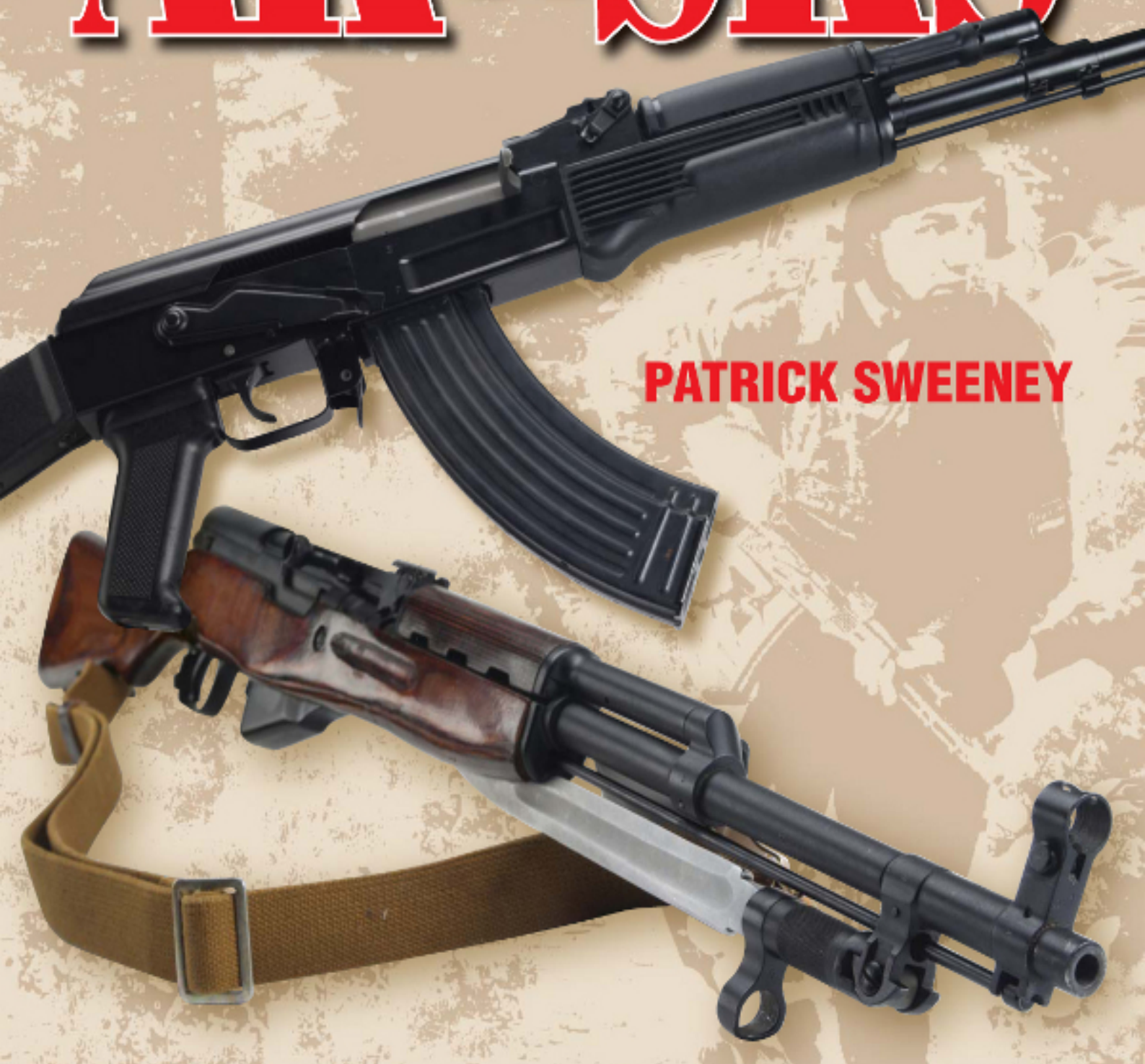
The Gun Digest® Book of the

AK & SKS



PATRICK SWEENEY

A COMPLETE GUIDE TO GUNS, GEAR AND AMMUNITION

The Gun Digest® Book of the

AK&SKS



PATRICK SWEENEY

A COMPLETE GUIDE TO GUNS, GEAR AND AMMUNITION

©2008 Krause Publications Inc.,
a subsidiary of F+W Media Inc.

Published by



700 East State Street • Iola, WI 54990-0001
715-445-2214 • 888-457-2873
www.gundigestbooks.com

Our toll-free number to place an order or obtain
a free catalog is (800) 258-0929.

All rights reserved. No portion of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without permission in writing from the publisher, except by a reviewer who may quote brief passages in a critical article or review to be printed in a magazine or newspaper, or electronically transmitted on radio, television, or the Internet.

Library of Congress Control Number: 2008929070

ISBN-13: 978-0-89689-678-9
ISBN-10: 0-89689-678-1
eISBN: 978-1-44022-436-2

Designed by Paul Birling
Edited by Dan Shideler

Printed in United States of America

Dedication

Sometimes life is strange. If, years ago when I was deeply immersed in guns, working long hours at the gun shop and shooting everything that I could lay my hands on, you had told me I'd be here, I would have said you were crazy.

I was just not looking very far ahead – which is what you have to do to learn something front-to-back and in all its details. Looking only at what is right in front of you is a great way to learn a subject, but a lousy way to live a life.

Yes, get out, learn to shoot, learn about firearms, but don't forget that there is more to life than just guns. (Hey, it took me a long time to figure that one out.) Find someone to share it with, either a shooting partner or a life partner. Some really lucky ones find one person who is both.

As with all the other titles, this is dedicated to Felicia, but also to the two poodle dudes who accompany me on walks. They are very amused by my jokes and turns of phrase, and I get to polish my writing on them by orating parts of it while we walk. Felicia is too, but she, unlike the two dudes, also points out where my grammar could be improved, for which I am grateful. Having seen what passes for a manuscript from other authors, I think Dan is also grateful for Felicia's efforts.

If you find the book to be amusing, entertaining, and useful, I give all credit to Felicia, the poodle dudes and Dan. If not, I'll take the hit.

Patrick Sweeney

July 2008

Other KP Firearms Titles

Assault Weapons Buyers Guide

Std Catalog of Military FA

Gun Digest Book of ® the AR-15

Gun Digest Book of ® the AR-15, Vol. 2

Gun Digest Book of ® the Glock

Gun Digest Book of ® Ruger Pistols & Revolvers

Gunsmithing: Pistols & Revolvers

Tactical Weapons Assembly/Disassembly

Gun Digest

Standard Catalog of FA

Gun Digest Book of ® Guns & Prices

Modern Gun Values

Cartridges of the World

Rifles of the World

Pistols of the World

The Gun Digest® Book of the
AK&SKS
Contents

Dedication

Acknowledgments

Introduction

Chapter 1: History of the AK-47

Chapter 2: How It's Made

Chapter 3: Disassembly

Chapter 4: Calibers

Chapter 5: Stocks and Handguards and Magazines

Chapter 6: Building an AK

Chapter 7: Testing Your AK

Chapter 8: Arsenal and AK-USA

Chapter 9: Hammerstone Arsenal/Romanian

Chapter 10: Krebs Custom

Chapter 11: Galils

Chapter 12: Bulgarian

Chapter 13: FEG

Chapter 14: Saiga

Chapter 15: The Mysterious Krinkov

Chapter 16: The Wieger and the Inter Ordnance Stg-2000

Chapter 17: The Vz.58: It Looks Like an AK, but Inside, It Isn’t

Chapter 18: The “Other” Soviet Rifle: the SKS

Chapter 19: The Future of the AK

Appendix: List of Manufacturers and Suppliers

Acknowledgments

First off, the people I consulted were extremely generous with their time, knowledge and interest. You know the guy who can recall every useful loading recipe for all the common, and some uncommon, cartridges, but who cannot remember to pick up bananas on a trip to the grocery store without writing it down? That's me. Yes, I know a lot about guns, but even I have to consult other people, people who live a particular aspect of a subject day-in and day-out.

First, Dave Fortier, who could have easily talked his way into doing this one. "Not me," he said. "You're the book guys." Instead, he goes on to form a complete web site from scratch and fill it with content he wrote – without anyone knowing about it beforehand. You've got to see it, if you have any pretensions of knowing everything current about black guns: tacticalgunfan.com

Then, the guys who built guns for me: Greg Collins at Hammerstone Armory built my Romanian clone, and built it exactly as I requested. Lots of guys build guns, but many are all too willing to inject their own tastes into a project. Greg did what I wanted, no more. I've got a couple more on the way to him as a result. Mike Branson of Missouri Custom Armament also followed instructions and built me an AK-74 that is different. When I left it out in the rain and the stock showed some rust, he immediately offered to refinish it for me. I figured I'd test it long-term, and left it as-is, so if you see my '74 named "Kermit" and it looks a bit scruffy, it isn't Mike's fault.



Chris Butler at AK-USA built me an AK-74 that is so nice it seems a shame to take it to the range and put ammo through it. However, I am not one of those guys who buys a rifle just so I can keep it as pristine as the day it left the factory. (Unless it is really, really rare.) So I've shot it in classes and in qual courses, and have done well with it.

Marc Krebs was invaluable. He answered all my questions (even the ones that were "off the record" and thus not quotable); he showed me the shop; and he left me alone at times to simply fuss over thoughts, photos, and questions. He then shoved a rifle into the back of my truck and told me to "send it back whenever you're done with it."

Kevin Miller at Tapco sent me a care package so large my delivery driver almost had to get out the hand truck to bring it to my door. It is fashionable in some circles to "dis" Tapco because what they make isn't "Soviet mil-spec." Yeah, you're right, in a lot of cases it is greatly improved over the typical

socialist worker's paradise-manufactured product, so I guess it isn't Soviet-approved. Me, I don't judge people by what they put on their rifles, but how they handle said rifles. One of the most competent contractors I know is quite happy with Tapco upgrades, as he finds them much better than their Warsaw pact counterparts. And in many cases, Tapco makes things the Soviets never have made.

Jason Morton at CZ-USA sent me their Vz-58, and has left it with me to shoot as much ammo through it as my heart desires. Unfortunately, while my heart is quite desirous, my schedule is not so forgiving. Jason, I have not yet managed to wear off the finish at the corners, let alone shoot it until I wear the finish off.

When I asked Dave Michener at Elite Firearms for a sample to test, he grabbed a rifle out of the rack to ship to me, and a very nice rifle it is, indeed. I must admit, the combination of caliber and model is one not often seen, and it speaks well that he'd build something uncommon just because a customer asks for it.

Steve Kehaya at Century Arms sent me one of his hot tickets: the Golani Sporter. Despite having a desk full of orders for them, he plucked one out of the rack and shipped it, for which I am grateful. Every importer, manufacturer and custom gunsmith always has to strike the balancing act of "I can ship this to a paying customer, or I can ship it to a gun writer who will play with it and send it back in pieces." Steve has always shipped to me, so if you found your rifle, handgun, ammo, accessories or whatever arriving a day later than promised, I'm probably to blame.

All these rifles needed ammo. There, I have to thank two people: Bill Filbert at Wolf ammo and Michael Sutton at DKG Trading, for Bear Ammo. In these modern times ammo can be hard to locate and expensive to acquire. One of the perqs that really get the attention of those interested in firearms is the supply of ammo that gun writers get. I'd like to tell you that they simply stuffed my garage full of ammo, but they didn't. Still, the amount of ammo sent for testing was embarrassing, and I did my best to shoot it all, which leads me to the last thank-you.

In all the shooting I had not a single significant failure. Not of ammo, not of rifles, and the one magazine failure that happened only happened with one magazine in one rifle. That rifle worked fine with all other magazines, and that magazine worked fine in all other rifles. Considering that many AKs in the US are hand-made, and those that aren't have been made in a dozen countries, one failure (the bolt wouldn't strip the last round out of the magazine, but fed fine otherwise) is hardly a problem.

The guys at Tactical Response are the ones you should thank for that. I went off to a pair of classes (not in AKs, curiously) and while I was there for seven days I noticed something interesting: the AKs in the class worked just fine. Many of the ARs did too, but the rifles that didn't work were ARs, not AKs. And those who shot them could just about make an AK sing. That got me to thinking, and that eventually led to this book. Without the experience of Tactical Response, I probably would not have talked to Krause about an AK project. So thanks to Alan Webb, Sherman House, and James Yeager for a fun, informative and now additive time.

Maybe I'll have to go back soon, and this time thrash an AK or three, for *Gun Digest Book of the AK & SKS*, Vol 2.

I'll tell you how that works out.

Introduction

Here we are, a decade into the 21st century, discussing earnestly a rifle conceived in the forge of battle. It was the greatest battleground ever seen (until the next one, anyway). The Soviets referred to it as "The Great Patriotic War." As many at 25 million people lost their lives on the Soviet side of the war. The losses were so great that the demographics of the Soviet Union and its "client states" after the war were noticeably distorted.

The tactical and strategic requirements of the war also had their effect on the Soviet Union, post-war. One aspect was the recognized need for volume: volume production, volume enlistment/staffing, and volume sustainability. War can be a brutal business. Indeed, it often is – and the times is has not been so are so prominent that we write legends about them. But from the first time two cavemen realized that if they worked together they could beat the threat, to today, the need for essentials have been learned, lost, forgotten, re-learned, written down and then shrugged off. Two essentials, however, have survived. One is that you have to have tools, and good ones. The other is that lacking the best tools, a numerical superiority can suffice.

In the words of one Soviet General, "Quantity is its own quality."

The basic design elements of the AK make it a natural for fast and cheap production (a characteristic that we'll cover quite a bit in this book). Also, it's rugged. If you aren't going to be spending a lot of time training people, what you hand them has to be simple and able to shrug off neglect. I

sometimes think that advocates of the AK make too much of that particular benefit, but it is still one that has to be noted. You also have to have a certain amount of ruggedness if the method of re-supply is going to be battlefield pickups.

If you're reading this you probably have seen a lot of war movies. Check out *Enemy at the Gates*. In an early scene, our hero is running towards the front, where there is a picket line of supply officers. They're handing out rifles and packets of ammunition and one iron-lunged officer or NCO is shouting repeatedly: "One rifle to every other man! If the man in front of you falls, pick up his rifle!" You think the screenwriter made that up? Not so. The Soviets started the war with an army they felt was large enough, lost most of it and its equipment in the first stages of the war, and had to recruit and build everything after that – what they didn't get through Lend-Lease programs, anyway. At the time of the Battle of Stalingrad, they had not even begun to increase production enough to replace lost rifles. In that kind of an environment, having a design that could lie on the ground for hours or days, and still work when picked up was a good thing.



Don’t let people tell you an AK can’t shoot. Granted, I’ve shot a perfect score in this course with just about everything I’ve picked up, but you still need a basic level of accuracy to get the job done.



One thing you can count on: damn few things on an AK break. This is a rare, but not unknown AR-15 break. Bad show, and you need a new bolt.

By the time the rest of the world had a good idea of what the AK-47 was all about, the US had already decided on the course for its new rifle: the M-14. It would not be long after

that the two crossed paths, to the detriment of U.S. soldiers and Marines. However, the differences were not as great as some might lead you to believe. A rifle is only as good as the training of the soldiers who use it and their ability to adapt to the situation they are faced with. You can do a lot with a supposedly sub-standard tool, if the job supervisor lets you change from the "accepted" method to a new one that works.

Saying this or that is more reliable, more powerful, more accurate, etc., matters only if one side or the other can take advantage of the difference. One example might suffice: One of my friends is the sci-fi author Dave Drake, a Vietnam vet. He is considered the originator of military sci-fi and has written a shelf of books in that genre. In one book, his protagonists use armored vehicles that fire heavy-metal projectiles. Their opponents use supposedly superior energy weapons. The good guys protect themselves from the beams of the other side with smoke, smoke which does not in the slightest decrease the impact of their tanks' cannon shells. But the smoke diffuses the energy beam of the supposedly "superior" weapon.

The moral? If one rifle is a lot more reliable in adverse conditions than another, you can take advantage of that only if you lure the other side into enduring those adverse conditions. If they don't, the advantage is merely theoretical. Ditto range, power, etc. Unless you can lure the other guy into that "gap" your supposed advantage does not exist.

But I risk being on a soapbox.

The AK-47 is an Icon. I had thought, in earlier books, that I had been dealing with Icons, but I had merely been dealing

with icons. I mean, the Glock gets on the cover of rap CDs (do stores sell CDs any more?) but no country has a Glock on their flag. Countries have the AK-47 on their flag. Well, the country of Mozambique and the organization Hezbollah have an AK on their flags. Politicians who are otherwise level-headed get emotional when the subject comes up. Some who are not so levelheaded are emotional before, and become nearly unhinged when the subject of the AK comes up. Otherwise educated, rational adults begin to ascribe near-mystical powers to the AK and those who wield it. People who can do complicated accounting in their heads lose all grasp of simple numbers when faced with the thought of an AK in their district or state. How did this come about? For that, we have to dive right into the history and origins of the AK, the next chapter. But you have to realize the animosity some hold towards the AK, to understand why I'm so "in your face" when discussing aspects of it. You know the old saying about "not suffering fools gladly"?" I'm usually the nicest guy in the world, but even I can be driven to distraction by the antics of those who will not learn. So I write what I know and feel, and then edit when on re-reading it seems like I've gone a bit too far.



As good as the AK is, it still won't work with ammo that looks like this. You really need to buy at least decent ammo, if you expect your AK to work.

Unlike the AR-15/M-16, which has a cast-in-stone set of blueprints called mil-spec, the AK is pretty much all over the map. Various models will have variations of manufacture, design, assembly and fitting. Even when they were being built for the minions of the Evil Empire, they were built almost as hand-fitted firearms. Not because they were hand-fitted for reasons of absolute quality, like a hand-fitted London Best shotgun. Oh god, no. They were hand-fitted because the design lent itself to hand-assembly, and it was easier to employ a workshop full of filers, hammer-whackers and sandpaper wielders than it was to harass the machinist to ensure that all

their parts fell within a narrow, interchangeable-fit set of specs. Of course, that makes it more fun for us, since we are hand-fitting and assembling them for ourselves.

What you won't find here are blow-by-blow descriptions of the variations between all the countries, over time. No charts of "this is a Bulgarian gas block, this a Romanian, and you can clearly see the difference" sort of stuff. There are already books out there. Also, I won't be of any help for those who want to be sure they have an absolutely-correct stock for their "1959 Soviet AKM retro recreation" project. No, I don't know how many laminations a Soviet AKM stock of 1959 has/had, nor do I care. I realize some of you do, but again, there are books for that. This isn't it. What I'm doing here is covering the mechanics, history, operation and future of the AK and testing a selective sample of rifles, from imports to custom-built cool guns. The important thing, to my mind, is not that you have a period-correct AK with every detail (save the selector and parts) absolutely correct. It is that you know how yours works, what your options are, and how to test/build/buy one that makes you happy. Not me, not the AK cognoscenti, but you.

Sit back, have a beverage nearby, and settle in for a tale that will hopefully entertain you, certainly amaze you, and by the end, inform you so you can make a decision on the subject based on knowledge, and not on emotion.

Chapter 1

History of the AK-47 and Its Predecessors



Do not expect a blow-by-blow description of the development of the AK-47. Here, you will not read the memos from one to another government committee about this or that detail. (Even assuming such can be found. It was the Soviet Union, after all.) I will not regale you with the trials and tribulations of Mikhail Kalashnikov as he labored over his masterpiece. The day-by-day details of the rifle are the subject of someone's masters thesis in History, and I would not want to make his or her job more difficult by doing so first. So if you really want to know the history of the left-side machine cut on the first-model AK-47 gas block, you'll have to wait for that other book. Here, we cover the AK-47, its basic history and manufacture, and its various uses and models.

Before we can discuss the rifle, you have to understand the context within which it was conceived, and how it was going to be used. We begin our tale in the summer of 1941.

The Eastern Front of WWII can be roughly divided into three time periods: The Onslaught, The Balance, and The Long March. The Onslaught began on the morning of June 22, 1941, with the beginning of Operation Barbarossa. In that operation, the German Wehrmacht, in combination with the Luftwaffe, drove deep into the heart of the Soviet Union. Within a relatively short time they had armored columns deep within Russia itself. From the dividing line between Germany and the Soviet Union (in what had only recently been Poland) they drove as much as four hundred miles into the Soviet Union in a few weeks. Losses on the Russian side were staggering; entire divisions disappeared, surrounded by the advancing Germans, surrendering and being marched off to labor camps for years to come. Entire airfields of Soviet aircraft were strafed, bombed and burned before even taking off.

The German drives reached their maximum extent at Leningrad, Moscow and Stalingrad. To give you an idea of the scale of the Eastern Front, Stalingrad is almost a thousand miles from the German starting-off point. From the southern end of the lines, up to Leningrad, the front stretched over 2,000 miles. There, time, energy, manpower and weather ran out for the Germans. The siege of Leningrad lasted longest: a thousand days. The sieges of Moscow and Stalingrad didn't last as long, but that was due mostly to those cities being in the middle of open plains, with lots of maneuvering room. For Leningrad, resting on the coast, there just wasn't as much room for flanking maneuvers.

While the Soviets were going to a lighter, lesser-recoil carbine, the West insisted (mainly because of the USA) on sticking with a full-power rifle, like this G-3.





When the world's armies gave up black powder, low-velocity, lead bullets, they went with what seemed like "smallbores" at the time. Left, the US .45-70, then 7.92X57, 7.62X54R, .303 and .30-06.

The sieges began The Balance. The time gained when the German advance halted allowed the Soviets to undertake a breathtaking plan: to move their entire industrial base out of German reach. Whole factory buildings were constructed east of the Urals, and entire plants emptied of machinery and

moved, out of the reach of German bombers. One of the plans of the Allies in the West was to destroy German industrial output with bombing attacks. We did it, mostly because we could make planes faster than the Germans could shoot them down, but also because we could reach the factories, which the Germans could not move out of reach. Likewise, the Germans could not reach the new Soviet factory locations in the East.

German losses in the sieges also meant they had to have a more flexible defense and attack, come the Spring of 1942. In The Balance, in 1942 and 1943, the Germans and Soviets swirled back and forth across the steppes of Russia and the Ukraine, flanking and re-flanking each other. All the while, the Soviets were perfecting their tactics, recruiting and conscripting more soldiers, and absorbing the industrial output of the re-located plants.

The result was a complete change of roles when The Long March began. That change came at the Battle of Kursk. Called Operation Citadel by the Germans, the plan was simple: a combined northern and southern pincers that would flank and encircle the city of Kursk. Too bad the Soviets saw it coming, and to make matters worse, the Germans didn't start their flanking maneuvers wide enough: they ran headlong into defenses in depth. Named by many historians as the largest armored battle ever, it showed the Germans what they could expect for all future Soviet offences, namely overwhelming artillery and swarms of infantry.



The AK-74 and the M-4 are roughly the same size and weight. And they shoot bullets that are, again, roughly the same.

From there, it was all backwards for the Germans. For every subsequent attack, German armored and infantry units could expect the same thing: artillery barrages that would darken the sky, and a horizon full of armored vehicles, each aswarm with Soviet infantry. The description of Soviet artillery preparations was simple – cannons parked hub-to-

hub. Their factories made plenty of artillery, along with supply trains literally filled with ammunition. The Soviets by then made armored vehicles as good as, and in some respects better than, the Germans'.

And the Soviets had learned that infantry needs firepower. Those tanks with soldiers clinging to them? Every one of those soldiers had a sub-machine gun. Not a Mosin-Nagant bolt-action rifle, although the arms factories still cranked out plenty of those. No, the new factories made Shpagin PPSh-41s and Sudaev PPS-43s to go with the Degtyarov PPD-40 SMGs. Chambered in 7.62X25, loud, marginally accurate and with (except for the Sudaev) relatively high rates of fire, they were meant to be bullet-hoses. A German infantry squad, trying to support their MG-34 or MG-42 machine gun, would (if they survived the artillery prep) be faced with multiple armored vehicles coming at them, each draped in infantry. As soon as they were shot at, the Soviet infantry was expected to dive off the vehicle, begin firing, and keep up a high volume of fire until they prevailed.

