most concerned with in standard AK rifles and modifications of the original action is that the safety may touch the

disconnecter and drop the hammer if the safety travels too far. There are other issues involving firing with the dust cover off of the receiver. Some of these issues are theoretical but they should be addressed. The improvement with this new trigger is real and worth the time and effort to take advantage of. There are parallels in firearms development.

Once SIG offered their P-series of pistols with a positive firing pin block, everyone had to develop a firing pin block or cease to be competitive. The same seems to apply with this trigger. Your rifle needs to have this trigger if there is any question regarding safety. For those that keep the AK for emergency use—such as a trunk gun or on patrol in the back of police cruis-

IMPROVED AK TRIGGER CONTINUED

ORIGINAL PAGE 23

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-7C61A1D2BA-A2169-P23-F01. Know the rights holder? Please ask them to contact us.

AG-7C61A1D2BA-A2169-P23-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-7C61A1D2BA-A2169-P23-F02. Know the rights holder? Please ask them to contact us.

AG-7C61A1D2BA-A2169-P23-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-7C61A1D2BA-A2169-P23-F03. Know the rights holder? Please ask them to contact us.

AG-7C61A1D2BA-A2169-P23-F03

er—this is a good choice. Even for recreation and plinking, you should also have this trigger. Besides the hardened steel advantage, this trigger also features a black oxide coating. The trigger press is shorter than the original AK and the compression required to fire the rifle will also be lighter. Examination shows that the disconnect's face makes full contact with the hammer. I like a secure lockup even at the expense of a few ounces of greater trigger action.

The disconnect tail makes the desired full contact with the rear receiver rivet. The elimination of trigger slap—sometimes experienced with the AK, especially those with cheap internals—is Installation The first thing to do is to remove that hook that retains the hammer and trigger pin. A word to the wise: Look inside the rifle. There should be no scratches before starting and it certainly should stay that way when you are done. The use of needle nose pliers is the easiest means with this.

Push the hook forward toward the muzzle end. Push out the hammer pivot pin with a punch from the right hand side of the AK receiver. There is tension from the hammer spring on this and it may not come out the first try. The hammer should be stabilized and moved side to side to center the pin for removal. The They are Arsenal AK fans, as am I. The markings on that hammer may be a joke—but then again, it may not... eliminated.

The unit lists a typical length of travel at 0.3 inches and reset travel at 0.15. hammer is easily removed by twisting at a 90-degree angle. Remove the trigger pivot pin and pull the trigger group out. The disconnect spring is pretty small and it will take flight so be careful to control or trap it as you change the trigger group. Depress the disconnect with a finger as you pull the pivot pin away. Put the new unit in. Install the hammer and hook the retainer spring ("shepherd's hook") to the hammer pivot pin.

I use a flat screwdriver from the Chapman took kit. When you replace the pivot pin it must be above the retainer spring/shepherd's hook but below the hammer spring. Keep a finger on the disconnect. Push the pivot pin in and as you line up the trigger and other parts, the pin is pressed in. Curl the legs of the hammer spring around the hammer and you are in good shape. Finally, the retainer spring goes in the retaining ring of the trigger pin.

This spring goes around to the left and down against the retaining pin to prevent "hammer walk." My friends at South Carolina Gun Company (SCGunCo.com, are great believers in the Arsenal AK and have several in stock and as personal rifles. The work illustrated here was actually performed on their counter. The new trigger was installed in this rifle in a few minutes. The improvement mechanically is evident and the report is that the trigger has become smoother with use. That is all we can ask. AG

PEOPLE & COMPANIES

Reader Forum

BY AMERICAN GUNSMITH EDITORS JULY 2018

ORIGINAL PP. 24

Letter from Brownells Mark Hollensen, I don't believe I've ever had the opportunity to write you before and it pleases me enormously to be doing so. Came across your article, "Browning Buckmark Varmint/Silhouette" (February 2018) and I wanted to send along my sincere thanks for mentioning our Acraglas so prominently in the piece. Excellent job explaining the work you did on this interesting old pistol, especially the all-important prep work that goes into doing a job correctly.

Proceeding with caution is always the best course of action, especially when working on guns. I think your readers will appreciate your expertise and your advice. Nicely done! Frank R. Brownell, III Chairman AR-15 Bolt Carrier Tilt Have you tried the DSA Bufferloc Kit from DS Arms (DSarms.com,)? I'm using one in conjunction with a Sharps Rifle Company (SRCarms.com, Balanced Bolt Carrier Group.

It has a slightly larger rear diameter compared to mil-spec, gives consistent travel and wear when reciprocating and corrects tilt well. It's a lazy man's ideal way to level the carrier. Eugene Anderson Joe Carlos responds. When the folks at DS Arms first came up with that unit they advertised it briefly. Being interested in drop-in improvements, I called them but at the time they only offered it with a carbine-length buffer and said they didn't plan to offer it for standard length.

Given most of my customers are National Match competition shooters, this doesn't appeal to them and I haven't tested it yet. AG

ORIGINAL SOURCE PAGE

24

SEARCHABLE ISSUE RECORD

Archive index

Chick Blood Quotes American Gunsmith Editors	2	SADLAK Scope Mount Bill Smith	14-17
Charles L. Blood American Gunsmith Editors	3	Big Modern Sporting Rifles Dean Meier	18-21
British Enfield History, Part Two Paul Mazan	4-7	Improved AK Trigger Robert K. Campbell	22-23
Super Winchester .338 Ray Ordorica	8-13	Reader Forum American Gunsmith Editors	24

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