The entire post-war armed forces of the Soviet Union, from newest recruit to Marshal of the Red Armies, were survivors of that process. They knew it worked, and they wanted the tools to keep it working into the future.

[A slight digression at this point. In the world of publishing, it is considered bad form to steal from others. Perhaps one can sell a few novels, even a number of magazine or newspaper articles, taking things or making them up, but not for long. My plan has always been to be in this for the long haul. Some of you reading this will notice that this section lacks in photographs, drawings, maps and charts. I don't have

any photographs from the Eastern Front. Wasn't there, had no relatives there, so no memenots. My chart-drawing and map drawing skills are not so good. One might consider that I make a living as a writer, not a technical draftsman. Yes, there are lots of photos and drawings, maps galore and even more on the internet. Someone owns those. They're known as intellectual property, and the taking of them is theft. If you want to see the maneuverings of the various armored units of the two sides in Barbarossa, or Kursk, a quick search will bring them to you. Perhaps even animated, for all I know. But I'm not going to go downloading those that aren't in the public domain. So, my apologies for columns of text in this section, but that's what is lawful and moral for me to do.]



Was the M1 Carbine the first "assault rifle?" No, but it did precede the AK-47.

Now, back to the fighting.

If you've got something that works and you want to keep it working, you analyze what works against it. It doesn't matter if you're playing hockey or football, or waging war. What didn't work against the Soviet tactics? What didn't work was for the infantry to hunker down, support the belt-fed machine guns using bolt-action rifles, and count on the neighboring unit of yours to outflank the guys attacking you. What did work? What worked was lots of self-loading rifles, side-stepping the incoming vehicles and their loads of infantry, and using

whatever stopped the 86-grain bullets of the Soviet SMG rounds. The Germans had them; they just didn't have enough, soon enough, nor enough soldiers to use them. What the Germans had, by the summer of 1943, were the G-43 and the MP-44/Stg-45. Those, and warehouses full of captured Soviet SMGs, as well as self-loading Tokarev rifles and German-made MP-40 SMGs. But the captured ones depended on captured ammo, and the MP-40 was just another handgun-bullet hose. The G-43 was a full-power rifle firing the 8mm Mauser. It used the same cartridge as the belt-fed machineguns, but riflemen quickly learned that they didn't need the power. Conspicuously absent from the Soviet plans, and only marginally seen on the German side, were stocked pistols. Popular elsewhere (mainly in China) a handgun with a stock was a pre-WWI idea that just didn't work out as planned. The handgun with a stock was slightly more accurate than a handgun alone, but not so much that it was worth the extra weight and bulk of the stock.



The ejection port on this Springfield marks it as one made for the Pedersen Device.



The Mark I, the Pedersen-equipped Springfield, was going to sweep no-man's land clear. Yeah, right.

Not that the Soviets didn't re-invent that particular wheel after the war. They did. They developed a new sidearm, the Makarov, which was essentially a simplified Walther PPK. They invented a new cartridge to go with it: the 9X18 Makarov, not to be confused with the existing 9X17 Browning Short (.380 ACP in American lingo) or the later 9X18 Ultra that the German Police developed. Then, they made the Stechkin APS, which was a pistol with a 20-round magazine, a shoulder stock, and select-fire action. The plan was to have a compact weapon available for the crews of armored vehicles. By the time you had the Stechkin, shoulder stock/holster, spare mags and the web gear to hold it all, you had as much bulk and weight as if you simply had a folding-stock AK in the turret with you.

An SMG offered a select-fire option (few stocked handguns did, and those that did were not made more useful by the option) and it also offered other benefits: lower cost, better accuracy than the handgun, and greater durability.



Here you see the complicated rear sight of the Springfield. Marked out to 2700 yards, the sight is hopelessly optimistic.

The SMGs lacked power. What the German needed was something in-between, and there the MP-44/Stg-45 delivered. Despite the full-power battle rifle advocates, full-power ammo slows you down. Yes, when trying to whack a bad guy (however you might define "bad"), more is usually better. But if you have so much recoil that his friend gets you, you really haven't solved the problem, have you? An SMG is faster, but full-auto limits ammo supply. Yes, you have 32 rounds in there but if you fire four-shot bursts (a remarkable level of self-control in a combat situation) you only have eight bursts per magazine. Then a reload, while the bad guys keep coming.

The G-43 offered 10 shots in the magazine but also recoil and the need to aim more closely than you did with the burst of the MP-40.

The Stg-45 (the final refinement of the model) offered 30 shots, semi-or full-auto, and a fast reload. Each shot was accurate enough to hit, powerful enough to put the other guy down, and still soft enough in recoil that you could get his

buddy, too. When you really needed it, the full-auto selection let you really hammer an ambushed squad of opponents.

Too bad the Germans didn't have enough of them. Well, too bad for them, and good for us, as it turned out.

A quick example of the difference recoil can make, from my own experience: In the early years of IPSC competition, we were still figuring things out. My gun club was one of the very first to begin 3-gun competition. We also started bowling pin competition as well. One event we shot was called the "Light Rifle Pop and Flop." The process was simple: you had two minutes to run downrange and stand 15 bowling pins on the target posts. If you got back before time ran out, you could load your rifle and try to catch your breath. If you didn't, time started without you. Then, you'd shoot at, and knock down, the bowling pins. The shooter with the fastest time won the match. The pins ranged from 50 to 100 yards, and roughly duplicated the center-mass target of a person from 100 to 200 yards. I shot the course with a match-conditioned M1 Garand and dropped 15 pins with 16 shots. Avoiding another reload, that would have greatly increased my time, I was the epitome of full-power precision shooting (he said modestly).

The guy who won the match (I placed third) crushed my time. I wasn't even close. His rifle? A Universal Carbine, with the "paratrooper" stock that was a wire extending stock, and pistol grips fore and aft. He had a 4X scope mounted in a side mount, and his two 30-round magazines were clipped together. He had to reload to finish the course, and he still beat me. The second-place shooter used an AR-15 with iron sights. I was a distant third to them, and the fourth-place guy was further behind me than I was behind the second-place shooter.

Having enough power to do the job, and no more, and the reduced recoil that came with it, made such a difference in the rate of accurate shooting, that I retired the Garand from competition, and started scouring the local gun shows for an AR-15. (I was not going to shoot a carbine in competition, no, that was just too much of a step down.)

The moral? More can be better, but often, "just enough" is all that's needed, and other factors weigh much more heavily. Some in the military realized this even before WWII, but it wasn't until after that some, not all, actually began looking for a replacement.



A lineup of handgun and SMG cartridges in use during and after WWII: the .45 ACP, 7.63X25, 9mm Luger, 9X18 Makarov, and the anemic 8mm Nambu.

What Is An Assault Rifle? Who Was First?

According to military authorities, an assault rifle is "a shoulder-fired, select-fire weapon used by an individual soldier, firing a cartridge of intermediate rifle caliber, with a detachable high-capacity magazine." Shoulder-fired simply

means you don't have to use a bipod or tripod to use it in the normal manner. So that leaves, say, a Bren gun or BAR out. Select-fire means the operator can select semi- or full-auto fire. That leaves out lots of submachineguns which have simply a "Safe" and "Fire" setting, where fire is full-auto. Intermediate caliber is anything that isn't a full-power cartridge originally chambered in a bolt-action rifle. No .30-06, .303, 7.92 Mauser, 7.62X54R, 7.7 Arisaka, etc. A detachable high-capacity magazine would be open to a flexible definition. If your bolt-gun held five rounds, then a 20-shot magazine is a lot. If you were used to the 10-shot SMLE magazine of the British, 20 is not that big a deal. But, 30 rounds is getting up there.

Lots of rifles are thus left out. Any semi-auto variant of a true assault rifle would not make the cut. Thus an AR-15 is not, but the nearly-identical M-16 is. Some might argue the point, but we draw lines to delineate categories. If we then ignore the line to "make" something into something it isn't, what is the point of drawing the lines and defining the categories? None of the pistol-caliber SMGs or carbines can therefore be an assault rifle. Also, nothing in a full-power cartridge can be. Thus, the American M-14 is not an assault rifle; it is the next step up, a battle rifle.



Here is the Springfield's sight in the up position for long-range shooting, showing the tiny aperture for sighting.



The Mosin-Nagant's rear sight: no aperture, but marked out to 2,000 meters. As if.

So, who was first? Let's lay out the arguments.

The AK-47? Nope; the StG44/5 was first, and in the view of some, the idea that the Soviets took to make the AK-47. I don't think that's the case, but some argue it. So, that makes the StG44 first, right? No, there were earlier German designs, predecessors to the StG44.

Some Americans argue that the M1 Carbine was the first assault rifle. It shoots a less than full-power rifle cartridge, and it was finally made in a select-fire version, the M2. I'd have to say no again, as the cartridge really isn't a medium rifle cartridge, but a really zippy handgun cartridge. 110 grains at 1900 fps is just not quite rifle territory. And I say that in full knowledge that the late Jim Cirillo was fond of the carbine. Of all the firearms he used in shootouts in the New York Stakeout Squad, the M1 Carbine was the only one to produce 100% one-shot stops. But for military use it is just a bit too light.

OK, say the American claimants, then what about John Browning? Specifically, his Remington Model 8, which was made into an ad-hoc assault rifle during the Roaring Twenties. With a 15-shot magazine (popular with prison guards) and a little gunsmithing, it could be made select-fire. In the days before the national Firearms Act of 1934 (which controlled the manufacture of machineguns) such rifles were popular with those who found themselves in scrapes with the law. Actually, both sides of the scrape. The Remington cartridges are not full-power in the sense that the .30-06 or the 8mm Mauser are full-power, and they certainly better than the .30 Carbine.

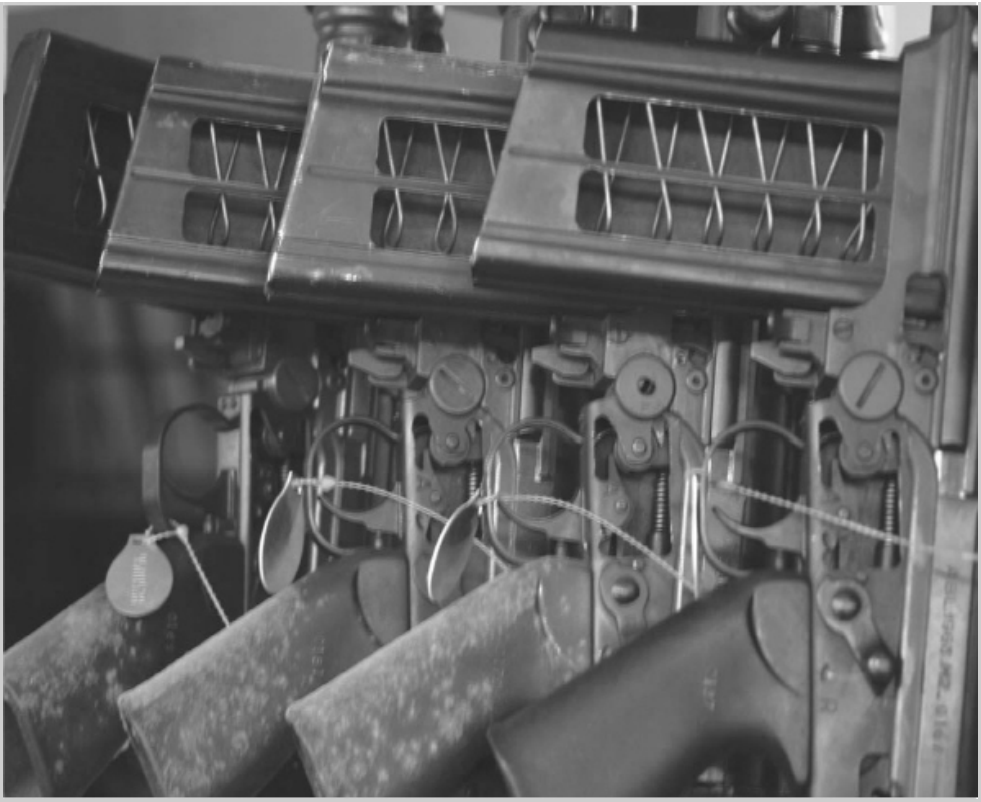
But, it was only a small-time retail item at best. Never adopted, nor even looked at, by military organizations.

We can leave out all the full-power self-loading rifles and machineguns, the BAR, the BREN, etc. We can also drop all the pistol-caliber weapons from consideration. An SMG is not an assault rifle, and indeed assault rifles were developed to overcome the shortcomings of the various SMGs. So that leaves out one of the earliest contenders, the C-96 Mauser, aka the Broomhandle. Made in select-fire (at first only in Spanish copies, later by the Germans) it offered safe-semi-full fire modes, magazine capacity, compact size and weight, but one shortcoming: just a pistol caliber. If the M1 Carbine is off the table because it "only" delivers a 110-grain bullet at 1900 fps, then the 86-grain bullet of the C-96, zipping along at 1600 fps, is not in contention.

Hey, one that most don't think of: the Pedersen Device. The device replaced the bolt of the bolt-action Springfield 1903 rifl, and fed from 40-round magazines. However, it was not select-fire, only semi-auto. And the 7.62 cartridge it fired was an anemic pistol cartridge. Curiously enough, it ended up being the basis of the new French pistol cartridge for their "improved" sidearms. They adopted their M-1935 pistols, when they could have had the Browning High Power. (Those wacky French.) So the Pedersen Device, despite being a 1918 invention, was little more than an expensive semi-auto plinker.



Here you see one of the virtues of the postwar AK-47: compactness. Next to it are a Springfield and a Mosin.



Rifles using full-power cartridges must be large, heavy, long and still have lots of recoil. Here we have a rack of armorer's FALs, machined to show the interior parts.

What was early enough to be first, but not focused on the full-power cartridges of the day?

The Federov Automat. While not exactly light, at almost 10 pounds, and not exactly compact, at a fraction over 38 inches, it was the first. Standard rifles of the time were longer and nearly as heavy. They held five rounds to the Automat's 25. They used full-power cartridges, compared to the Automat's more modest 6.5 Arisaka.

With the Federov, the Russians were the first to design a workable assault rifle, according to our definition. It just wasn't the AK-47.

Back to the War

Having developed the use of SMG's to a fine art, the Soviets determined that there were some drawbacks. An SMG lacks penetration. It lacks accuracy, as it fires from an open bolt. What the Soviets wanted, in essence, was what the Germans had already developed; an SMG on steroids, something with enough punch to reach through light cover. Something with enough punch to put a man down within the typical range of engagement; under 300 yards. Something with enough accuracy and range that hitting an opponent at 100 yards was more than a "spray a mag at him and hope you hit" operation. And yet, something that didn't have the recoil of a full rifle, something that could be made at less cost than a traditional rifle, and something that had no more maintenance requirements than the SMGs, of which they had tons.



The MP-44, the penultimate *sturmgewehr***.**

Also, you must keep one thing firmly in mind when considering the military use of any firearm: machineguns rule the roost. Individual riflemen race about, and do a lot of the

heavy lifting and dirty work, but machineguns own the terrain they survey. When a machinegun opens up, everyone's attention goes to it; the opposition, to eliminate it, and the user's side, to augment its firepower, and maneuver around it to assault the enemy. At least, trained and experienced soldiers do. So belt-fed machineguns are more important than rifles, but better rifles increase the effectiveness of machineguns.

The hero of our story, Mikhail Kalashnikov, was born in 1919, in Kurya, Siberia. Born there and then, he would of course know nothing but the Soviet system, with its strengths and faults. The strengths tended towards the production of basic materials in large quantities and in military gear at the basic level. That is, lots of steel and cement, with not much consideration given to lesser details such as the quality of water and air, worker safety and health, or other aspects of production that many free-marketers think of as "socialist" and which the real socialists then would have been surprised to be tagged with.

But I digress.

After his education, Mikhail worked in the Trans-Siberian Railway as a clerk, then was drafted into the Red Army in 1938. He was 19 years old, and the world was on the cusp of a profound change. It was clear to everyone that war was coming, and the Soviets were not going to be caught off-guard. The Red Army at first worked in cooperation with Germany, as they had held joint training maneuvers during the 1930s. Both held a grudge against the new country of Poland, so it was probably not a big surprise when they jointly invaded and occupied it. As part of the plan for Liebensraum, (living space, or the space Germany needed for its people and

agricultural needs) Adolf Hitler planned to invade the western part of the Soviet Union. The Soviets also planned to press westward, but Germany struck first.

By the time of Operation Barbarossa, Mikhail Kalashnikov was a Senior Sergeant/Tank Commander in the 24th Tank Regiment of the 12th Tank Division. In the Battle of Bryansk, Southeast of Moscow, October 1941, he was seriously injured. He made it back on foot to an aid station, where he was treated and sent to the rear. (As an aside, you have to get a grasp of the luck involved here. First of all, tanks are not commonly stopped because they get dented or the paint scorched. At the very least, a solid shell from an opposing tank gun blasts a hole in the turret or hull, hurling hundreds of shards of high-velocity, red-hot steel around the inside of the tank thus struck. Think of a blender set on Frappe. Those shards can set off the ammunition stored in the tank, causing an explosion. Quite often when a tank is struck by an opponent's shell there is nothing left to be found of the crew, and the tank itself is simply a shell of scorched steel that, once the fires burn out, is hauled off as scrap to be smelted and made into something else.



As you can see, the MP-44 was a lot more ergonomic than the AK-47. The safety is the lever, moved by your thumb. The selector is the button above it, pressed here for semi-auto fire.



The action of the MP-44 was pretty much what the SKS was, just a year or two later. The hook on the upper bar picks up the tail of, and unlocks, the bolt, before drawing it to the rear.

Also, the Wehrmacht at this time in the war was engaged in huge encircling maneuvers. They commonly captured

Soviet soldiers in the tens of thousands, sometimes even greater numbers. Once captured, the soldiers were sent back to Germany or the occupied countries to be used a slave labor. That Mikhail Kalashnikov was both wounded and escaped to safety is uncommon. Without that luck, the world would be so very different, and this book would not be written.

Convalescing, he worked on ideas for a new submachinegun. Mikhail had already proven himself as an invenotr and designer. He'd previously designed a mechanism to measure tank engine output and had been sent from his Army station to Leningrad to oversee its manufacture. Then the Germans invaded in June, and he was immediately called back to his unit. He fought from June to October, and worked on his firearm ideas while convalescing. Now, the Soviet Army was not short of submachinegun ideas, and Kalishnikov's ideas were not different enough to warrant production. He was clearly a gifted designer, however, so he was sent to the Moscow Aviation Institute.

From there he was sent to the main design bureau, and he worked on more designs. I can only imagine his interest at seeing the new M-43 cartridge. Previously he'd been working with the 7.62X25 cartridge, a pistol cartridge. Operating at a brisk pressure for a handgun, but not so much for an SMG, it required that handgun designs be of the locked-breech type while SMGs could be straight blowback.

An aside: a locked breech has some sort of mechanical engagement to keep the barrel locked to the bolt/slide for a short time or distance. Lacking that, a blowback simply uses the mass of the bolt and the strength of its return spring to keep the bolt closed while the cartridge fires. If the chamber is

not kept closed long enough, the case will not have enough strength to withstand the forces working on it. Also, in a handgun, the amount of slide mass and spring strength needed to keep it closed can become excessive. Excessive in that handguns are expected to be compact, light weight and handy to use. In an SMG, the 7.62x25 cartridge sends an 86-grain bullet downrange at about 1,600 fps.

Such a bullet lacks penetration ability. Oh, it pokes holes through people just fine. But in combat, most people do not oblige you by standing there like your garden-variety cardboard target. They hide behind stuff. The 7.62 Tokarev simply lacks the oomph to poke a hole through common "hidey" objects like trees, walls, etc. The standard Soviet rifle cartridge had no such lack. The 7.62X54R (the R stands for rimmed) launches a bullet of 150 to 190 grains, at velocities of 2,600 to 2,800 fps. But the rifle chambered for it was the Mosin-Nagant, Model of 1891 and its variants. A bolt-action five-shot rifle, it was not on anybody's list of "high volume of fire" rifles. Where a British soldier with an SMLE could easily attain the 10-aimed-shot-a-minute standard of the British Army, and an American could easily double that with a Garand, the Soviet soldier with a Mosin might get 10 shots off in that same minute, and then again he might not.



What the MP-44 has, and the AK lacks, is a dust cover.

Make a self-loading rifle for the 7.62X54R, you say? The Red Army tried. Feeding problems from the rim aside, getting any rifle to work reliably while launching heavy bullets at those speeds was difficult. The Soviets tried, but the rifles they produced had reliability and durability problems. They made two, the AVS-36 Simonov and the SVT-38 Tokarev. I have seen both but only fired versions of the second. The Tokarev was made in two models, the ’38 and the ’40. We only see the ’40 in shooting specimens here in the States, and I had the opportunity to shoot, and watch being shot, one of them. To deal with the recoil of the 7.62X54R cartridge in a nine-pound rifle, it comes standard with a muzzle brake. A loud, obnoxious muzzle brake. Despite the rimmed cases this rifle worked well, but one sign that it was working at the limits of the design were the empties: they were not just vigorously ejected, they were sent High Priority towards the next ZIP code. The Red Army had a lot of them made, but more because they needed something, anything, to increase

firepower and not because the design was so good. Despite the improvements from the ’38 to the ’40 models, it was a relatively fragile design.



Wartime and post-war cartridges. From left to right, the 7.92X33, then 7.62X39, the Czech 7.62X45, a 7mm FN, and the .308.



A rack of PPS-43 SMGs.



One advantage SMGs have over the rest, due to their low velocity, is the ability to be suppressed. Here is a Sterling with an integral suppressor.

One thing you could say about the Mosin was that it was rugged. Given the harsh climate in parts of the Soviet Union, and the continuous demands of war, and you had the Soviets continuing to produce Mosin-Nagants right through the end of the war.

And Mosins were made in the 7.62X54R, with its recoil, muzzle blast, and big, rimmed cartridge.

The 7.62X39 M-43? A 123-grain bullet at a nominal 2,400 fps. Said bullet fired from a tapered case for ease of extraction, no rim (at least not one that protrudes outside of the case base diameter) and designed as a cartridge for a self-loading rifle.

Why is taper a good thing? Again, the answer lies in the nature of combat, especially combat as the Soviets knew it. Out in the field for long periods of time, in the mud, dust, rain and snow, a rifle that used a tapered case had an advantage in that the case fed more reliably (all other things being equal) and extracted easily. No sliding of the case out of the chamber, sidewalls pressing all the way. Once the case taper (basically a conical wedge) breaks free, it is done with the chamber walls.

Also, the Soviets made lots of ammunition with steel cases, just as soon as they possibly could. Compared to copper, iron is cheap. So they made disposable cartridge cases from the cheapest material possible: steel If they could have made them out of cement, I bet they would have.

So, there it is: tapered case, select-fire rifle, low recoil, mass production. What could go wrong?

The lack of stamping machinery, for one thing, and the Soviets' lack of knowledge of dealing with stampings in more than just the SMG role, for another. The original AK-47 was made as a stamping, but not for long. Now, imagine yourself Mikhail Kalashnikov for a moment: you've spent years of your life working industriously for the good of the common man. You've spent that time perfecting a new rifle, and all the while you were told the overriding design consideration was "Cheap, cheap, cheap." You've saved costs at every point: steel stampings, crosspins instead of threaded parts, rivets instead of welding, laminated stocks. And now, just when the finally field-testing is allowing you to fine-tune the design and production, someone bureaucrat tells you that you have to go back to milled receivers. WTF, comrade?

The prices here-and-now are illustrative. If you order an AK receiver, stamped, to build a parts kit with, it will run you under $60. A milled receiver runs (they vary in price, depending on who made them, and how many they made) costs up to $500. I'm sure if you order a hundred you'll get a discount, but the relative prices don't change much.



The FAL uses a stock-contained recoil spring. It wasn't easy to make a model of the FAL with a folding stock.

So, for the price of the milled-receiver AK, Mikhail and the crew could make four or five stamped-receiver rifles. Ouch. Even in a socialist accounting system, that matters. But, they had no choice, as they had no vote. So they made the milled rifles, and worked on the details they needed for the stamped-receiver rifles, and when they could get back to it, the now AKM (the correct nomenclature for the second-model stamped receiver AKs) went into full production.

There was one nod to the old-school rifle crowd: the sights. While the open rear with a notch and post front sight system was entirely adequate for the kind of shooting envisioned, the sight settings show that the Soviets could not entirely shake off the old ideas. The rear sight on most AKs is graduated to 1,000 yards. As if! Even the most accurate AK, fired at a target 1,000 yards off, would be lucky to hit a Buick.

Even a small farmhouse is probably safe. I know what you're thinking. "Hey, mine is a 2-3 MOA rifle, which means at 1,000 yards it is only a 20 to 30 inch circle of dispersion. I should be able to hit something, right?" Not quite. At 1,000 yards, your 2-3 MOA AK is probably (due to wind, velocity loss and accuracy loss) shooting a pattern about six to eight feet across. The bullets are coming down almost vertically, so if your range estimate is off by only 50 yards, they'll all miss.

A far better sight system would have been to have three settings: a 100, a 300, and a "C" or "P" setting, indicating that you had the "good for everything out to 300 meters, comrade" setting. Also known as the "Combat" setting, it means you'll be on an upright man out to 300 meters, if you aim at his belt buckle.

Not that you can't do some good work with an AK. My friend Dave Fortier, on a trip to Finland, was using a Finnish AK to drop military targets out to 450 meters. But he was using a milled-receiver Finnish AK (an Rk 95 TP, made by Sako) with a top-notch barrel screwed in, fed Lapua ammo. Not your typical AKM like those issued to a motorized infantryman in a Soviet Red Army unit. No, the early AKs were made for durability and at low cost.

A squad-level variant made from the AK is the RPK. The changes were simple: a barrel of 23 inches (and a fraction) made in a heavier diameter and a 40-round magazine. Stick a bipod on the end, and you have a squad automatic weapon. A silly exercise, but in the mid-1950's who knew better? The RPK is too light, at nine-and-a-half pounds, to deliver accurate automatic fire. The barrel is not quick-change, and so it heats up quickly. The only saving grace was that it was chambered

in 7.62X39, so the automatic rifleman wasn't hammered by his own weapon. But as an effective base of firepower, it's a dud. As a portable means of firepower, it's not much more useful than the AK-47s its user was surrounded by.



Showing the gap between rifles and SMGs, we have the 9mm Parabellum, 7.62 French, and 8mm Nambu pistol cartridges, ahead of a .30-06.

That was the late 1950s, and within a decade the Soviets were learning the same lessons we were in Vietnam: short-range engagements depended on firepower, and the recoil of the 7.62 (in either flavor, Soviet or US) made controlled firepower a problem. The Soviets went on an R&D program to replace the AK. The idea was to leapfrog the AK, M-16 and all the other new rifles, and jump ahead as the AK-47 had jumped ahead of other military rifles in the post-WWII period. They wanted controlled bursts and compensated rifles that would shoot accurately and not just spray the terrain; they wanted high cyclic rates with controlled recoil; they wanted the sun, the moon and the stars. What they got was the realization that for all their hard work, they had no money.

The economic constraints were there to be seen by those with access to the data. Despite a full generation postwar, and

hard work and exhortations to work harder, the Soviet Union was going broke. This was not the time to be fielding a radical advance in small arms technology, with the attendant field-testing, de-bugging and new production it would entail.

Instead, what the Soviets ended up with was the AK-74. It was basically an AK-47 in the Soviet equivalent of the .223 Remington/5.56X45. Any design changes that happened were production improvements, like the sidefolder stock instead of the weak and wobbly underfolder. Various high-tech models were put on the shelf until "better times" would allow their production. They still haven't appeared.

The AK-74 want into full production in the mid-1970s, and for more than 20 years it was relatively unknown in the West. When importation began, they came as AK-47 and AKM semi-auto variants, not AK-74. As with the RPK, when the AKM was replaced, the Soviets also replaced the PK with the RPK-74. Pretty much just as useless as the original, although the RPK-74 with its lower recoil is a bit easier to put automatic fire on a target, and the barrel is a little less likely to overheat. But not much.

Entry of the AK into the USA

The earliest AKs in the US were bring-backs, either made legal by the amnesty of 1968, or importation of test guns and samples prior to 1986. As such, they were all select-fire. The attitude of the government, ever since the National Firearms Act of 1934, has been quite prejudicial towards select-fire weapons, more commonly known as machine guns. Basically, if they weren't registered at the time of their existence in 1934, or registered when made by a lawful manufacturer afterwards,

they were absolute contraband. There were a couple of amnesty periods, neither very well advertised, and outside of those times, there has never been a way to get a machine gun "papered."



The Stechkin, both a sidearm and an SMG. Sort of.

A brief aside here: if your father, grandfather, uncle, whomever, has a hidden AK-47 bring-back from Vietnam, it is illegal. There is no way to make it legal, unless he had it registered during the amnesty period. No, life isn't fair. That rifle may have saved his life. It may be a remembrance of someone who saved his life. But it is unlawful to own. Just knowing it exists, and not bringing it to the attention of the ATFE, may be cause for official eyebrow-raising. If you want such war trophies to surface lawfully, you'll have to lean hard

on your elected officials to allow veterans, or the heirs of veterans, to legally register the trophies they brought back. That requires new law. Start the letter-writing now.

Until the Firearm owners Protection Act of 1986 you could make a machinegun from an existing non-select-fire firearm. You simply applied for a Form 1 and paid the $200 tax. Once approved, you then could have the rifle modified to be a machine gun. In one of the more venal and less savory actions of Congress, a dubious voice vote amendment was added to the FOPA 1986 at the (literal) last minute, an amendment that prohibited the new manufacture of transferable machine guns.

Until then, you could have made a select-fire AK from a semi-only AK. There was a catch, however. The window of opportunity was quite short. You see, there were no semi-auto AKs being brought into the country until shortly before FOPA 1986 was passed. The first was the “Maadi” imported from Egypt, of all places. When the Middle East turned to the Soviets for arms, the Soviets were only too happy to create mischief and allies. So they built a plant to produce AKM rifles, located in Cairo. The word among the international arms cognoscenti is that the Soviets simply packed up a spare AKM plant, tooling, machines and everything needed except the workers and the propaganda posters on the walls, and shipped it to Cairo where they then set it up for the Egyptians. Having lost the 1968 war, the Egyptians were determined to do better the next time around. In the Yom Kippur War of 1973 the Egyptians and the Syrians did well in the first day, then got hammered. Anwar Sadat then settled with Israel, and they had peace, at least until he was assassinated. By the early 1980s the Egyptians had excess rifle production but no markets. (The

Israelis by then had fielded their own AKM, the Galil, and then quietly pulled it from standard-issue.) A tale that happened more than once: the Soviets were willing to provide arms and assistance to most any revolutionary group or socialist country, which made it really tough for the earlier recipients of assistance to make any money selling arms on the world market.



The Setchkin selector/safety, here set on “Semi.”



The Stechkin in its shoulder stock/holster.

So they came here. Working out a deal with Steyr-Diamler-Puch of Austria, with offices in New Jersey (go figure) they began importing semi-only AKMs, which were as close to an authentic Soviet AKM as anyone would see for 20 years. They did, however, have two problems. Well, three, if you count the problem of the full-auto bolt carriers the first shipment had. The gunsmithing/engineering aspect of such hand-wringing would be almost comical, if it weren't fraught with such peril. An AK with a full-auto carrier, lacking all the other parts, is no more capable of full-auto fire than your average Buick. And, in the early 1980s, there were no full-auto fire control parts to be had. (Hammers, triggers, disconnector, auto-sears, etc.) Today, with de-milled parts kits stacked to the ceilings in many wholesalers (and some garages), all with full-auto carriers and fire control parts, no one cares. Build your kit with the FA carrier, and leave out the rest, and it is no big deal. But in 1982, it was a cause for pants-wetting hysteria.



A PPS-43, next to an earlier Russian small arm.

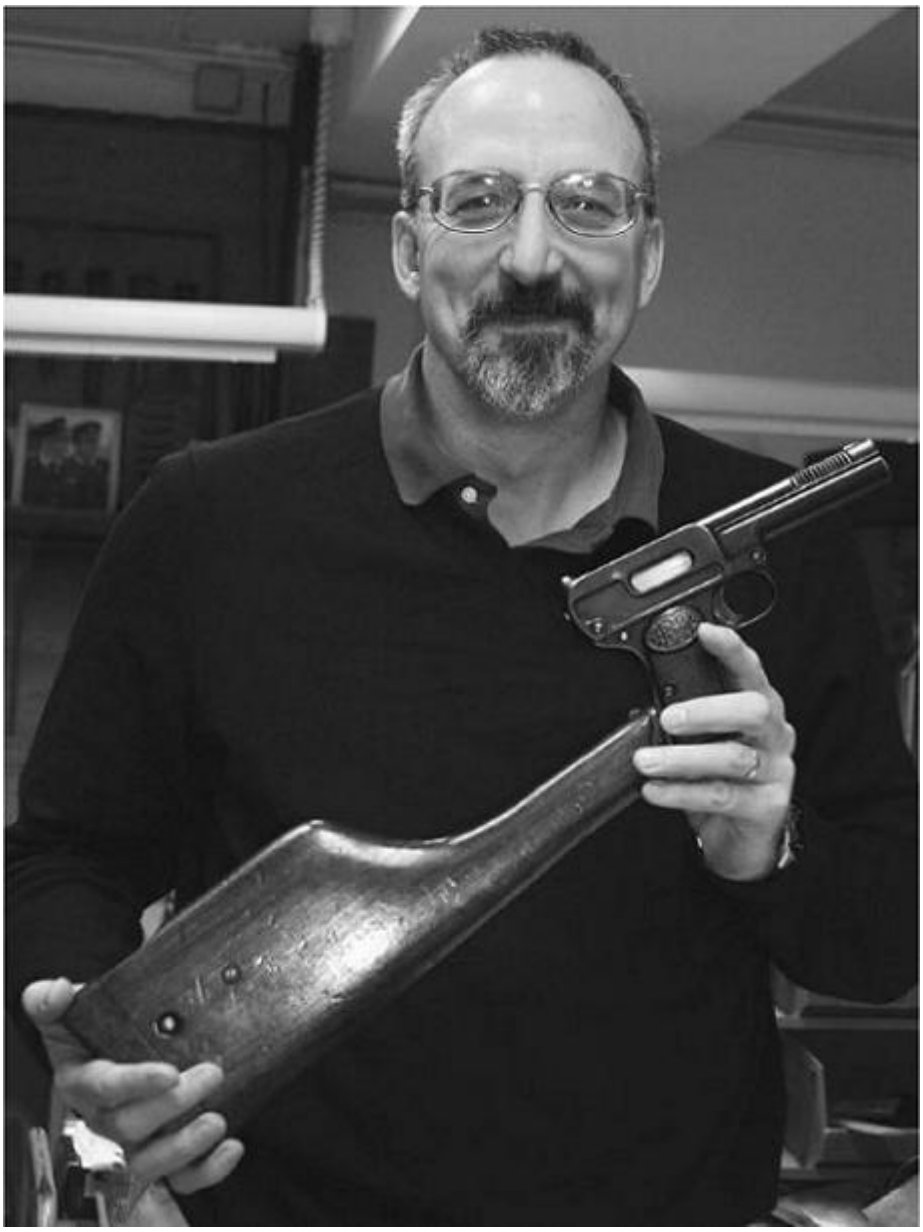
But I digress. The two big problems were cost and ammo. Coming from Egypt via Steyr in small importation lots, the AKM bore a staggering price tag. The MSRP in 1982 was (hold onot your hats) $1250. Adjusted for inflation, that comes to just over $2800 in 2007 money. Ouch. In 1982, you could buy a surplus WWI- era 1911A1 for $180. You could buy a brand-new Remington 700 in .30-06 for $289. A Winchester M-70, new style, could be had for $379, and lots of pre-'64 Winchesters could be found for a hundred less. A brand-new Colt AR-15 sold for $439, and if you lived in a state that allowed Class 3 weapons, you could buy a real, honest-to-god M-16 for maybe $100 more, plus the $200 transfer tax. $1250 for an AK? What, are you out of your mind? (Today, people grumble over a $1200 AK: "That's too much, I can get a parts kit for [fill in the blank] and make it myself.")

Ammo? Ammo was even worse. No one imported it, because why would they? The only rifles that fired it were the existing AK-47 and AKMs, held by rich collectors and museums, or the small numbers of bring-back SKSs. Unlike the AK, which if found in a GIs duffle upon returning to the States from Vietnam would land him in Ft. Leavenworth, the SKS was an OK souvenir. There were even collectors starting to pick them up who would pay a $20 bonus for SKS rifles with the bring-back papers. But no ammo, except the odd magazine full or box of ammo someone brought back from 'Nam.

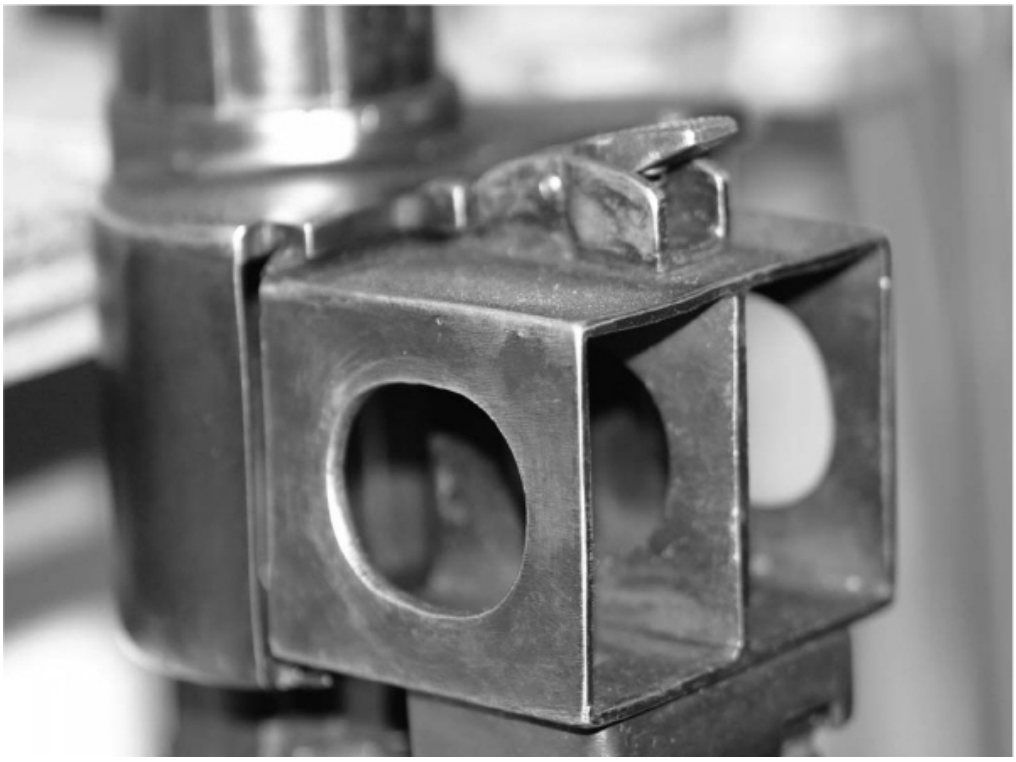
I was working at a gun shop that specialized in militaria at that time, and the boss knew I was a reloader. Even then I had a reputation for knowing about such things, so he told me, "Find some way to make ammo for this thing, so we can sell it." You see, we had a Maadi in the shop, on consignment. Mike would never have bought one, because of both the price and the ammo problem, but as a consignment gun, it was a smart thing to do. I'm sure we got a lot more foot traffic because of the AK we had, that we otherwise would not have. If I could find a way to make ammo, we'd be golden.

Oh, I wish. American rifle ammo is produced mostly on five different head sizes: .30-06, .223, Magnum, .30-30 and .35 Remington. The first three are hopeless. The nominal head diameter of the .30-06 (and the .270, .243, etc. that are derived from it) is .470". The .223, which comprises the .222, .222 Magnum, etc. is .376". The Magnum has a reinforcing belt just ahead of the extractor rim, which is .532" in diameter, with a case body just ahead of that at .512". The 7.62X39? It measures .443" at the base, just above the extractor groove. No

way to make it from some of the commonest cases to be found on the American landscape (sometimes literally so).



Stocked handguns are nothing new. Here is a WWI Dreyse with stock, in pristine shape.



The Germans wanted additional firepower so much, they developed a dual-magazine mag well for their MP-38/40 SMGs.

The .30-30? .421” ahead of its rim. I actually considered it, but gave it up as a conversion, even though we had a guy who converted cartridge cases for a living. If I left the rim .447” so the extractor could grab it, the rim would be wider than the base of the case. It wouldn’t stack right, it wouldn’t feed right, and all that work would be for naught. That left the .35 Remington. As a hunting cartridge it was quite popular in some areas. It was smaller than the .30-06, so would it work? Nope, at .457” it was too large to swage down, and too thin to lathe-turn. Too bad, for no one reloaded the .35 Remington, and ranges that had pre-hunting season sight-in days would literally shovel the brass up and dump it in 55-gallon drums to be sent off to the brass mills for their scrap value by weight. Had it worked, we could have turned a tidy profit converting .35 Remington into 7.62X39 clones. Oh why hadn’t the Soviets bumped their specs from 11.25mm to 11.60mm? Then

again, why hadn't they simply done as the Germans had done, and made the case head diameter the same as the 8mm Mauser, .470"? Now that would have made out lives easier.

But they didn't.

The next AKs of note came into the USA from Hungary. I guess the Maadi sold well enough that the Hungarians thought they could make money, selling for a lot less, even though there still wasn't any ammo. Made by FEG, the SA-85M was (and still is) a classy AKM. Unlike the Maadi, which could be a bit rough around the edges, the SA-85s were all done in a gloss black phenolic paint job and had blonde wood on them. The first batch were imported only in 1986 by Kassnar, and thus were pre-import ban rifles. When the law changed in 1989, they came in with the hideous "thumbhole" stocks that met the letter of the law. If you have one, and want to swap it for a better stock, remember you will then have to also make it 922 (r) compliant. So get in there and swap out some parts of USA-made ones. Kassnar imported only 7,000 rifles, which sold like hotcakes. Why so few, when they were selling well? Politics. Back then, we extended "most-favored" trading status upon some countries but not others. China and Yugoslavia were MFN, but everyone behind the Iron Curtain was not. In fact, Warsaw Pact countries had huge tariffs imposed on their products, at least those that weren't banned outright from importation. Somehow, Kassnar got their shipment approved. But as soon as they hit the market, someone squealed on them, and that was that. The next shipment of Hungarian rifles would have to wait for the fall of communism, which happened after the import laws changed.



At the start of the assault rifle development was the MKb42(H). From then on, it was mere detail.



S&W made their “Light Rifle” (actually, an SMG) at the beginning of WWII, when everyone began to understand the need for extra firepower.



When the Soviets decided to improve the AK, they ended up with the 5.45X39 (on the right). It closely copies the performance of the 5.56 (middle).

The solution to our problems, but also the precipitating cause of later ones, came from the Chinese. They actually began importation before the Hungarian guns came in, but the rarity of the FEG, and the near-ubiquity of the Chicom guns has faded from people's memories. With most-favored status, the Chinese lost no time in getting guns to market. Chinese rifles are made by the Norinco company, the "Northern Chinese Company" that was set up to be a commercial enterprise and sell the production from a military factory. Lest you think I'm being prejudicial, all arms factories in China are Army factories, so it isn't like they were trying to do anything but meet the letter of the law: a separate company, not the

actual factory, sold the rifles. They made and exported a rather rougher version of the basic AKM, featuring a curious bright blue over slap-dash polishing of the steel, and wood that looked like it was the packing crates the parts and steel came in. But what endeared them to the gun-buying public was the ammo. Not that it was particularly accurate (4 moa was the norm) or that it was reloadable. No, it was steel-cased, and in many production lots even steel-cored (a problem later) non-reloadable and in some lots mildly corrosive. No, the most endearing quality was that it was cheap. No, you don't get the idea, it was CHEAP. The Maadi had an MSRP of $1250. The SA-85s had MSRPs around $350. Chicom AKs sold in the beginning for $289, dropping later to just over $200. I'm not sure they even had an MSRP, they simply sold for whatever the market would stand for. Or not. The ammo? Commonly packed in a pair of "sardine cans" inside of a wooden crate, I recall seeing crates with paired 600-, 700- and 800-round cans. No idea why a simple 500-round can, paired to be 1,000 rounds of ammo never caught the Chinese' eye. Anyway, these cans sold, at the peak of volume and lowest price, for less than $50 for a can. A sealed crate of paired cans could be had for less than $100.

With the stock folded, the AK (here a '74) is shorter than an M4 with its stock collapsed.





Modern Soviet and Russian small arms developments have paralleled those of the West. Here we see an AK-74 with a grenade launcher underneath the barrel. *Photo by Gunnery Sgt. Donald E. Preston, USMC.*

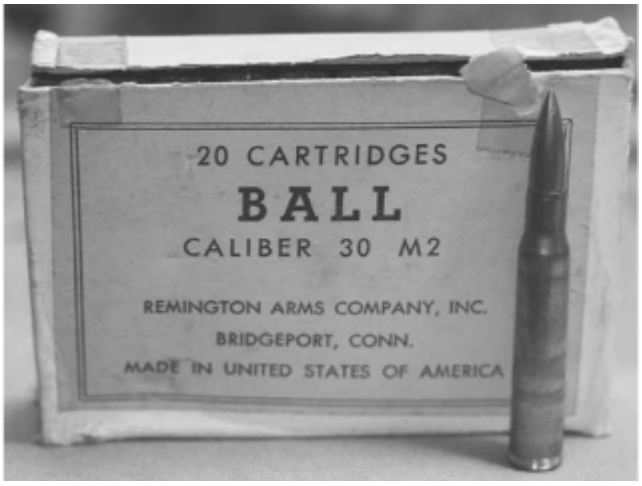
7.62X39 wasn't the only stuff they were selling. A friend of mine picked up a Makarov as a practice gun, and bought all the ammo he could afford for it. A crate, 1,600 rounds in two cans, ran him $79 shipping included. Every shipment of AKs and ammo must have had the containers packed with SKSs as padding, because they could be had for less than the cost of a crate of ammo.



Machineguns rule the terrain. Riflemaen maneuver to take advantage of, or eliminate the threat from, machineguns. Here, Iraqi troops learn the basics of the PKM, under the watchful eyes of Marines. *Photo by Pfc. Jerry Murphy, USMC.*



If only the Soviets had used a standard case-head size, I would have been able to create ammo for our lonely Maadi.



When the USA did change the .30-06 pre-war, they simply gave it a flat-base bullet of 150 grains and called it "Ball, M2."

All of a sudden the AK was everywhere. Guys who would not have bought Chinese stuff ("junk, I tell you, junk!") found that they could practice, and practice, and practice, for not much money, and when they inevitably wore out the less-than-Swiss-quality Norinco AK, they'd junk it (literally) buy another and start over. AKs were everywhere. Rifle ranges that had never seen one soon had empty steel cases ankle-deep on the firing line. Indoor ranges quickly found that the Chicom ammo really pounded their backstops, and told customers "No AKs." Then they started showing up in crime scenes. Which is not because they are "the favorite of drug dealers" or somehow evil in their own right. Drug dealers, like any other criminal, jump between what is status and what is available. Being the "commie gun" they had status. Being ubiquitous, they were common and cheap.

None of which kept legislators from slamming down the importation of them. But the operators of the Norinco enterprise are not less smart than others. They quickly figured out how to meet the letter of the law while still exporting tons (literally) of rifles to the US.

The Clinton years were difficult. Importation was slowed, and the rifles coming in had all the "bad" features neutered. No pistol grips, just ugly faux-SVD stocks. No bayonet lugs, no muzzle threads, the list goes one.



The RPK is simply an AKM with a longer and heavier barrel, and a 40-round magazine. What's the point? Here, Iraqi soldiers get some range time. *Photo by Pfc. Jerry Murphy, USMC.*



One of the first, and one of the best, imports was the FEG SA-85.

The AK-74



The AK-74 was unknown on these shores until the parts kit importation torrent. Then, just like that, they were common, along with ammo. Back in 1993 I went to Gunsite to take a .223 class. Most of us had AR-15s in one configuration or another. I shot the class with a box-stock Eagle Arms (before it became Armalite) in M-16A2 configuration. But a semi-auto version. At 6′4″, and working in the wide-open desert in the class, I had no problems wielding the thing. And there was no vehicular work there, either. Today, I'd be much less inclined to use such a pike, and be a lot happier with an M4-sized blaster.

Some of the class members were US Air Force Security Police. Apparently they'd been assigned a class-attendance routine that the Air Force had then sent them on, and they were at the end of several months of nothing but class after class, after class. So, to relieve the boredom, they'd checked some AK's out of the class so they could at least do this class with something different. What they brought were AK-74s and ammo cans full of ammo. (I don't recall just what they said about how the Air Force had come to obtain racks of Soviet rifles and a warehouse of ammo.) So there I was, in 1993, standing next to, and later shooting, a rifle that at that time probably fewer than a thousand people in the U.S. had any access to. It was fun, and informative. What I learned:



Real military surplus ammo comes in "sardine cans," two to a crate.

The AK-74 compensator worked, but not as well as the comps we were using for 3-gun competition on our ARs. It reduced recoil and muzzle climb, but at the usual cost of blasting with hot gases the guy next to you on the line The AK-74 also produced a horrific flash. At night, a firing string with the AK-74s on the line looked like a series of night-time paparazzis' flashbulbs going off rapid-fire. No, I mean flash clouds that you could read by, that I wondered at the time if they would set fire to the dry desert vegetation. Flash so bad that I really would prefer bad guys who shot at me at night used AK-74s. Then I'd know where they were on each shot.

The AK-74 was not the *uber*-rifle of implacable reliability. A couple of times we had malfunctions with the '74s. And the Air Force guys were not surprised at the malfs, which lead me to believe that those instances were not the first time they'd seen them.

Even the improved accuracy of the AK-74 over the AK-47 left something to be desired. We spent each morning, in the calm desert air, doing long-range shooting. By the end of the week we were shooting at 400 meters, prone. I was using iron sights, and once I learned the hold, I was hitting a standard pepper popper with regularity. The AK-74s did not deliver

anything like the accuracy of the ARs the rest of the class shot. Remember, this was in 1993, before the AR became common on the NRA High Power circuit. No one thought of the AR then as anything like a long-range rifle, and we were routinely engaging the poppers at 300 and 400 meters and getting hits. Not so the AK-74s.



This crate has already had the can-opener misplaced. Lose the opener, and you're in for a lot of work.



The AK-74 was supposed to be a great leap forward. It ended up being a good rifle, but not the wonder weapon the Soviets had desired.



Now, instead of SMGs, the "experts" want a Personal Defense Weapon. That means cartridges like the FN 5.7, instead of (l to r) 9X18, 9mm Parabellum, 5.7, or the .45 ACP.

I shot the rifles, I scrounged some empties and loaded rounds (in 1993, I was probably one of a handful of nonmilitary people who had any at all in the US) and went back to work. What I should have done is bought a bale of film (no digital back then) and shot all the photos the Air Force NCO's would let me, and then written an article on it. So much for looking ahead.

The situation of the AK at this point is interesting. (As in "May you live in interesting times," which is supposedly an ancient Chinese curse.) I can pretty much predict with surety that the days of dirt-cheap AKs is gone. First, the political situation is not likely to rebound to our benefit anytime soon. As a further complication (at least for us) the makers and owners of the AK parts kits we've been so happily building (and in some cases stacking in garages) have a much better idea of what they are actually worth to us. Look at it this way: when you were merrily buying Romanian AK parts kits for $99 each, how much do you think the Romanians were

actually pocketing? Twenty bucks? Why would they want to continue that? If they can get $40 for a kit, they just double their profit. If they can sell a new rifle for $100, so much the better. So, those of you who bought parts kits when they were cheap should be happy and stop gloating.

One matter comes up in the press a lot: how many AK-47s were built? Estimates run as high at 100,000,000 manufactured. Huh? Let's do some math. Let's assume that we have a relatively low rate of production for stamped receiver AKs of 250 a day. A five-day work week produces 62,500 rifles in a year's time. If you have 10 plants making rifle non-stop, it would take you 160 years to produce 100 million rifles. Now, during WWII the US industrial base manufactured 6.5 million M1 carbines in four years. If we assume the same production rate, it would take 60 years to make 100 million rifles.



One advantage to the 5.7 is compactness. You can stuff 500 of them, in boxes, in a lunchbox.

The volume production of the AK happened from 1947 through 1989. Forty-two years! To make 100 million rifles in that time, you'd have to have annual production of just under 2.4 million rifles a year. In 2006, according to the ATF, US rifle production and importation amounted to a total of just under 1.5 million. And that is rifles of all types, all calibers, all designs. So, in a free economy, where we can buy pretty much what we want, and with 300 million consumers, we bought half the number of rifles needed to meet the production of AKs to meet the big 100 million mark.

Even adding in the Chinese, making rifles for a huge Army (but a bunch of which would have been SKSs) we still are hard-pressed to come close to the high end of the totals given. But for journalists, especially those who are of an anti-gun bent, being able to scream "a hundred million assault weapons!" in an article is like catnip: irresistible.

Could the Soviets and the Chinese have made that many" Sure, but why? Even if they made two rifles for every member of their armed forces, and one for every would-be revolutionary fighter around the world, they'd not need more than 50 million. Which is an impressive number, admittedly. To give you an idea of just how impressive even that lower figure is, estimates put the production of M-16s for US and export use at nine to 10 million. Smith & Wesson began the production of the "K" frame revolver, the .38 Special M&P, in 1899. It was, for many decades, the standard police sidearm in the US. If you saw a police officer, odds were that the revolver in his holster was an S&W, in.38 Special, made on a K frame. To date, they have made perhaps seven million of them. Fifty

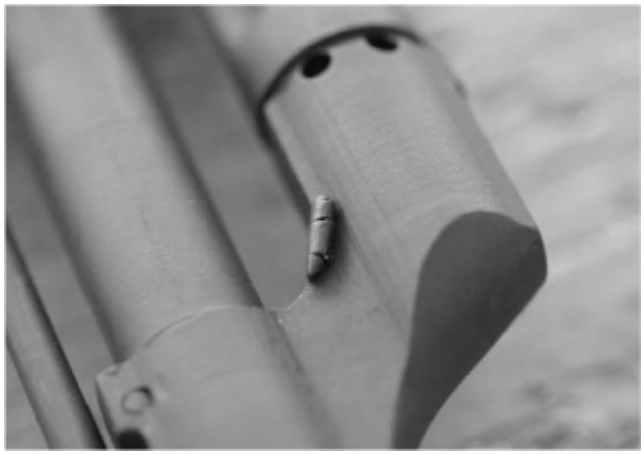
million is a lot of anything – but not enough for the alarmists, who find bigger numbers better.

But here I am, up on my soapbox, when what I should be doing is looking at the cartridge box. So with that, we'll move on to the technical stuff.

Chapter 2

How It's Made

Mikhail Kalashnikov is a genius. However, there are different kinds of geniuses. If you haven't had the opportunity to hang around with people at that level, you might not know that they can be remarkably different. In the classical music field, Mozart was a genius. However, his differed from earlier geniuses in that what he did was take the existing music and combine it into new combinations, patterns and forms. A newer example would be Chuck Berry, Eric Clapton and Eddie Van Halen. What Chuck Berry did was new, while Eric Clapton and Eddie Van Halen produced music at a new level of virtuosity. That's not to say that Eric and Eddie were not geniuses, nor that they did not produce new music. Their groundbreaking efforts were in virtuosity. I'm sure some music major will write me to point out the Chuck Berry wasn't an originator, he stole his music from someone else. That does not negate the difference I'm trying to point out.



Ah, the finest socialist manufacturing quality standards. This 1983-made Romanian AK came complete with machining chip still attached.

In the firearms field, John Moses Browning, John Garand and Mikhail Kalashnikov are similarly positioned. Everything Browning did was new. Everything. From self-loading pistols and shotguns, rifles and machineguns, even calibers, what he did was new and groundbreaking. When Browning invented a self-loading shotgun that worked (the A-5), he not only patented the operating principle, he patented three different ways to retract the bolt to charge the chamber. Now that's innovation and originality. John Garand did what no one else had managed to do prior: he developed a self-loading rifle in a full power military caliber, and one that met the (overly ambitious and unrealistic) requirements of the military. What Kalashnikov did was take several existing designs and put them into a single rifle.



The ’47 has the slanted gas block, the ’74, the upright one. Unless, of course, a manufacturer simply uses ’74 gas blocks on rifles in 7.62X39.



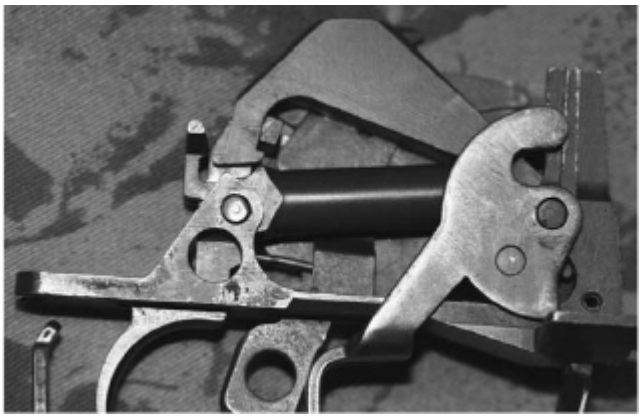
Kalashnikov borrowed the safety/selector from the Remington Model 8.



The Soviet request for a new rifle did not include accuracy beyond what was needed. So while the American M-14 could be rebuilt as a sniper rifle, no AK could be.



A proper aperture sight is close to the eye, allowing the eye to work naturally.

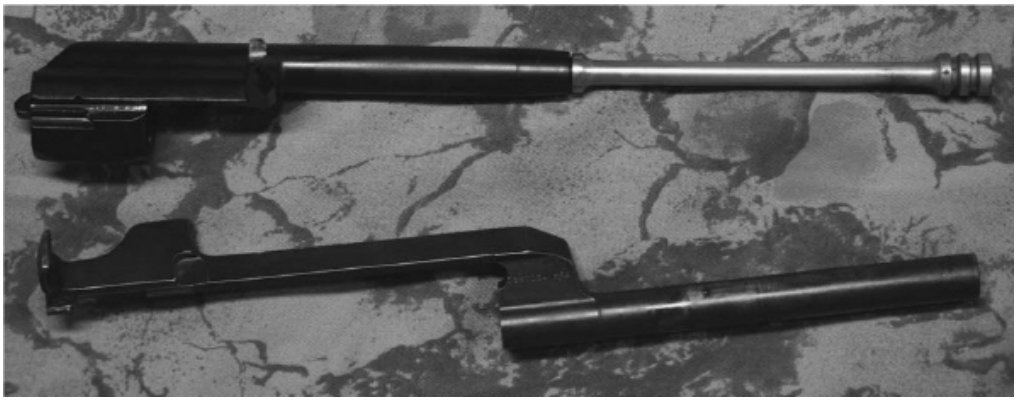


The AK two-stage hammer/trigger design comes straight from John Browning. (Here we see it in an M-14.)

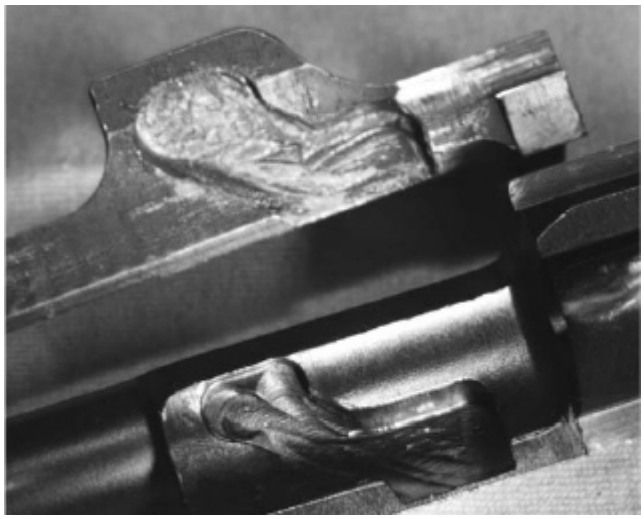
I can hear the screams now: “Heresy! The AK is unique, perfect, indestructible and a product of genius. Burn the heretic!” The genius part I can agree with; the rest, well, you’ve been drinking deeply the AK koolaid, comrade.

What are the parts that Kalashnikov incorporated into the AK? First, the piston and carrier design comes right out of the M1 Garand. The long rod, driven for a short distance by gases before it vents to the exterior, is Garand, as is the angled cam slot that actuates one locking lug of the bolt. (Winchester also appropriated that for use in the M1 Carbine, too. Good designs never fail to be copied, and Ruger copied it again in the 1970s for the Mini-14.) The bolt is also a Garand style. It features opposing locking lugs, with one of them used as the lever point of the carrier cam slot, then traveling with the carrier for the length of the stroke. The double-hook trigger mechanism is also Garand, but John Garand borrowed it from John Moses Browning. The double-hook trigger mechanism dates back to the Auto-5 shotgun and the Remington Model 8 rifle. The safety also comes right from the Remington Model 8, first made in 1906. The pivoting lever that both blocks the trigger mechanism and the bolt, and acts as a dust cover, also comes from the Remington Model 8, a popular rifle and well-known. The sheet metal construction of the receiver (the first models were made that way) comes from the various iterations of the German rifles, which from the Mkb42 to Stg-45 rifles were made with stampings. While Soviet designers would have been familiar with sheet metal pressings as a construction method from their own Sudaev PPS-43, it is significant to note that going from that open-bolt blowback mechanism to stampings with steel load-bearing internals happened only

after the Soviets were exposed to the MP-43/Stg-44 rifles. Also, the curved, double-stack magazine, feeding from both sides, came from the Stg.



The piston, driven by gases, attached to the operating rod? From the Garand. Here is an AK, next to the "refined" version from an M-14.



The cammed locking lug path is a direct descendant of the M1 Garand, and has been used many times since.

Pistol grips are not new, as every second-generation submachine gun has one. Also, the sights are the standard European rifle/SMG sights, a post out front and a notch in a range-adjustable rear forward of the action.

What makes Kalashnikov a genius is that he put all these together and used the M-43 medium power cartridge instead of the previous military imperative of full power. One aspect of the AK-47 where Mikhail did innovate was the gas system,

specifically in its location. He put the gas system above the barrel. All other attempts to design a self-loading rifle had placed the operating system below the barrel. By going above the barrel, Kalashnikov solved a number of problems: First, heat. Having the gas system in the stock means you have to have a small system, or one made of slender parts, otherwise the handguards get too bulky. You have to protect the shooter's hand from heat, which means more bulk. Second, the height gets the sights higher, which allows for a longer point-blank range, important with a relatively slow cartridge like the M-43. Third, since the handguards don't have to enclose a gas system, you can make them simpler, lighter, and thus have less effect on the barrel. Finally, it gets the bore line lower on the shooter, reducing muzzle climb due to recoil.

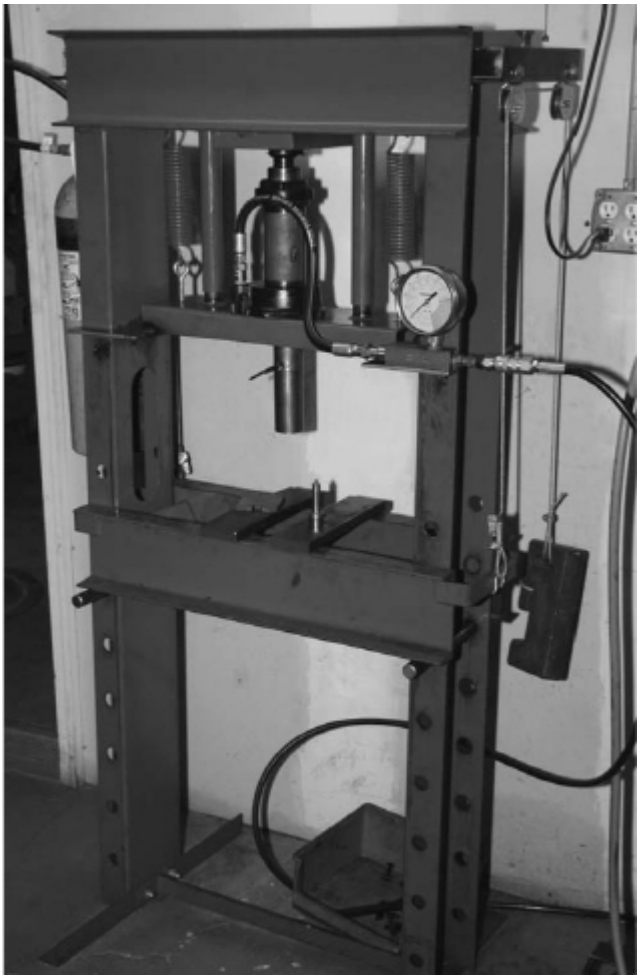
However, the cartridge part of it was beyond his control. Had the prevailing Soviet military requirement been to make a self-loading rifle in 7.62X54R, that is what he would have done. (And later did.) But as we discussed earlier, what the Soviet Army wanted was basically an SMG on steroids. What they got was much more than that.

As I mentioned, the first models of the AK-47 were designed and fabricated with sheet metal receivers. The intention was to make a rifle that was as inexpensive to produce as possible. Kalashnikov and Eugene Stoner agree about what their respective beauracracies wanted: For Stoner it was "light, light light" and for Kalashnikov it was "cheap, cheap, cheap." If the industrial base of the country is set up to make more and more steel, it is relatively inexpensive to make products out of sheet steel. The other industrial base was cement, but you cannot make a useable rifle out of concrete.

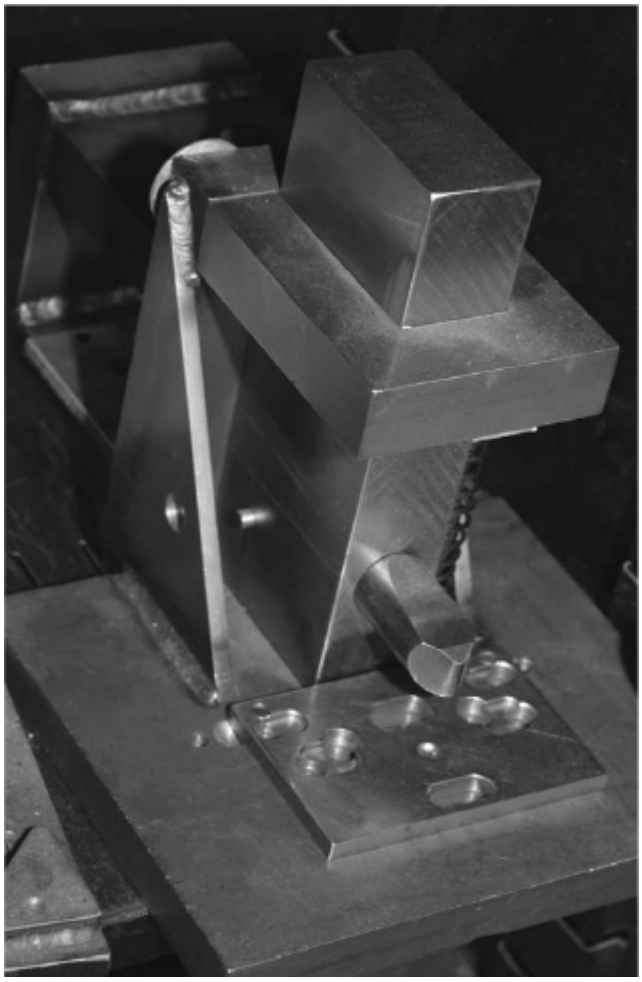
Alloying steel adds to the cost, so the AK had to be and is strong from design and not from alloys. Thus, the AK is not made of high-tech tempered steel, nor heat or corrosion resistant alloys. The sheet metal receiver is as strong as it needs to be for the job it does – which leads us to the forged receivers.



By putting the gas system above the barrel, Kalashnikov made his life so much easier.



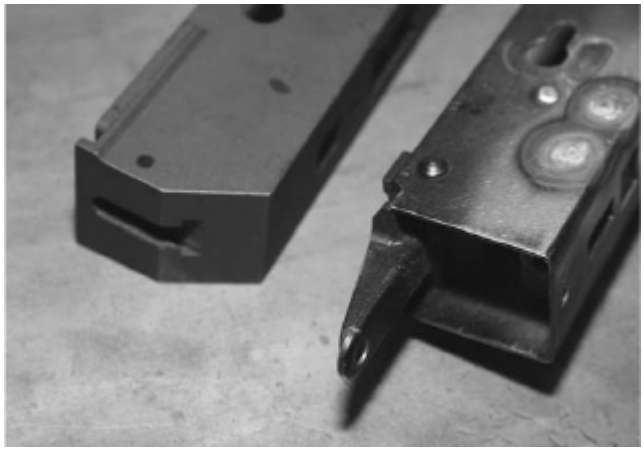
To make new receivers, we need only a simple, multi-ton press. Thank you, Mikhail.



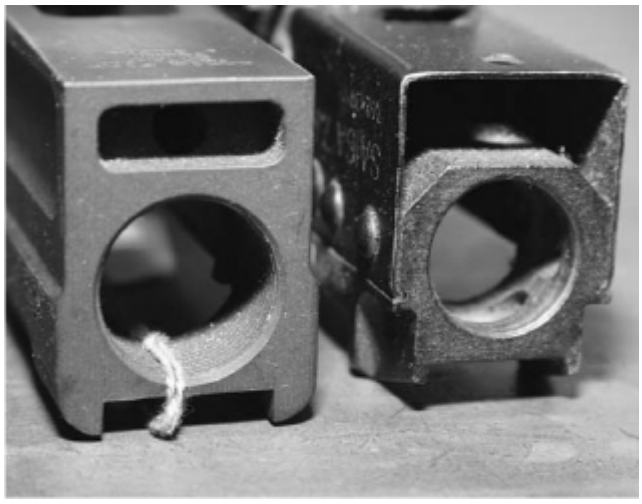
Simple fixtures like this allow someone to squash rivet heads with ease, and several at a time.



Given the simplicity of the design, hand-building new ones, or upgrading them, is easy.



Each AK manufacturer made design changes that didn't matter in the overall scheme of things, but which made their lives easier. And now we have to deal with them. These two receivers will require two different stocks.



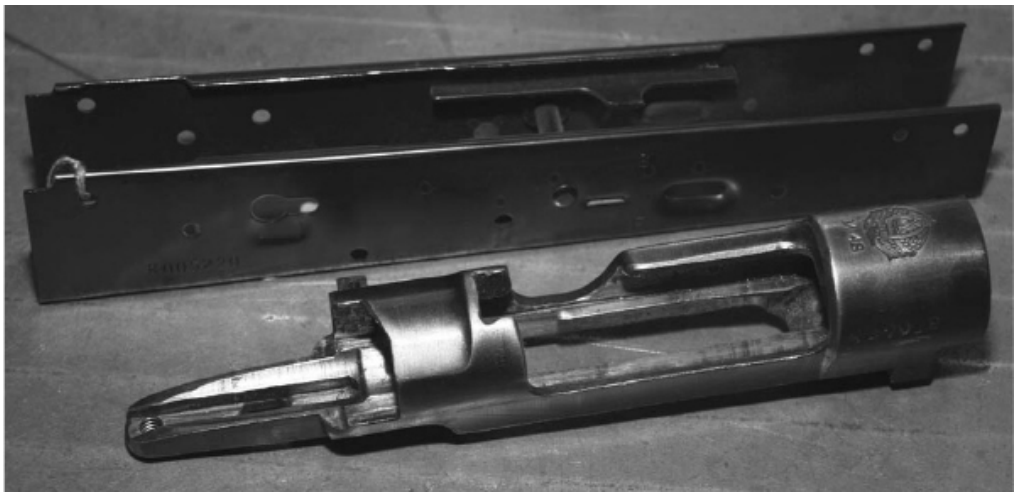
Most receivers use press-fit barrels, but some milled receivers use threaded barrels.

Previous experts on the subject have given two different reasons why the Soviet Union went from stamped to forged receivers and back again. One was that the Air Force had a higher priority for stamping equipment, and thus the machinery was allocated to the Air Force for aircraft production. Remember, the Soviet Union was a "command" economy. That is, the government owned it all, and someone in an office determined what plants made what products, and

who was first in line for tools, machinery, skilled workers and raw materials. The second theory is that the Soviets hadn't worked all the bugs out of sheet steel pressings for rifles, and it took a while to work the details out to the satisfaction of the Army. While that was happening, they milled receivers from forgings, a method that was well-known and already had the bugs worked out. The only problem with the solution was that it was expensive. A quick look at the current cost of AK lowers might give you an idea: you can buy an already bent sheet metal channel here in the good old USA, ready to build on, for anything from $55 to $70. A milled receiver runs from $250 to $400. I'm sure someone will complain that I'm comparing apples to oranges. That is, the milled receivers are made in small production lots, and thus the price is high. Yes, but the stamped receivers are all but handmade too, as they are rarely made with power machinery. The milled receiver also requires a threaded barrel instead of a simple lathe-turned and press-fit receiver shank. (Yes, you can make a milled receiver AK with pressed barrels, but it doesn't save much money, if any, in the production cost, at least not here in the USA.)



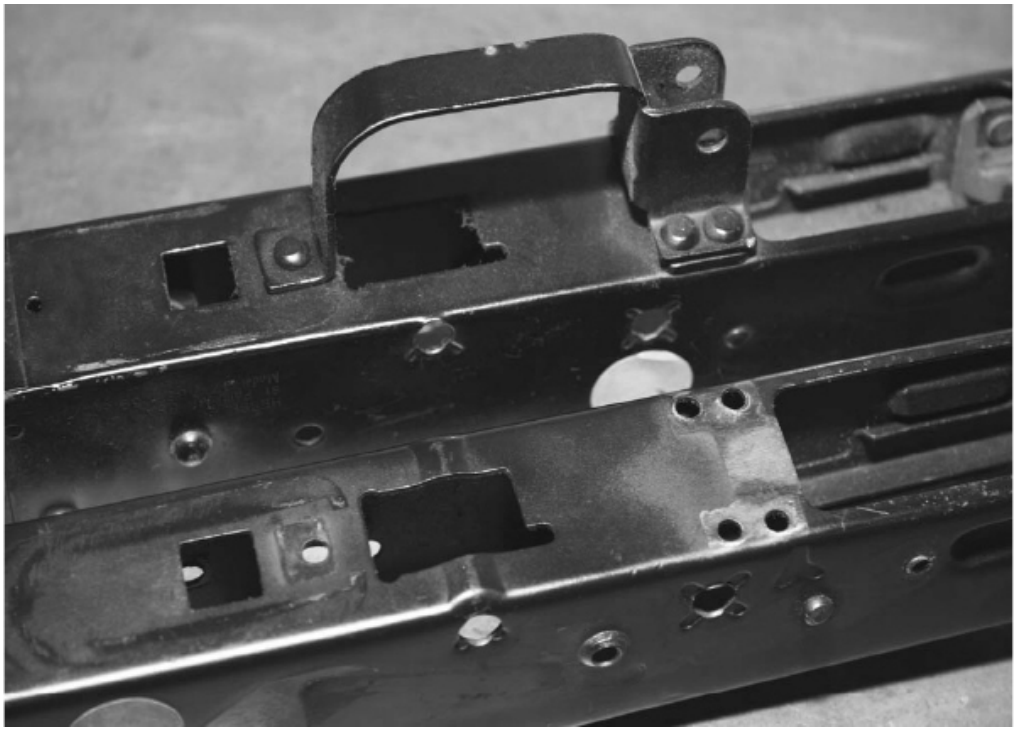
Compare the forming ease of the AK receiver, below, with the G-3 receiver, above. You aren't going to be making the latter on a multi-ton hand press, with a simple forming block.



The AK receiver with an earlier rifle receiver. The AK is a simple stamping, while the Mauser action requires hundreds of machining operations.

So the result is that the milled receivers required a lot more machinery, tooling, labor and materials. For the cost of a milled-receiver AK-47, the Soviet Union could have made two to five stamped receiver AK-47s, or the soon-to-arrive AKM.

Which do I think it was? If we're voting, I'd go for the latter: production problems that had to be worked out. First, you don't make stampings of steel and aluminum on the same machinery. So shipping steel-stamping machinery off to a plant that makes aircraft parts would not be very efficient. Also, the details of stamping a simple SMG receiver, versus making a receiver for an AK, with a much more powerful cartridge, can be a problem. So I figure they made the milled AKs because they had to. They needed new rifles, this was to be it, and they did after all still have all the old machinery to machine rifles and machineguns from forgings.



You can see how simple the trigger guard is: a stamped loop, riveted to the receiver.

Once the details were worked out, AKM production could go to “full speed ahead,” from the previous state of “are there any sandbars here?” So, let’s look at the anatomy of the AK.

I’ll assume you have a parts kit for an AK, since you are looking to build one. Or perhaps you have an existing AK, and you just want to know what is what. Let’s start at the back, and work our way forward. Those of you with parts kits will notice two things right away: that your parts are covered in grease, and that the receiver has been cut into pieces. The grease is to prevent rust (which probably had already started even while in the storage racks overseas) and the cutting was so it could be imported. The ATF is very fussy, and has no sense of humor, when it comes to machine guns. Which is what the AK is. “Once a machinegun, always a machinegun” is their attitude, and as a result, your rifle had to be cut with a torch in several places to ensure a clever welder could not put it back together

again. Luckily for us the importer is allowed to take the parts out of the receiver before the torch hits it. If not, there wouldn't be any point to all this.

Unlike the AR-15, which is essentially modular and can be built, re-built and modified into whatever you want it to be, the AK is pretty much "what it is" when it is built. Or imported. As you'll see, you buy the kit you want or need, and build it as it is, rather than collect a box full of parts to assemble into the rifle you want.

The buttstock is the part you rest against your shoulder. It can be fixed, folding or telescoping. In its simplest form the buttstock is a board with the edges rasped off. The folders come in two styles: the underfolder and the side folder. When you order your new receiver you are restricted by two things: the caliber of the parts kit and the stock style. If your parts kit is 7.62 or 5.45, that's what your new receiver has to be. As for the stock, you can change from one to another, but to do so you'll have to buy the new stock and a proper trunnion for it, and order your receiver in the style of the new stock.

Let's say you luck onot a dirt-cheap fixed stock 7.62X39 AK parts kit. But you want an underfolder rifle. You'll have to acquire an underfolder stock and the trunnion for it, then order a receiver in 7.62 to fit that particular underfolder design. There are a couple of different underfolder designs that are slightly interchangeable. There are six or seven sidefolder designs with little or no interchangeability. By the time you have acquired the new folder and trunnion, you've probably wiped out most of the "bargain" of your fixed-stock AK.



It had to have made Kalashnikov crazy, having to go from his simple stamped receiver to milled, to get rifles made.

Really, changing stock style as part of a build is something you do only because you really, really want it, or you are bored and looking for a challenge.

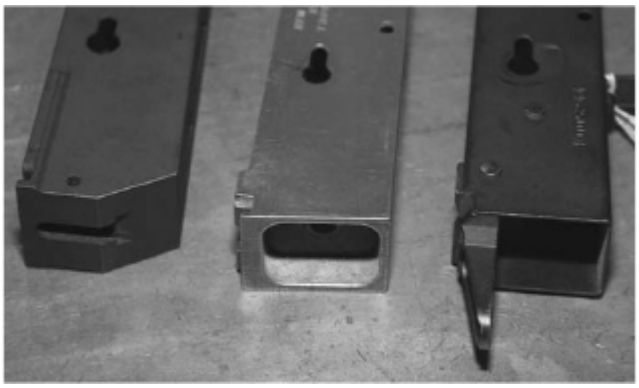
Receivers come in two styles, in a dizzying array of "flavors." The two styles are milled and stamped. That is, the milled ones are machined from a block of steel in their entirety, while the stamped ones use a stamped channel of sheet steel, riveted to blocks front and back called "trunnions." The receiver style also encompasses the tangs on the back for a stock attachment, or how the receiver is cut for a folding stock. Up front, the typical method of attaching a barrel is to bore a hole in the trunnion, press the same-diameter shanked barrel into it, then cross-drill and press a locking post in place. Some milled receiver AKs use a threaded barrel, but not all. The speed and simplicity of manufacture of the shank and cross-pin process make it very attractive to the AK manufacturer.

Ahead of the trunnion, attached to the barrel, is the rear sight pillar, which also acts as the guide to the carrier piston. Handguards protect the shooter's hand from the heat of the barrel and also position the piston tube. Up front of them is the gas block.

Originally, the gas block on the AK-47 and AKM has what is known as a "forty-five degree port." That is, the gas port was drilled into the barrel at a forty-five degree angle, to bleed gas off to work the mechanism. Apparently, the port angle became a problem when the Soviets were working on the AK-74, and one result was a loss of accuracy due to bullet jackets being deformed by the port. So, the AK-74 uses what is known as the "ninety-degree port" and the differences are obvious. Also, some modern manufacturers of 7.62X39 rifles use the 90-degree port blocks, probably just to make production easier.

At the muzzle we have the muzzle brake. On the original 7.62X39 rifles the brake is called a "slant brake." It is simply a muzzle shroud that has been whacked off at an angle instead of perpendicular to the muzzle. The idea is that the section of steel under the muzzle will catch some of the muzzle blast, and the push of the gases will keep the muzzle down. I'm not sure how well that works, as I find the AK will climb, a lot, unless you use proper technique. I've also seen high-speed video of an AK firing, and you could see the barrel flexing. Whether the flex was due to the dynamics of recoil and the carrier shifting balance, or the push of gases actually bending/flexing the barrel a bit, I don't know. I do know what it would take to answer that question, and I'm not interested in

investing in high-speed video gear, a transferable AK, and cases of ammo.



More receiver stock variations, with each of these three not only requiring a different stock shape but different attachment methods, too.



The Israelis had a better idea about sights (no doubt clued in by the Finns) and put an aperture sight on the rear of the cover.



You can put a scope mount on it, but that doesn't make the AK a sniper rifle. It barely makes it a decent DMR.



Just when you thought we were done with this nonsense, the Chinese come up with another stock attachment idea on the left.



The Yugoslavians made their AKs with a reinforced front trunnion, and then bent the sheet metal over it. If you have a Yugo parts kit, good luck with that.

The AK-74 uses an expansion brake. The cylindrical portion of the brake traps gases and vents them out through the ports on top and also provides a “slam surface” for the expanding wave of gases to crash into. That, coupled with the lower recoil impulse of the 5.45X39 cartridge, makes for a softer-shooting rifle. (Exactly what the Soviets were looking for.)

The manufacture of these parts was designed to be as inexpensive as possible. As a result, I would expect that a good set of stamping machines could produce receiver channels at a clip of better than one a minute. Even using antiquated Soviet production, they had to be making them at the rate of more than 200 a day. That was one of the reasons making milled receivers was such a step back. You’d need many times the investment in machinery to make 200 milled receivers a day, versus 200 stamped ones. From there, they’d go to heat-treat. (Or, if the Soviets figured out just how to manage the alloys, heat-treat first, then stamp. But I doubt that.)



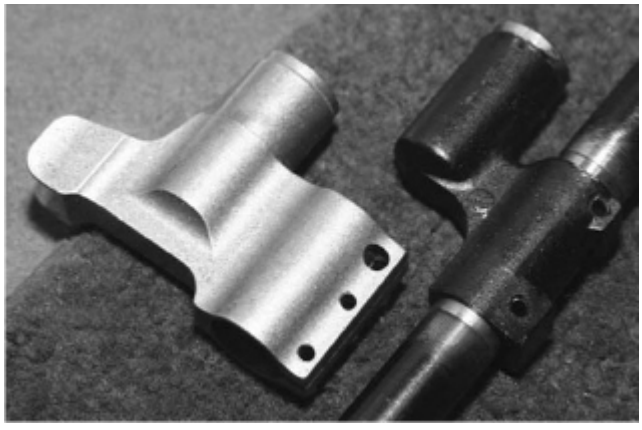
A standard front trunnion.

Once heat-treated, they'd be pickled, parkerized and racked for assembly.

The barrel is a pretty simple thing: a steel tube with rifling on the inside and the outside turned to various dimensions. No profiling, no sculpting; just a cylinder of many steps. No tapers. The regular barrel-making machines could do that, as they had been doing for decades before.

Here's where it gets interesting: the trunnions, rear sight pillar, gas block and front sight housing are all castings. Once cast, they are machined where they need to be, and machined only where they need to be. I suspect that once the bugs were worked out, and the rear trunnions' designs and dimensions were fine-tuned, the castings never received a single pass from a milling machine. The gas block needs a lot of machining, and the front sight casting needs some, mostly the front sight installation areas.

The front trunnion takes a lot more work. Simply put, the idea of the Soviet production industry being able to cast a trunnion so the locking lug surfaces were "good to go" is absurd. So the front trunnion received machining, mostly to locate and establish the locking lug surfaces.



Front sight and gas blocks come in a large variety. The purists will hate "mix 'n' match" guns, but if they work, who cares?

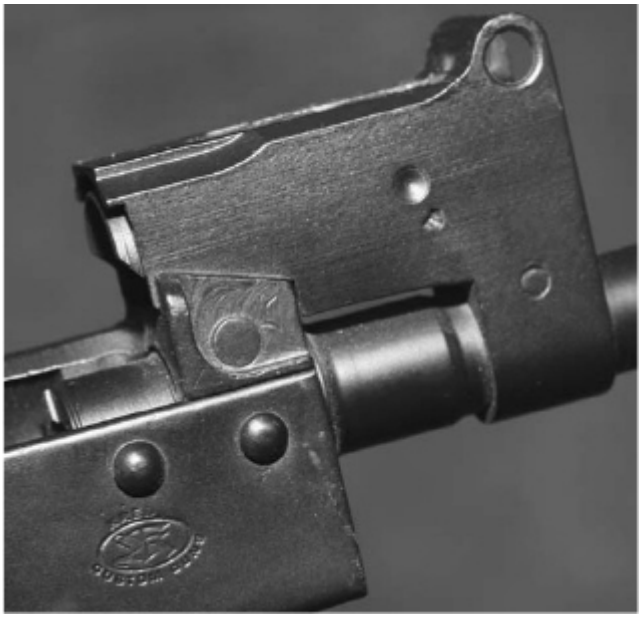


Shown next to an installed one, you can see what the front trunnion does when riveted in.

Assembly tricks. The use of hydraulic rivet stations is obvious. Even a socialist organization, looking to create jobs for everyone, is not going to have hundreds of people wielding hammers or modified wirecutters to rivet riveteads. So there would be fixtures and power. The machinists who did the work on barrel shanks, front trunnions and barrel installation were probably the best-paid of the factory. (Hey, even in a socialist enterprise there are pay differences.) The relative diameters of the barrel shank, and the hole in the front trunnion into which the barrels go, are critical. Too small a barrel, and barrels wobble inside the trunnion, accuracy sucks (even for an AK) and reliability goes down.



You have to attach a lot of things to a barrel to make it useful. Here is the front end of an AK-74, gas block, front sight, muzzle brake.



The rear sight pillar nestles in the front trunnion shoulders.



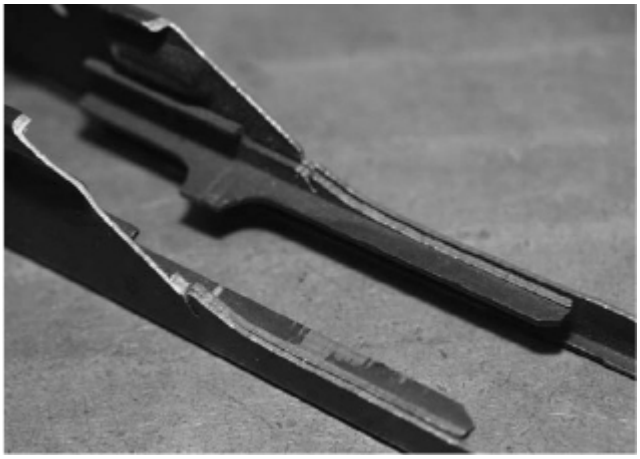
The middle of the receiver has a reinforcing pillar, a tube held in place with a long rivet.

Too large a barrel shank diameter, and the hydraulic press that installs them works harder, wears, needs more maintenance, and breaks down more often. Even larger, and either the machine bogs down, or the trunnions split. So the machinists who make barrels, and the machinists who make front trunnions, have to be in close communication with each other. Then they have to pay attention to what the barrel-installation crew tells them.

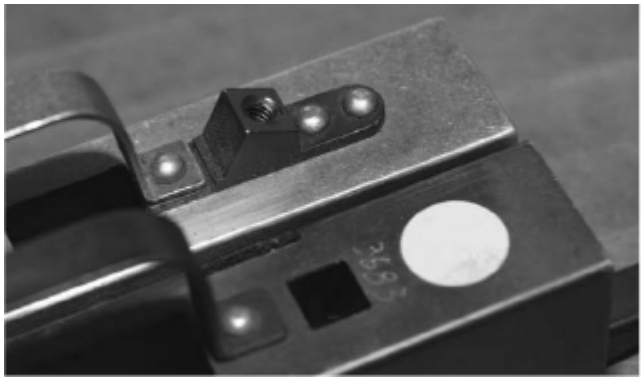
A slight aside here, for a moment. Were I making AKs, in a modern production facility, the first thing I'd insist on is threaded barrels. None of this communist wartime-expedient nonsense of pressed and pinned barrels, thank you very much. Trunnions would be machined with the front-face-to-locking-lugs dimension closely controlled. Barrels would be made with the stop-shoulder-to-headspace dimension equally closely controlled. Using modern machinery, it would be easy to made barrels and trunnions that simply screwed together to a certain torque specification, and headspace would be correct.



This rear trunnion is made for a folding stock, a sidefolder to be precise.



This scrapped and cut-apart receiver shows you the bolt guide rail and ejector.



Some receiver designs use a threaded pistol grip plate, riveted in place. Others use a “T” nut that sticks through a hole in the receiver (bottom).



Rivets, lots of rivets. Mikhail had to make it cheap, and rivets let him do that. And makes our lives easier as a result.



Rebuilding “neutered” imports creates scrap, like these now-useless trigger guards yanked off of Saiga rifles.

Then, I’d use stainless barrels so once installed they could have the gas port drilled, and the various parts installed while held in fixtures. No tilted front sights.

But that wasn’t an option for the Soviets. So, the process went something like this: barrels would be pressed into trunnions, with the assembler checking headspace. Once the headspace was within acceptable limits, the set were racked for the next step: the crosspin hole would be drilled.

Those of you who worry about headspace when home-building an AK should save your money. If the headspace is off, there is nothing you can do about it. That barrel and trunnion were “married” at the factory with that bolt. The only thing you can possibly do to change headspace is to swap bolts. Barring that, you have absolutely no options for adjusting headspace on your build. None. The headspace was set by Yuri and the gang back in Mother Russia or Bulgaria, Romania, wherever, and there is no provision for changing it after the fact.



The bolt and carrier ride over and on the rails created by folding over the top lip of the receiver, and spot-welding rails underneath.



To get the carrier in and out, Kalashnikov simply cut slots in the top rails, where you lift the carrier out once the top cover is off.



You have to wonder what the arsenal workmen were thinking: perfectly good, capitalist-shooting rifles, being scrapped, and the scrap sold to capitalists? What is the world coming to?

Also, the bore and chamber are hard-chromed, except on Yugoslavian AKs. If the chrome is at all present, you'll be doing a lot of harm to your chambering reamer, trying to adjust insufficient headspace on an AK barrel. Too much headspace? If you reload, or plan to reload, that could be a problem. Then again, if you treat your AK like a real rifle, and not just a "surplus ammo eatin' machine" you can adjust your reloading dies to compensate for excess headspace.

Which brings me to another point: we have had a lot of fun with our AKs in the last couple of decades. We've been treated to a flood, a torrent, of ammunition at prices so low that you had to wonder how the makers made any money at it. Basically, they didn't have to. The imported rifles kept people back home working until the economy could be retooled to provide real jobs and real manufacturing. The ammo? That

was just lying around in warehouses, left over from the bad old communist days, and could be better used getting sold for hard cash. Ditto the parts kits. No one wants to buy new AKs, not when the market in the world is awash with old ones, clogging arms bazaars, filling the storage rooms of international merchants of death. No, the Americans are the only ones who will pay money for new, and they'll even pay money for old, if it is properly busted up into scrap.

You had to wonder at the workmen in the plants; cutting with bandsaws and torches the very rifles that they had so carefully assembled, assembled to fight the good fight against the capitalist market-force hordes who were now buying the AKs they are scrapping. Oh, the irony.

One thing is for sure: the very aspects of the Soviet command-economy that made the AK inexpensive to produce make it amenable to hand-manufacture here in the States. All you home-builders, be glad the Soviets were mechanized only in their infantry.

Chapter 3

Disassembly

"They told me it was simple, but I shoulda listened."
– An oft-heard lament.

Now, I know there's someone reading this who thinks, "This is moronic, everyone knows how to take an AK apart." *Au contraire, mon ami!* Yes, it is so simple that even an illiterate peasant (i.e., the bulk of the Soviet Army for much of its existence) but even so, he has to be taught how to do it. Even the simplest tool has certain maintenance requirements, and even the cleverest people can get it wrong if they just jump in without instruction.

Two examples might be illustrative: One, the Roman *gladius*, and the other the 1911 pistol. You can't get much simpler than a Roman gladius, which is a heavy-bladed short sword, not unlike a machete in size, balance and heft. What's to know about how to keep it in proper working condition? Well, for one, how sharp should it be? Simple answer: just enough, and no more: you don't want it razor-sharp for the simple reason that you (as a Roman legionaire) will have to be chopping through things besides people. You'll have to block spear shafts, knock shields aside, whack through various kinds of armor, and if the armor is too tough to whack through, stab your point in-between the joints of the armor. For all that you want an edge that is sharp enough to inflict a cutting wound (or even lop off the occasional arm) but not so sharp that any

rough treatment “turns” the edge and makes it duller than if you’d left it unsharpened to begin with.

I’m as certain as if I could actually read it in the original that Roman basic training had a lesson on checking the sharpness of a gladius, and what the individual trooper was expected to do. Also, what he had to look for, to know when to turn his blade over to the unit armorer for work beyond his skills.



It may be simple to make, and it may be simple to keep operating, but you still have to know the details of what goes on in your AK. This is the selector.

The 1911 is as simple a pistol as exists. However, you can still get it wrong. There was a top-ranked shooter in our club, one who was perhaps a single step below the pro shooters of the 1980s, who one day at a match was talking about how he’d done a trigger job on his pistol. From listening to the blow-by-blow description, it was pretty clear he had no idea how the 1911 worked. You see, he’d polished just about every surface on the hammer, sear, disconnector and associated springs: all the surfaces except those that really mattered. How it was that he ended up with a trigger pull that he liked was a mystery to

me. I suppose it was like the old sports aphorism “If you think it matters, it does.”

You may be learning to take your AK apart in order to properly clean and lubricate it. Or you may be disassembling a parts kit preparatory to building your own, on a flat you’ve bent or a lower receiver (actually, receiver, as there is no lower-and-upper receiver, as on the AR-15) and need to separate the various parts. There are minor variations between models of country of origin, and over time, and between the ’47 and the ’74. Adapt as you go.

If you have experience with other rifles you may be surprised at how many of the parts of an AK are made as permanent attachments. The basic idea of the Soviet Empire was that AK rifles were made, issued, serviced and then scrapped. If they became worn they were replaced. Incidental items like stocks, pistol grips and handguards could be replaced if they were damaged, but otherwise, it was simply cheaper to build new rifles than overhaul old ones. Get your mind wrapped around that, and you’ll do fine. If not, you’ll be regularly frustrated that you can’t replace some part or another with a “better” one, or one with a higher CDI (Chicks Dig It) factor.



This is your selector on “Fire.”

So, to take your AK apart without leaving embarrassing hammer marks or chewing things up with prymarks, you need to know how it goes. Grab your rifle, and follow me:

First, make sure it is empty. Push the magazine lever and rock the magazine out. No cartridges? A good start. Push the selector down and rack the bolt. Nothing flies out? Again, good. Take a moment to peer into the chamber and make sure there isn't a stray cartridge there. I know, know, you pulled the bolt back, so anything that had been in the chamber would have been extracted, right? Not entirely. Perhaps you have a busted extractor. Or the cartridge is locked in the chamber, rusted in place, and the extractor ripped the rim off when you slammed the charging handle against the benchtop at the gun club.



With the rifle empty (you did check, didn't you?) push the recoil spring guide button in.



Once it passes flush with the cover…



…you can lift it with your thumb and take it off the receiver.



Set it aside, the spring will stay in place.



Notice that the guide rides in its own slot, and is kept in place by the rear lip of the trunnion.



Push the button forward, and lift it off the trunnion.



With practice, you can do it one-handed, and look cool. If you fumble, the spring won't go far.

Be certain; take a look. I know those of you who have read my other books will be sensitized to this, but the new readers should know a bit of background. I spent over 20 years working in various gun shops, and in that time I lost count of the number of times someone who had just presented a firearm for sale or repair remarked "Oh, it isn't loaded" when I went to check. And I've also lost count of the times a cartridge would clatter across the counter and onot the floor right after that confident declaration. Heck, there's a Galil on the easy chair right behind me, one that I checked to make sure it wasn't loaded when I brought it out of the shop. And the next time I pick it up, whether for checking some detail while writing or to return it to the shop, I'll check again. Do I really think that my dogs have played a trick on me, and loaded it when I wasn't looking? No. But checking each firearm for its loaded status, every time you pick it up, even if you've just watched someone else do the exact same thing, is perhaps the best habit you can get yourself into.



With the spring out, the carrier stays in place.



Pull the carrier back until it stops.



Then lift it straight up. If the builder made it correctly, it should lift with no problem.

Enough lecture, on to the fun stuff.

So you've got an empty-chamber AK, with magazine removed. Push the selector all the way down. Look on the back of the receiver cover and you'll see a square button protruding from the rear of the cover. That is the back end of the recoil spring guide, and it keeps the receiver cover in place. Push the button forward (usually with a thumb) and once it is below-flush with the surface of the receiver cover you can lever your thumb up to lift the cover from its track in the receiver. Once clear, lift the cover off and set it aside.

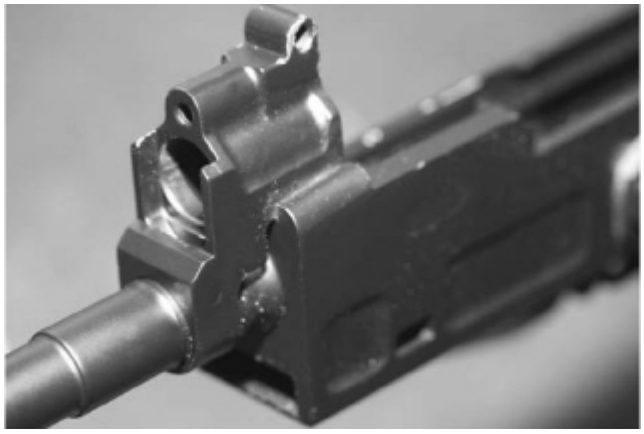
Look at the rear trunnion. You'll see the transverse slot (crossways) at the rear. That is the slot that the bottom rear lip of the cover rides in, and which keeps it from simply scooting off the rear of the receiver (and into your face) each time you shoot. Notice also that the recoil spring guide rides in a slot. The recoil spring guide slot keeps it centered in the receiver, and also keeps it from springing off the rear of the receiver when you lift the cover off. To remove the recoil spring and its guide, push the square-button end forward (towards the muzzle) until it clears the trunnion slot, and lift. Then you can pull the assembly to the rear and out of the carrier.



The bolt won’t fall out, so ….



Turn the carrier over.



The rear sight pillar guides the gas piston and provides a place for the rear sight. Here, it is the locating block for the Krink rear sight.



That angled slot is where you want top put the grease when you reassemble.

Notice that the assembly is a self-contained unit. It does not come apart in normal maintenance, and you probably will wear out the barrel before you wear out the spring. The only reason I could see for taking the recoil spring assembly apart would be to refinish the rifle – and then only if you wanted to parkerized the recoil spring button end of it. The, you might want to take the spring off before throwing the parts into the Parkerizing bath. Not because Parkerizing would harm the spring, but because you can fit the parts into a smaller tray,

and thus need less Parkerizing solution. Set the spring assembly aside.

Before you grab the carrier and yank it out of the receiver, take another look at the receiver rails. Notice at the back, that the rails are cut away from the upper lip of the receiver? That gap, at the rear of the bolt/carrier travel, is the place where you lift the carrier out. Pull the carrier all the way to the rear and lift. It should come free of the receiver. If it does not, or binds, that simply means whoever built that rifle didn't cut the slot properly. If your rifle has a buffer in it, you'll have to remove the buffer first, or you will lack clearance to lift the carrier out. Buffers, or shock buffs, are synthetic bumpers that you put in the rear of a receiver.



Use a screwdriver or some other lever to push the gas tube lock up out of the way.



It has to pivot all the way up. Over-pivot and it blocks the tube again.

Comment: The idea is that the shock buff takes the impact of the carrier when it cycles, and saves wear and tear on the rifle, receiver and the trunnion rivets. Hmmm. Somehow, I think Mikhail Timofeevich Kalashnikov was clever enough to have taken that into account. That, and I've seen high-speed video of AKs firing on full-auto with the cover off. (Yes, the rifle works just fine with the cover off. A bit hazardous, as the cycling parts aren't covered, and you can find bits of clothing and such grabbed by the cycling parts. But mechanically, it works just fine, and as normally as with the cover on.) The carrier, at least in the video clips I've seen, does not strike the rear trunnion.

Since the carrier doesn't strike the trunnion, then it doesn't go far enough back to self-disassemble, unless someone got too heavy-handed in making the rifle you're working on and the slot extends too far forward – in which case, you have a reasonable use for a shock-buff, as it stops over-travel into the too-large slot clearance.



Once clear on the back, you simply pivot the tube up and out. Done.



Don’t you love the parsimony of government agencies? Even before this rifle was parted out, it had had a new gas tube installed. So of course, they “X’d” out the old serial number and stamped the new one.

Back to disassembly: Pull the carrier all the way back and lift. The carrier and the bolt will come free. Continue pulling to the rear until the gas piston clears the front trunnion, and you’re out. Set the rifle down, and let’s take a look at the bolt and carrier. Turn the carrier upside down and look at the bolt. You’ll notice that it is free to rotate in the carrier. Spin it back and forth. Rotated own way it goes forward and stops. Rotated the other way, it moves backwards and stops. Rotate it back, then keep turning, The locking lug that is captured in the cam slot will come free. Once it does, you can then pull the bolt forward and out of the carrier. The bolt contains the extractor and firing pin. The extractor has an extractor spring and an extractor retaining pin. Again, unless you’re planning to refinish the rifle, there is no need to remove the firing pin and extractor from the bolt.

There is one detail you need to be aware of, should you detail strip the bolt. The extractor retaining pin has to be flush with the bolt surface, or it can cause problems. I was at a firearms class one time, and I arrived to find the guys there fussing over an AK, trying to figure out how to fit a new bolt to it. It seems the bolt that was in it no longer fit. They were

trying to fit a spare bolt to it, and wondering just what parts they had to stone/file/grind to make it work. Alarm bells went off in my head. An AK bolt that “stops fitting”? Something was wrong here. So I took a look, and after perusing things for a minute (and being distracted by being asked “Where do we stone this new bolt to fit?”) I noticed that the extractor pin had been incorrectly assembled so that it was not flush to the bolt surface. A minute of working on it (spent mostly trying to find the correctly-sized drift punch) and I had the pin flush and the bolt fitting. If it fit before, and now it doesn’t, put away the cutting/grinding tools and look to see where you put it together incorrectly.

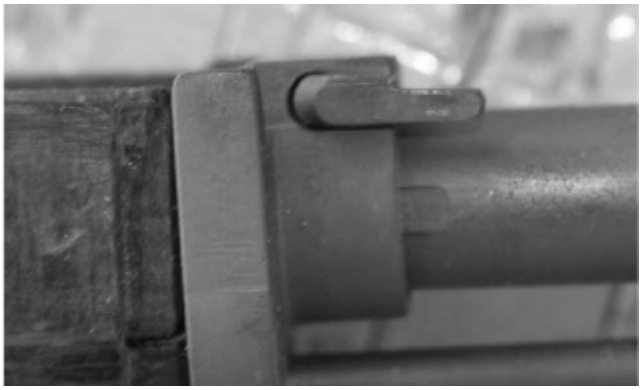
We now have the bolt and carrier out, so let’s see about the front end of the rifle. Look on the right side of the rear sight pillar, above the chamber. See the little latch? Lever that up, rotating it towards the rear sight. Once you get that up (it will be tight, hard to move and may even require a hammer) the rear part of the gas tube can be lifted up and out of the rear sight pillar. The pillar not only holds the sight, it aligns the gas piston, and it indicates vertical to the assemblers when they are assembling rifles at the factory. It serves the same purpose for you when you’re building a rifle. Once you move the lever far enough, the gas tube clears the front lip and comes free. (Galils do not require the lever; the gas tube comes free when you remove the carrier.) Be sure you don’t drop the Galil gas tube off the rifle and onot a concrete floor. Not that the tube will be harmed (scuffed, maybe) but your reputation as a gun expert might take a hit, from having parts drop off your rifle as you strip it for cleaning. Lift the gas tube up and to the rear and separate it from the rifle.



To remove the handguard, pry up the lock on the front right end of it.



Up is not enough, you need to…



…turn it all the way towards the muzzle.



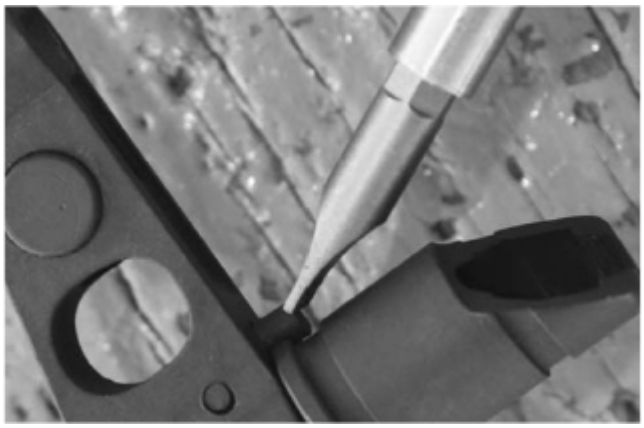
Then the bracket comes free, and you can push it forward to clear the handguard.



Once off, you can clean, refinish or replace the handguard. Remember, everything on an AK is hand-fitted.

Above the gas tube retaining lever, on the rear sight pillar, is the rear sight. It is a non-removable part unless you are getting the rifle refinished. Then, if you pivot the rear sight all the way up you'll see a flat spring underneath it. That powers the rear sight and keeps it from flopping around. To remove the rear sight (again, not something you need to do for normal maintenance) you do not drift out what appears to be the rear sight pin. Instead, put the sight down flat again and press down on the front end of the sight assembly. Once you press hard enough you can slide the rear sight backwards. What looks like a pin are the shoulders of the rear sight pivot posts. Once the sight is clear, you can then pull the flat spring out of its seat. The rear sight design is so clearly taken from the Mauser design that had it not been that the Soviets had just rolled over

Germany from the east, the Mauser company could have easily filed patent infringement suits in 1947 and won.



The muzzle brake is held on with threads, and locked in place via a spring-loaded plunger.



Hold the plunger down while you unscrew.

Once the gas tube is off, you can then remove the handguard retainer. Look on the front, right-side end of the handguard. Notice that the retainer lip has a small lever on it. That is the latch that keeps the retainer in place on the barrel. Pry the lever up and rotate it all the way towards the muzzle. You may have to get a screwdriver in under it, but once it is up it should (should, not absolutely will) turn easily. Once the lever is all the way over, you can press the retainer forward on

the barrel, freeing the handguard. Pull the handguard down from the rifle.

Forward of the handguard retainer is the gas port block. It is pinned to the barrel. Unlike the AR-15 front sight assembly, which uses taper pins and can be removed and replaced, the AK gas port block is pinned on with straight pins. Removing it and replacing it (a real hassle) only acts to loosen the fit. Leave it alone. Ditto the front sight housing. It is meant to be permanently attached to the barrel, and not taken off even for refinishing.



Note here the large-diameter threads. Usually for an AK-74, but here on a "Krink."

Go to the muzzle, If you have a "neutered" rifle, one where they muzzle brake was replaced with a plain cap or no muzzle brake at all, your path differs. But for most of us the muzzle brake is simply held on with threads and a spring-loaded retainer. Press the retainer back and turn the brake, On AK-47 (7.62X39) rifles the threads will be left-handed, so the usual

“lefty-loosy, righty-tighty” is reversed. On the AK-74 (5.45X39) rifles the threads are right-handed, so you won’t have any problems. Spin the brake off. For those with a bare muzzle, too bad, your rifle is not going to have a muzzle brake on it unless you’re willing to go to a lot of machine-involved expense. Getting the barrel off and into a lathe so you can cut threads is a hassle, expensive, and hardly worth it. Better to simply move on to a rifle with threads and keep this one as a training drone.

If the cap is tack-welded on, you can cut the weld (remember, changes to bring it to non-importable status must include a raft of US-made parts) and uncover the existing threads. If it is held on with thread-locker, then judicious application of heat with a propane torch will bust the chemical compound and free the cap to be unscrewed.



The fixed stocks are held on with wood screws.



There may be one, two or three screws. Use a properly-fitting screwdriver, as the screws may have been in there for decades.

Let's move to the rear of the receiver.

Stock & Pistol Grip

The stock, if it is a fixed-stock variant, is simply held on with two or three wood screws. Use a properly-fitting screwdriver and unscrew them. Once the screws are out you may find that the stock itself is quite a tight fit. My Romanian with a wooden stock is tight, but I can wrestle it out. My Bulgarian's milled receiver with synthetic stock fits so tightly that you can't weasel the stock out. I found that I had to force a narrow-blade screwdriver into the gap between the stock and the rear of the receiver and do some prying. Once I got it partway out, I could then wrestle it the rest of the way. Definitely not something you'd want to do in the field, but then how much stock-swapping and maintenance would you be doing in the field? The location of the screws, their number, and stock tang shape all matter. If you want to install a replacement stock, you'll have to be sure the new stock is the correct one. Make certain you describe the old stock, the rifle model, or include a drawing, photograph, etc., with an order for a stock, or you may be swapping stocks until you get it

right. One way to be absolutely sure is to carry your old stock, or the rifle, to a gun show, where you can hold the new stock up to the old stock or check the new stock in the receiver of your rifle for fit.



The pistol grip is held on by means of a bolt running up through the grip. Again, a properly-fitting screwdriver is called for.



Here it is, apart, complete with the stirrup that locks in the receiver.

Unless you took a dunk into water, you probably won't have any reason to take the stock off except to replace it. Folding stocks will be held in with various types of cross pins, and you should not disassemble them unless it is time to refinish the rifle. Then you'll have to determine the exact method of assembly of each stock type, of which the Warsaw Pact countries seemed to delight in coming up with endless variants. The rear trunnion is meant to permanently attached to the receiver, so there is nothing there to be changed/removed/disassembled. If you want a different-type stock you'd better figure a way to attach it to the existing trunnion. Otherwise, the cost and work of removing the old trunnion and installing a new one will exceed that of building/buying a new rifle.

Pistol grips are not so bad. Well, almost. Basically, there is a screw that goes up through the pistol grip and attaches to the

receiver, except when the screw attaches to a stirrup that simply clamps in the receiver. Generally, milled receivers have the pistol grip attachment point as part of the riveted-on trigger guard, or a machined section that allows for more threads. Stamped receivers generally use a stirrup that goes through a square hole in the receiver, and the shoulders of the stirrup are larger than the hole. The screw clamps the pistol grip to the receiver, using the trapped stirrup as an anchor. What makes it fun is that the stirrup is angled. That way, the threads line up with the angle of the pistol grip. Also, the rear of the receiver interior doesn't have a lot of room, so trying to get the stirrup in place and hold it there while the pistol grip screw catches the threads, can be fun. Fun as in "I've been at this for fifteen minutes, and still haven't got it right."

The pistol grip will have a trigger guard in front of it that is riveted to the receiver. (Even milled-receiver rifles have the trigger guard riveted on.) This is not a removable part. If it is damaged you can replace it, but only by destroying the old rivets and trigger guard and riveting a new one in its place. This includes the magazine catch, which is part of the trigger guard.

Internals, Lower

OK, we have all the outside stuff pried off, lets get to work on the insides. First, take a look inside and memorize where things are. You can even take a photo with your digital camera. You needn't be perfectly-lit or detailed, you simply need something to jog your memory. We have photos here, but they may not be exactly the angle you need, or they may not represent your particular rifle.

Start with the selector. Pivot it all the way up. Normally, the receiver cover will stop it, and it can't pivot higher than in-line with the ejection port. First, put your thumb in front of the hammer and dry-fire, lowering the hammer with your thumb. If you don't, when you do pivot the selector up, the center cam on the selector will cam on the disconnector and trigger and release the hammer. With the cover off, the selector pivots all the way up. Once it is up, you can pull it from the receiver. Set it aside. Inside the receiver you'll find one of two things as your next step: a retaining spring or a curved plate. Reach in and lift the end of the spring off the pin it locks on, or weasel the retaining plate out.



You have to drop the hammer, or when you pivot the selector it will drop the hammer for you.



Pivot the selector all the way up, then…



…pull it out of the receiver.



Pull out the curved plate that retains the hammer and trigger pins.



Set it aside but don’t lose it, as it is far superior to the shepherd’s crook, and you don’t want to have to go back to that wretched thing.

With the spring or plate out, the trigger and hammer pins can be removed. Make life easier on yourself and lift the rear of the trigger springs off the trigger legs, to ease the tension. Then push (you may have to use a small ball-peen hammer and a drift punch) the hammer and trigger pins out. They exit the receiver on the left side, as you can quickly note by comparing the side of the pin heads on the right and left sides. Once free, lift them out. The hammer may require a bit of tipping, as the pivot drums reach to the insides of the receiver,

and without tipping you won't be able to get the hammer past the internal rails (ejector and bolt guide.)

Those who professionally assemble or disassemble the AK use hooked rods to lift the spring ends off the trigger arms. They are not hard to make; you could cut one or two from coat hanger wire and bend/cut a notch on the end. For the average AK shooter they are as much work to make as they save in annual cleanings. For the guy who strips and cleans his AK weekly, they are a worthy set of tools to make.



After you've lifted the spring legs off the trigger, push the trigger pin out.

Note your trigger and hammer assembly. They come in two types: single-hook and double-hook. Does the type matter? Not really, except that you can't mix and match the types without headaches. The bottom of your receiver, in the trigger area, will be milled with relief areas for the trigger. You can't install a double-hook setup in a receiver cut for single-hooks – it won't fit. If you install a single hook setup in a receiver milled for double hooks, there will be a gap. So, if you plan to replace the trigger/hammer parts, replace them with the same type that you have. That, or accept the need for modifications or a gap.

Specifics

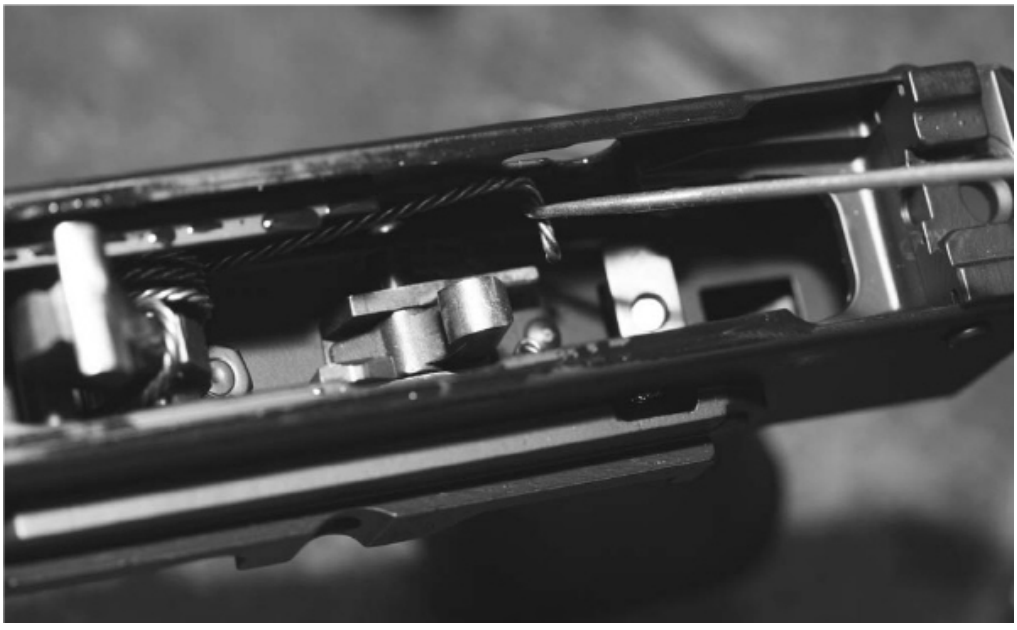
Let's now get down to the specifics of what you need to clean or not. We'll start with the bore. Face facts: a lot of AK ammo is corrosive. Even the stuff that is touted as "non-corrosive" probably is at least mildly corrosive. The only stuff you can count on being truly non-corrosive is American made, or the ferociously-expensive ammo from Lapua. (And worth it, in my opinion.)

The corrosive part of the ammo is the chemical compounds used in the primers. They produce hygroscopic salts, which attract moisture. No moisture, no corrosion. However, unless you shoot or live in the Sahara or the desert of Namibia, moisture is going to be an everyday occurrence. There are many solvents touted, but the only thing you have to keep in mind is this: salts dissolve in water. The more water in your cleaning solution, the better the salts are flushed away. You can't "neutralize" or "deactivate" the salts. They don't work that way. You wash them out. So, you need lots of cleaning solvent. However, there is a better way. I developed the

method when I began shooting rifles. My first rifle was a Lee-Enfield No 1 Mk III*, and the only ammo available in bulk was surplus. Corrosive. What I found was that the best way to clean the bore was to give it the “dishwasher” treatment. Strip the receiver to the point where you can clean the bore. You’ll need a long cleaning rod with a bit of flex to it. Install a patch that is a snug, but free-running fit in the bore. Fill a bucket with hot water, as hot as you can get out of the tap. (Hotter, if you can.) Add a few drops of dishwashing soap to the water.



Note that the pins are headed, and have a retaining lip. (That’s the part the curved plate hooks onot.)



Frequent assemblers use hooks to lift the hammer spring legs.



Here comes the trigger.



The trigger and disconnector free of the receiver.



With the trigger out, remove the hammer pin.



The hammer and trigger pins are identical and interchangeable.

Stick the patch into the chamber and plunge the muzzle into the water. Now pump the patch down. You'll see air bubble comes out of the muzzle. Good. Run the patch back and forth. The tight fit of the patch will be pumping hot, soapy water in and out of the bore, while the patch is scrubbing the surface of the bore. Also, unless you've taken the gas tube off, it is receiving a dousing of soapy water, from the gas port

jetting water out. Since the gas tube gets hammered with hot gases, it can do with a bit of scrubbing as well.



Here you see the hammer, with spring, and the legs that bear on the trigger.



There is no need to take the spring off, unless you are replacing a broken spring, or sending the parts off to be refinished.



Note the reinforcing bar in the middle of the receiver. It keeps the receiver from being pinched or twisted in rough use.

Once the bore is clean, set the receiver aside and scrub the gas piston in the same hot, soapy water. Dump the water and replace with clean, hot water. Wipe off the cleaning rod and replace the old patch with a new one. Now rinse your bore and gas tube using the same method you used to clean it. Once you've rinsed with a half-dozen pumps, pull the patch out. The water should be hot enough that the metal air-dries quickly. Rinse the piston the same way. To ensure the gas tube dries, remove it and wave it about or wipe it with a dry cloth or paper towel.

You can scrub the bore this way with the slant brake or '74 brake on it, but you really should be sure the threads are dry afterwards. Me, I take the brake off and drop it into the bottom of the bucket, and let the water dissolve the salts. When I dump the water I retrieve the brake. If I've been doing a lot of shooting, I'll scrub the brake with a stiff brush, and give it

another go-round in the soapy and clear water. Then I oil the threads of both barrel and brake on reassembly.

You are not done yet. The water simply washed away the corrosive salts; you still have to deal with the powder residue and jacket fouling. For that, you treat your AK as if it were any other rifle, using whatever bore solvents you favor. A lot of shooters take pride in giving their AKs minimal maintenance, and simply at this point run an oily patch down the still-warm bore, and call it done. While I can see their point ("It isn't a sniper rifle, it was made to run with minimal maintenance, and I just can't be bothered") it does go against the grain.

Next we go to the interior of the stripped receiver. A simple brushing with a firearms cleaning brush, followed by a few shots of an aerosol gun cleaner, will suffice. Yes, the powder residue will be laced with the salts from the priming compound, and if you want to you can scrub the interior of the receiver in the same sort of hot-soapy/hot-clear water bath. Best to do this at the gun club, where no one is likely to complain about your handling of a firearm, and where the parking lot of the gun club (or designated cleaning area) will accommodate the cleaning solvents and/or soapy water you're using. Then, a general spray with some aerosol penetrating oil, just to put down a non-corrosive barrier, and you're done. You can also spray the exterior if you like, but a lot of shooters are just as happy leaving the exterior dry. It is less likely to attract dust, dirt, grit, and transfer the oil to your hands, clothes and gun case. A good exterior finish will work just fine without oil.



Note the slots milled in the rear trunnion. One guides the recoil spring assembly, the other keeps the cover form coming off the receiver.

While you're scrubbing the stripped receiver, spend some time on the gas port block and the muzzle brake. There, you're likely to find a carboned-on residue of powder, laced with lacquer and copper. If left to the atmospheric moisture, this mixture will turn a light green from the copper oxidizing. Also, the primers on a lot of surplus AK ammo are corrosive, even when they are touted as not. If it bothers you, clean this off. It will simply build up again. If you aren't bothered by it, simply get some penetrating oil on it, to reach under and loosen the caked-on residue. The muzzle blast and reciprocating parts will knock off chunks, which will re-build as you shoot. It is a self-limiting problem, with one exception. If you do a lot of shooting and build up a heavy residue and then put your AK away without cleaning it or applying oil, the bolt might lock forward. The gas piston will have been grabbed onot by the residue, and despite being stainless or chromed, it will be held fast. You'll have to bang the charging handle against a solid object hard enough to free it, and then you're in business again.

Speaking of the gas piston, it is attached to the carrier by means of a cross pin, and the fit is supposed to be loose because the gas piston is self-centering in the gas tube. If you "tighten" it to "remove the play" then you may or may not have it centered in the gas tube, and it may or may not ride freely. Scrub the carbon and incidental rust (it comes from the gas tube) off the piston, and lightly oil it. Any rust that forms behind the gas piston, on the carrier itself, should be scrubbed off. (Rust is a normal operating characteristic of a firearm; this may be a hard concept to deal with. Get used to it.)

The carrier should have all rust scrubbed off. The angled track of the bolt lug that cams the bolt into and out of locking should be scrubbed clear of rust, debris or petrified grease. When you're putting it back together, an application of a good gun grease is advised. Yes, a plain old oil will do, but in this location more is better. Something like Lubriplate, used as a water-resistant lube for bearings (and in the M1 Garand and M-14 in the same application as the AK) is a good choice. A tube will last you many rifles, many years, and much shooting. You don't need dollops of grease, but enough to give the whole cam slot a coating. The carrier has no moving parts, and is such a low-wear part that you could probably swap the same carrier through three or four builds before it became worn enough to be a problem. Since each parts kits comes with a carrier, I don't see carrier wear as an issue.

Bolt

The bolt is a relatively high-wear part, but compared to other designs the AK's bolt is low-stress and again, could probably work through several rifles. In fact, when the future time comes to consider it, I'd bet that you could use the same

bolt and carrier through two, three or four barrels. The trick then will be in figuring out how to do a barrel change that is inexpensive enough to make it attractive to change barrels, and not just build/buy another rifle.

The bolt has two cross pins, one for the firing pin and one for the extractor. They are simply drifted out with a correctly-sized drift punch and a hammer. Be careful with the extractor, as the extractor spring powers the extractor, and it is likely to jump free (or try) when you pull the punch out. The firing pin is not spring-loaded for most AKs, but those chambered in .223 often have a firing pin return spring. The spring is there to prevent the firing pin, under the inertia of chambering a round, from kissing the primer. AK ammunition is made with primers of extraordinary insensitivity. American primers are a bit more sensitive, and to avoid any problems the makers of .223 rifles have been known to change the bolt to one using a firing pin spring. Just keep an eye out for a spring with the firing pin. If it has one, you want to get it back when you reassemble. If it doesn't, then there's no need to worry.

The bolt simply needs to be scrubbed clean of powder residue and re-oiled. The grease goes in the cam slot of the carrier, so there is no need to goop up the bolt lugs with it.

Internals

Wipe/scrub the hammer and trigger clean, and lightly oil it. Ditto the hammer spring and retainer, either spring or plate, and the selector.

Reassembly

The usual route here is "reverse the above." That's too easy, and there are a few things to point out on the way.

First, the handguard and stock fit. Place the stock back into the trunnion and push it in place. If you have to, smack it. If you find yourself whacking the butt of the stock against your workbench to seat the stock, you might want to stop and look. Is there something in the way? If so, remove it. If not, the tight fit has to leave obvious marks on the stock tank. Take a large, flat file and dress down the areas that are such a tight fit. You don't want your stock to wobble, but a hand-press fit is a lot easier to live with than a hammer-fit. (Congratulations, you've just taken the first lesson in the Soviet Armorers course.) Once it fits the way you want, press it in and install the screws.

On the handguard, it too should be a tight fit, but not one you have to force. If it is loose you can bend the lips of the handguard retainer (sometimes) or shim the handguard itself. One way to shim to fit is to apply a bit of JB Weld or other epoxy mixes to the front lip of the handguard. You can apply a release agent to the front bracket, or you can build the lip and then file it back once it has hardened. You want a hand-fit that stays snug but doesn't require force or impact to get it to close.



The pins are headed. They go in and come out on the left side.



The rear sight pillar guides the gas piston, but also indicates vertical to builders. It does not come off the barrel, unless you are using the old parts on a new barrel. (A graduate-level exercise in gunsmithing.)

The gas tube can sometimes be a hammer-fit as well. There, you need to use a file to dress down the binding parts of the rear end of it. If it is a loose fit, there isn't much you can do. Both ends are metal-to-metal contact areas, and the only way to correct a loose fit is to either swap tubes until you find one that is a tight fit, or build one or the other end up with weld. Personally, I can't find the time to waste correcting a loose gas tube fit. If you do go swapping gas tube, be aware of the ports. Some designs/models have ports, others don't. The difference doesn't matter for function, except that a rifle built to use or not use them has the piston fit manufactured accordingly. So if you want to swap a gas tube that has ports (2, 4 or more) for another, use one that has the same number of ports. Or, once it is fitted, drill the extra you need. If you take off an unported tube and install one with lots of holes, you

might find your rifle not working properly in extreme circumstances – or not; the AK is so over-gassed anyway I sometimes wonder if we could make one work without a gas tube at all. (Not really, there would be nothing to guide it back into the opening in the gas tube block.)

Re-installing the trigger parts is easy, if fussy. First make sure they are all oiled. Yes, oily parts are a bit harder to handle, but once the fire control parts are in, getting oil onot some of their surfaces can be decidedly difficult. Trigger first, with disconnector. Push it down into the receiver and run the trigger pin (the hammer and trigger pins are the same) through them. Make sure it goes flush on the right side. Then tilt the hammer sideways, and make sure the attached spring legs run down over the trigger bar. Push the hammer down, tilt it upright, and press its pin across. Make sure the hammer spring legs rest on the rear of the trigger bars. Now place your curved plate, or the retaining spring (called a "shepherd's crook"), in the receiver, locking into the turned slots in the hammer and trigger pins. Then take your selector, turned upright, and push it into the receiver and trap the curved plate in place. Turn the selector down to the "Fire" position. You'll have to push the front of the trigger down, to tip the disconnector out of the way and create clearance for the center cam of the selector. Once the selector is in and down to the "Fire" position, you can cock the hammer. Check the hammer spring legs one more time, and check the trigger/hammer/selector function a few times to make sure it is all back the way it is supposed to be. (At this point I'd usually say "You can't get them back incorrectly" but even the ingenuity of man can defeat the

durability of Soviet engineering, and someone will be able to get it wrong.) Check that it is right, and move on.

On the carrier, make sure the gas piston is clean and wiped with an oily cloth, and then apply grease to the cam slots of the carrier. On the bolt, apply oil to the extractor pivot point and the spring that powers the extractor. Drop oil down the firing pin channel. Install the bolt back into the carrier, and shove the carrier and bolt back into the receiver.



Apart, cleaned and back together, should only take a few minutes. Fifteen, if you're really thorough.



Here you see the relief slots cut in a freshly-bent receiver, that allow the carrier to be lifted out of the receiver. The rear trunnion fills the gap at the end.

The recoil spring assembly is something you never need to take apart, but if you really feel like you have to, here's how: Grab the spring stack with one hand and hold the square sticks-through-the-cover end on the bench. Compress the spring towards the bench. With your free hand, weasel the end cap out of the front wire of the assembly. Then allow the spring to ease forward and off the wire assembly. You can then do whatever it is you need to do with the parts. If you don't find this easy, that's your clue that the Soviet Army did not expect, nor intend, for its soldiers to be taking the spring assembly apart. To reassemble, reattach the wires (if needed), run the spring on, compress, and weasel the end cap back where it was on the end of the wire assembly.

Make sure the spring is good and oily, then shove the front end of it in the tunnel in the carrier. Compress the spring enough that you can re-introduce the retaining end of the

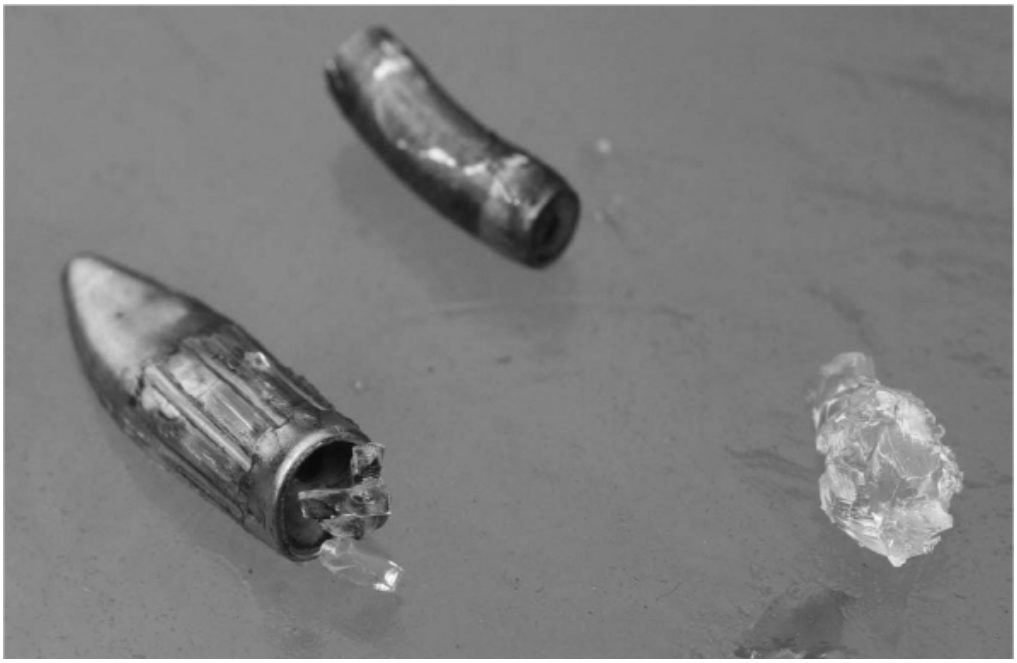
assembly in its slot in the rear trunnion. To install the cover, you first have to ensure that the front end of it is in the recessed slot cut for it in the front trunnion. If you don't, you'll be wrestling, hammering and cursing the cover while it resists your effort. Once in the recess, press down on the rear. The angle of the rear of the cover will compress the recoil spring guide, and allow the cover to snap down into its rear slot in the trunnion. The recoil spring assembly should pop out through the square hole in the cover, and you're done.

Congratulations, you've just stripped, cleaned and reassembled what was, up until the mid-1980s, one of the rarest firearms in America. After that, it swept to becoming in the top five of most-common. You've managed what any illiterate peasant can do, with the exception of the lubrication part. They know nothing of that, and for the most part their AKs seem to work just fine. Then again, if theirs stops working, they'll just pick up or be issued another. You, however, want to protect your investment, so spend some time and clean it.

Chapter 4

Calibers
Before, During and After

If you want to get a good argument started, throw out the idea of “Who came up with the first assault weapon?” closely followed by “Who first developed the assault weapon cartridge?” Be ready for fists to fly. The problem isn’t who was first, but who actually got something to happen first. In all militaries, on nearly all continents, there were starry-eyed advocates of low-recoil cartridges. Rather than try to give you a chronological, blow-by-blow listing of what was happening where and when, I’ll just give you a quick historical primer, and then a rundown of each group. Some of them were working from the same info, and others were on their own.



The standard 7.62X39 cartridge, before import restrictions were placed on them, contained a mild steel core. Not much expansion there, so not much use as a hunting cartridge.



The rifle's performance depends on the caliber and the bullet. This Corbon DPX really doesn't care if it is launched from an AR-15, or an AK-47 in .223.

A Short History of the Self-loading Rifle

The biggest changes in small arms came at the end of the 19th century. The armies of the world went from single-shot breechloading rifles (like the British Martini and the American

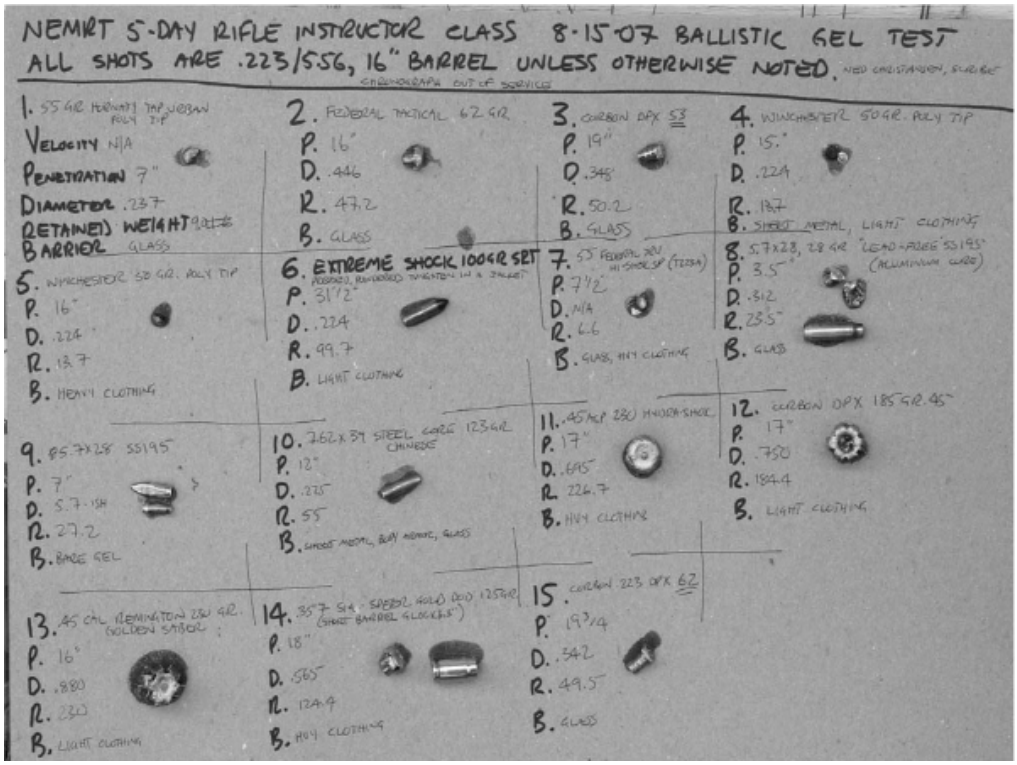
Trapdoor Springfield) to repeating rifles, chambered in cartridges using the new smokeless powder. There, we had invenotrs developing two of the three essentials for a reliable self-loading rifle. Of the three, two are major, and must-haves. The third is a refinement, and can be gotten around, but its lack does restrict the designs that can be used.

The two major improvements are smokeless power and the self-contained cartridge. While it is possible to construct a self-loading rifle that could run on black powder, it would be such a maintenance hog that it wouldn't be worth the effort. Scrubbing the black powder fouling out of a barrel is work enough, but doing the same to a gas system? Let's get real. No, until the French chemist Paul Vieille developed Poudre B (Powder Blanche, or white powder, to distinguish it from black powder) the various formulations of guncotton were too sharp in burning rate and too unstable to be used in firearms. Once the process to tame guncotton had been developed, the rest was refinement. Burning with more power (greater efficiency, and thus less residue) Poudre B allowed for higher velocities, which in turn led to the need for copper or brass-jacketed bullets, which led to spitzer-point bullets for greater aerodynamics and finally to the repeating rifle with great range that almost all the world's best armies were armed with prior to WWI.

The self-contained cartridge was necessary, as there is simply no other way to handle powder, bullet and ignition source (the primer) in a repeating rifle. Ship's cannons and the larger artillery pieces used bags of powder and a priming/sealing case head well through WWII for the biggest guns. But such a system for an infantryman is simply absurd.

The last, and refining part, was the primer. A non-corrosive primer, that is. The earliest priming compounds were quite nasty. The commonest was a mixture of fulminate of mercury and ground glass. The fulminate was brisk enough to ignite powder, and the ground glass was needed to provide a source of friction. The mercury also contaminated the brass when fired, making it brittle over time and thus unsuitable for reloading. This wasn't as big a problem as it could have been; the great volume of fouling from the black powder hindered the mercury from entering the brass, so black powder cartridges ignited by fulminate of mercury primers didn't degrade as quickly as they might have. Also smart shooters cleaned their freshly-fired brass by dropping it into a jug or water, or water with vinegar. The fouling was dissolved before the mercury in it could have any effect on the brass.

Smokeless powder, however, simply drove the mercury into the brass at high pressure and made it unreloadable. This was, however, a concern mostly for us crazy Americans, but it nevertheless led to the development of the lead styphnate primer. The lead styphnate primer was (and is) incredibly stable, still working with 100% certainty decades after having been loaded into a cartridge. However, the combustion residue is hygroscopic; it attracts moisture. (I have an ammo can full of .45 ACP manufactured during WWI. Despite their age, none has yet failed to fire when requested. Such is the stability over time of the early priming compounds.)



If you do ballistic testing, you have to take careful notes. This is the results board we create for rifle classes, so everyone can see what we've tested and how well it did.

Moisture leads to rust, and rust in the actuating system of a self-loading rifle is bad. The nature of powder manufacture led many shooters astray in how they viewed corrosive cartridges. Since acid is used in the manufacture of powder, it was for a long time assumed that the acids of the powder were being driven into the "pores" of the steel. There, it rusted the steel. This is wrong on several counts. First, steel does not have pores. There may be sub-microscopic joints between the crystalline structure of the steel, but no pores. Second, the acids in the powder have been first washed away in multiple rinsing operations, then any left are counteracted by a mild basic solution, and chemical stabilizers.

The "solution" to the "acid in the steel" problem was to scrub the bore repeatedly with lanolin-based bore cleaners.

The water in the cleaning solution scrubbed the primer residue out of the bore, and once lightly oiled the bore was fine.



The computer-controlled popups at the NG base. If you hit it, the computer registers the hit. If not, the scorer gets to announce your scores with glee.

Corrosive primers were in use in the West until the mid-1950s, and in Eastern Europe even through the 1990s. Even today, ammunition that is listed as “non-corrosive” from the east is in many cases still mildly corrosive by western standards.

As anyone who has shopped for ammo for their AK knows, corrosive primers are not a hindrance to the Kalashnikov. But that is only because of Mikhail’s cleverness, and the ability of the Soviet Union to hard chrome plate various parts. Many other designs foundered on the corrosive primer problem. One of the earliest self-loading rifles was the Remington Model 8, designed by John Moses Browning and first offered for sale by Remington in 1906. The “8” uses a system known as the “long-recoil” action, the same system found in the Auto-5 shotgun. In the long-recoil action, the bolt and barrel are locked together at firing. They recoil together, each compressing its own action spring. At the end of the recoil stroke (the “long” in long-recoil means the travel is the length of a loaded cartridge. Short-recoil action recoil less than

the cartridge length) the bolt and barrel unlock, and the barrel is driven forward by its action spring, Just before it travels fully forward, it trips the bolt lock, and the bolt then follows the barrel forward. In all this shuttling, the empty case is removed from the chamber and ejected, the next round fed out or allowed to rise in the magazine, and is then chambered by the bolt going forward.



In the transition from black powder to smokeless, the calibers went down, the velocities went up, and bullets had to have jackets.

The big advantages are that the system does not use gas as the means of working the mechanism, so corrosive priming doesn't matter. Also, the action works within a broad range of bullet weights and velocities, almost irrelevant to the burning rate of the powder. The disadvantages are greater weight, extra parts, and the need to enclose two powerful action springs. Also, in the context of armed combat in the very early 20th century, it is difficult to mount a bayonet on a Remington Model 8 or any other long-recoil firearm. Bayonets were still of extreme importance to the military minds of the first couple of decades of the 20th century.



Machineguns rule the battlefield, and rifles just maneuver and do the cleanup. Here we have machineguns spanning over 50 years and four continents.

We forget what it takes to equip an army. Here we have a rack of Browning machineguns, with a very special mod: they've been converted to .22LR for training.



In the switch to modern rifles, there was a brief dalliance with the .308 in the Armalite rifles.



As a sporting rifle the Model 8 is fine. As a military rifle it would not have been robust enough. Still, had someone in military circles seriously approached Browning at that time,

I’m sure he would have been able to come up with something more suited to combat.

The next model to show up was the Standard, a self-loading rifle introduced around 1910 that also could be manually converted to a pump action. (Shades of the 1980s SPAS-12!) Gas operated, it suffered from the same two problems that all self-loading rifles would for the next couple of decades: variability in powder burn rate, and corrosive primers.

In a bolt-action rifle, as long as the peak pressure of the burning powder does not exceed a certain level, the burn rate of that powder hardly matters. Yes, you’ll have variances in muzzle velocity, but a hundred feet per second one way or the other hardly matters. In a self-loading rifle, burn rate is of vital importance. If the rate is too slow or too fast, the pressure of the gases at the port will vary. The action can be over-driven or under-driven. Both are bad. Add to that corrosion caused by the primers, and many designs proved to be balky, unreliable outside of a range or training environment, or simply temperamental. One system that many invenotrs tried over and over again is the Bang system. There, the muzzle of the rifle has a cup or reversed cone, with a hole for the bullet to pass through. The muzzle blast hits the cup or cone, driving it forward. A lever transfers the forward jerk of the cone to a rearward thrust to the action, and unlocks the bolt and drives it against its action spring. While the Bang system is much more forgiving of powder burn rates (the pressures of almost all powders will have evened out by the time they reach the muzzle, 24 inches away from the chamber) it is much less forgiving of corrosion. The large area of the cone, and the

bearing surface where it slides back and forth, provide much more area for corrosion, and much more resistance to movement.



The MP-44, which got us started on this path.



The MP-44 sight is a simple blade with a small amount of adjustment. It's graduated out to 500 yards, probably because of the vast steppes of Russia.

The Federov Automat used a short-recoil system, mechanically-driven, which like the Remington Model 8 operated just fine with corrosive primers.

Another roadblock that hampered self-loading development was the insistence, by every military that looked into it, on the new rifle using the exact same cartridge that their existing rifles already used. The insistence on a full-power rifle cartridge, while at the same time requiring (in almost every instance) a rifle that was not any longer or heavier than the existing bolt-action rifle, made life impossible for the invenotr. The American experience is illustrative: the Army insisted on a self-loading rifle that used the same .30-06 cartridge as the 1903 Springfield. (The various test boards suggested something smaller in caliber, but in the end, it was .30-06.) The 1903 Springfield is a 7.5 pound rifle that is light, trim, handy and well-balanced. The Garand that replaced it, while the same length, was nearly two pounds heavier, not as trim, and not as well-balanced. That it was a reliable self-loading rifle was the virtue that meant its adoption and later adoration.

The German 98K was pretty much the same as the Springfield. (Indeed, the Springfield was so derivative of the Mauser, and followed it so soon, that Mauser sued and won, collecting royalty checks right up until America joined WWI on the side of the Allies.) Replacement rifles for it were in much the same predicament as the Garand: heavier, not as well-balanced, and whose sole virtue was self-loading. If they lacked somewhat in the reliability department, soldiers "solved" that problem by having other weapons handy.

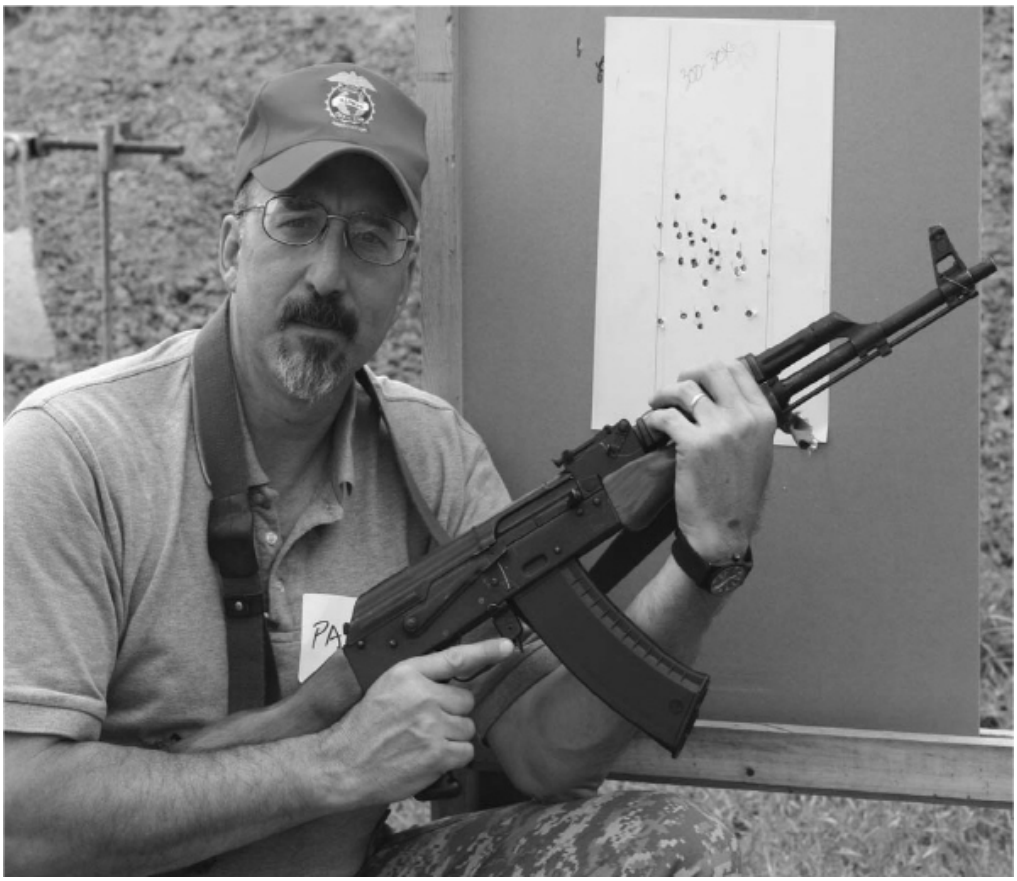


The Schwarzlose machinegun is a blow-back, despite being a rifle-caliber weapon. You can do that in a 60+ lb. weapon, but not in a rifle under 10 pounds.

Combat Lessons

The armies initially engaged in WWII were using the same rifles that they had in the earlier war. So let's go back and see just how they got there. Prior to WWI, an infantry company commander lacked much of what was considered essential by the end of WWII, and without which we cannot conceive of combat operations today. He had no trucks, no radio, no close air support. Lacking a radio, he could not count on artillery "on call" but had to depend on scheduled barrages. Mortars would be re-invented in WWI, and the use of rockets had been abandoned after their miserable failures time and time again in the 19th century. Even if he had had mortars or rockets, he could not count on transport, as his unit's own mules would have been few and dedicated to carrying food and water. If he had a machine gun, he had bigger headaches than advantages. A machine gun in pre-WWI times was heavy and water-

cooled. A single Maxim or Vickers ran 75 lbs., plus tripod and condenser can. A single gun with a useful combat load of belted ammunition would tip the scales at nearly 300 pounds. All of which he would have to have carried (sometimes literally) on the backs of his men.



Don't let anyone tell you an AK can't shoot, or is just a bullet hose. Here, I've shot a perfect score on the qual course, using a borrowed AK-74.

What he had at his disposal were his hundred-or-so men and their rifles. Different armies learned different lessons. Stationed in the wide-open plains of the U.S., the American army learned the value of long-range shooting. NCO promotion boards took into account the candidates' rifle scores and their ability to estimate range. Rifle qualifications included firing on moving targets out to 900 yards. The British Army, after being roughly handled by the Boers, learned fast bolt manipulation. The absolute minimum standard, below

which you could not serve, was 10 aimed shots a minute. Skilled riflemen could easily best that, some even double it.

Rifle texts from the period call for officers and NCOs to closely supervise the firing of their men. For example, an officer would indicate to the sergeant under him that a particular farmhouse was delivering fire on their position. The sergeant would detail a group to fire on the farmhouse, assigning windows and corners to men. If a nearby fold of ground was seen to have soldiers, the Sergeant would direct their fire by correcting their target: “Two sight widths left of the farmhouse, 100 yards further away, near the fence. The crease in the pasture. One magazine each.” Each soldier so-directed would locate the position, adjust his sight, fire a magazine and await corrections.



The AK ejects forward and to the right, comforting to a left-handed shooter.



One drawback of a large magazine capacity is the inability to get really low in prone. Even the Germans recognized that, with the MP-44.

With good sights, practice, powerful cartridges and open ground, an infantry company could make the terrain for a thousand yards forward of it too dangerous for anyone to enter.

Too bad that in the trench warfare of WWI, nothing existed for a rifle past 100 yards. To compound the problem, the rifles sights in existence were all “regulated” for long-range shooting. That is, the sights were set for a man-sized target, in the open, at distance. A “combat sight” or “combat zero” would be one where you could aim at your opponent’s belt buckle and count on striking him a telling blow out to 400 yards. You need not adjust the sights, provided he was upright. The trajectory of the bullet would rise above the sight (and the belt buckle) and then fall back down. Anywhere from bayonet distance to 400 yards, you would strike a standing man somewhere between the belt buckle, up to the head, and back down to the pelvis. It didn’t take long for everyone to learn: don’t stand upright. A rifle so zeroed, when fired at 100 yards, commonly struck the target anywhere from six inches to a foot

high. You have to wonder how many doughboys survived because the rifles all hit high at trench distances.

By WWII, no one stood in the open. Machineguns were common, and they got a lot more common. Automatic rifles like the BAR and Bren gun added volume of fire. Artillery became responsive, first with field telephones and, later, radio. But still the authorities insisted on full-power cartridges. The Americans stuck with the .30-06, the British with .303, the Germans with 7.92 Mauser. Hitler personally put a stop to the development of "sub-power" rifles, although not for long. The Soviets didn't, but not because they were so forward-looking. Simply put, you can manufacturer a rack full of submachineguns for the time, effort, materials and skilled labor it takes to manufacturer a pair of Mosin-Nagant bolt-action rifles. The Soviets needed volume, so they made lots and lots of SMGs. As a result, they learned a lot faster the advantages of volume of fire, low recoil, and high capacity.

The British actually veered further away from the concept of an assault rifle cartridge at first, but after they came to their senses they just stuck with the .303. Their idea, in the first decade of the 20th century, was to pump up the .303 British. They wanted what amounts to a 7mm Remington Magnum. The plan was for it to be wrestled into the new P-13 rifle, where it would offer longer range, flatter trajectory and greater striking power than the .303. Having had their butts kicked by the Boers, the British were very interested in not having that happen again. However, the wide open, rolling country that they were in during the Boer War was not to be duplicated for a long time. If ever. In cities and jungles, the chances for a 500+ yard shot are few and far between. It wasn't until after

WWII that the British decided to get away from the full-power rifle. Then they went to the .280 Enfield, which would have been quite the deal. The .280 Enfield featured a 130-grain bullet of .276" diameter, at around 2400 fps. The sleek bullet would have had a decently flat trajectory, and mild recoil.



The M1 Garand, with its en-bloc clip, was a huge advance. But the US Army should have let go of it, post-war.

Alas, the Americans insisted on nothing less than the full striking power of the .30-06, and the attempt failed. The British ended up doing as the Belgians had, scaling-up the FAL to the size needed to handle the ".30-06 Short" or .308/7.62X51 cartridge.

The American experience encompasses three phases: the "Before Garand" the "During Garand," and the "After the War" periods. John Garand started working on a self-loading rifle in the early 1920s. As the Army was still very much wedded to the .30-06 in that time, he had to make his rifles in the most powerful cartridge ever issued in a repeating rifle.

His initial efforts used a novel principle: the setback of the primer, blowing partly out of the cartridge case, acted to unlock the mechanism. At the same time, the Ordnance Department was working on sealing primers into the cases to prevent blowouts that would tie-up machine guns. Once the crimped-in primers became accepted, Garand's design had to be scrapped. Meanwhile, the Army was conducting experiments with existing self-loading rifles. They purchased Remington Model 8s, equipped them with aperture sights, and began conducting live-fire field trials. Now, the M-8 is not at all suited for military use. The long-recoil action isn't a good choice for the rigors of mud, dust, dirt and rain. And the standard M-8 is reloaded from the top, with individual rounds or stripper clips. But, the .30 Remington cartridge could have been something, if only the trials were actually studied for more than just "fire and maneuver." The .30 Remington is a hunting cartridge, and as such it has a 170-grain round-nosed bullet at just over 2,000 fps. What if someone had been paying attention? Take the case and shorten the neck (you don't need a long neck except for a 170-grain bullet) decrease the weight and make the round nose a pointed one. You'd have a .30 rifle, launching a 125-grain bullet at 2300 fps or 2400 fps.



Military surplus ammo comes wrapped in paper wrappers, stapled shut.



Commercial ammo may come off the same production lines as military, but they use colorful pasteboard boxes to hold the paper wrapper.

Take the basic M-8 action, fit a box magazine, and swap out the long-recoil action for a piston-driven one. In 1925 the US Army could have had a *sturmgewehr*. But they studied the

M-8 trials, and then went on with a replacement for the Springfield.

The Garand trials had another hitch for John Garand: the .276 Pedersen. The cartridge and rifle were developed to be a new self-loading rifle. The rifle wasn't so hot: it was basically a Luger action scaled-up to rifle size. As such, it required waxed cartridges due to the mechanism's lack of primary extraction (i.e., the rotation of the case when the bolt turns, breaking the bond between case and chamber walls.) The cartridge showed promise, and the Army conducted tests on pigs. They found that the .276 worked well enough to merit consideration.

John Garand was not dumb. He made two prototypes, one in .276 Pedersen and one in .30-06. The Army board considering the rifle recommended its adoption and endorsed it in .276. Then Chief of Staff General Douglas Macarthur nixed that, citing the warehouses full of .30-06 ammunition. The army had a rifle, and Garand was famous. The .30-06 of the time was a robust cartridge: launching a 173-grain bullet at 2700 fps. The later M2 load was a 150-grainer at 2800 fps.

At the beginning of WWII, we found we needed a different weapon: something better than a pistol, but handier than a rifle. The carbine, in the form of the M1 Carbine, was quickly adopted – perhaps too quickly. While light and handy, the cartridge wasn't quite up to what you'd want in a fighting rifle. It launched a 110-grain round-nosed bullet at a nominal 1900 fps. In both weight and velocity, it was a step back from the later M-43 Soviet cartridge. But it was certainly a whole lot easier to shoot than the typical rifle cartridge of WWII: a roughly 170-grain bullet at something like 2700 fps. The

Carbine was perhaps a bit too fragile, something that even six months of testing could have prevented. But it became ubiquitous: the various production plants manufactured six and a half million of them in four years. The M2 Carbine, a select-fire carbine, came before war's end.

During WWII the Garand served admirably. However, in Korea, there were doubts about the Garand. Specifically, the recoil made it difficult to fire quickly and accurately enough to deal with the "human wave" attacks the Chinese mounted. And despite its accuracy, students of the war could find no instance of where a moving body of Chinese in the open at distance were discouraged from the attack or driven back by rifle fire alone. At the trenchline, the M1 and M2 Carbines served well, provided they hadn't been over-used prior to the final assault. That, and the sub-zero temperatures of Korean winters were hard on them. Long-range rifle fire wasn't all it was cracked up to be, and the Carbine was too fragile for general issue. Despite the lessons, the shorter case for the .30-06, made possible by powder developments, became the new cartridge. It was to be chambered in what was billed as the perfect infantry weapont: it wad a light machinegun, rifle, submachinegun, carbine, all in one uber-rifle: the M-14. Too bad real life has a way of messing with beautiful plans.



Left to right: 7.92X33, 7.62X39, 6.5 Grendel, 6.8 Remington SPC, .223, 5.56 in steel case.

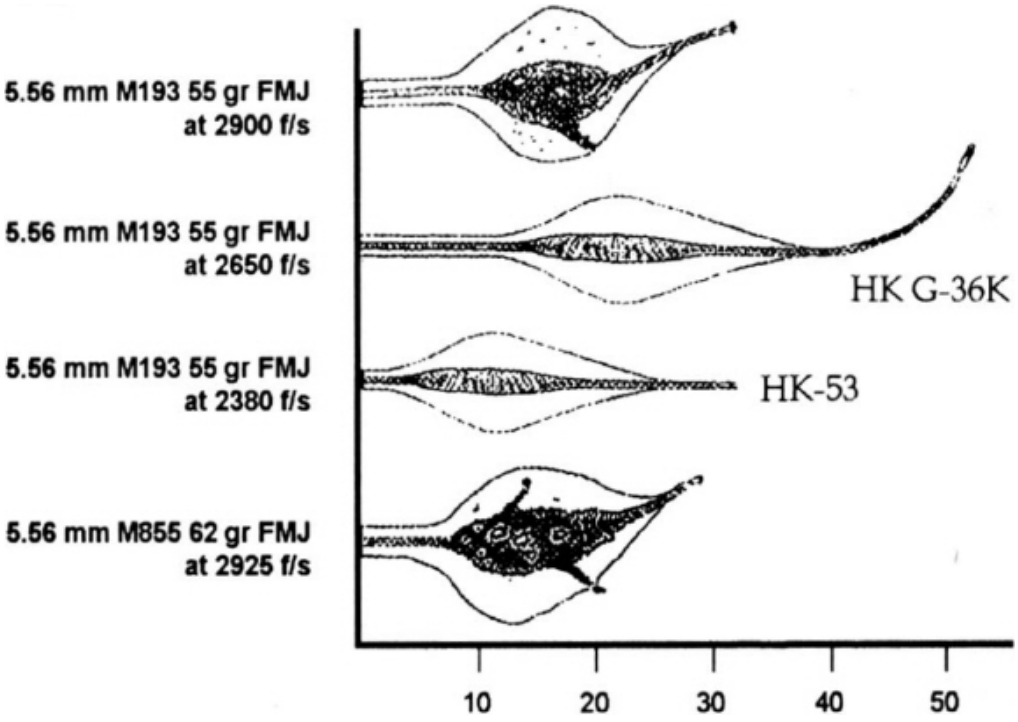
German

During WWI, the Germans, no dummies, looked into replacing or improving the rifle they used, the Kar.98. However, switching rifles in the middle of a war is an experiment no one in their right mind wishes to entertain, so the idea was dropped. The Germans worked on smaller cartridges between the wars. In the 1930s both private firms and the Army Weapons Department were working on small arms. What the Army wanted in a Machine Carbine was simple, and similar to what everyone else wanted; something that weighed no more than the standard rifle, and if possible would be lighter; something that was simple, rugged and durable; something that was select-fire and had a controllable cyclic rate.

The experiments centered on short cases and bullets in the 7 to 8mm diameters. However, the war changed everyone's plan. The resulting cartridge, simply to ease production, used the same case head diameter as the existing cartridges, and the same bullet diameter. Why? Think about it. Experimenters could easily obtain small production batches of cartridges cases, if the plant only had to make some small changes in the trim lengths and the final-shape sizing dies. To punch out new brass and form it to a new rim diameter is not a change that you can do in between regular production runs. Ditto bullets, which simply required adjustments in jacket trim length and core swage weights. Barrels could be made from production blanks hand-lifted from the regular production line.



In the larger calibers, we have .308, 7.62X54R, 8mm Mauser, 12 gauge and .410. (Amazingly, I do not have a single 20 gauge in the house, shop or bunker. I'll have to correct that.)



The typical wounds created by various loadings of the .223/5.56. Chart courtesy Dr. Martin Fackler & the IWBA.

The rest of the experimentation could be done in a small R&D shop "out back" and not interfere with regular production needed for the war effort.

And so the 7.92X33 cartridge was born, and it was stuffed into the various M-42 prototypes and sent off to the front. By the end of the war, the Stg-44/5 was well-developed enough that it was used as the measure of all post-war R&D efforts.

Czarist/Soviet

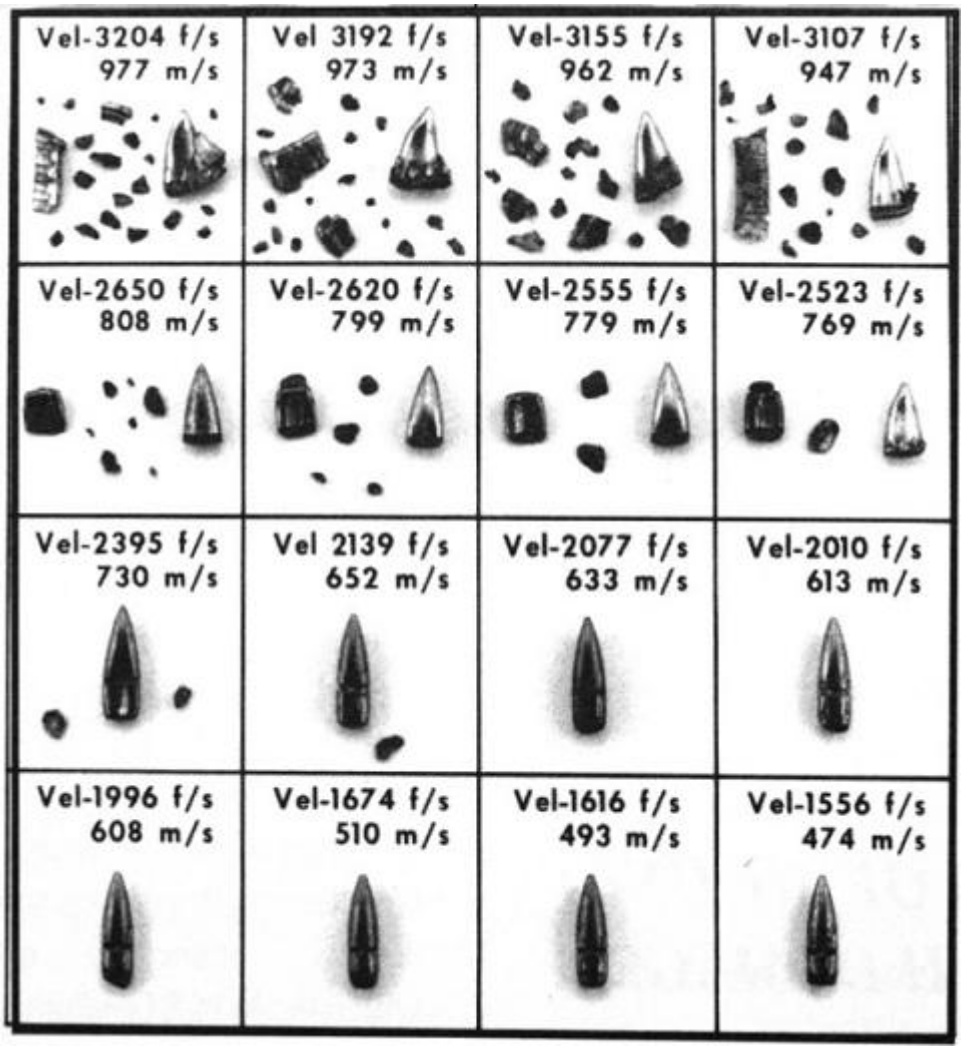
Colonel Federov developed the Automat before WWI. Originally intending to use a proprietary cartridge (the standard 7.62X54R Russian cartridge being entirely unsuited for this purpose) he had to switch during the war. The Japanese provided 6.5 Arisaka rifles and ammunition to the Russians, who found themselves hard-pressed to produce what they needed to fight with. So Federov changed his design, and the Automat was made in 6.5 Arisaka.

It served well, during the war and after, in the struggles that led to the Bolsheviks' coming to power. However, once the revolution was over, the idea of switching to a new idea of rifles was far, far, down the list. When WWII erupted, making more of the rifles they had consumed Soviet efforts once again, as it had their Tsarist predecessors.

Not until the development of the M-43 cartridge, then the SKS and finally the AK-47, did the idea of the assault rifle come to fruition in the Soviet Union.

One aspect of the changes in rifles that should have been addressed, but wasn't, was sights. If the expected maximum range of engagement was only 300 meters, why did everyone stick with 1,000 meter sights? Or longer? The answer: tradition, and the need to keep the traditionalists happy.

Which brings us to today. What cartridges will you find an AK in? The superficial gun "expert" will scoff, and say "there are only two: the 7.62 and the 5.45 x39." Not really. You see, there are a few others. First up in our list is the 5.56X45. That's right, the good old .223. When American consumers buy something, they want to be able to buy it in the flavors they want. Yes, when the AK first hit our shores in volume, 7.62X39 ammo was cheap. But so was .223. So the .223 chambering is pretty common, and you can find it in a lot of models and countries of origin. The later 5.45X39 is cheaper still, but lacks as much of a following. The idea behind not being so ardent on the 5.45 is simple: if imports are cut off, then you have an orphan rifle. Even if imports are cut off you'll still be able to buy 7.62X39 and 5.56, since they are made here.



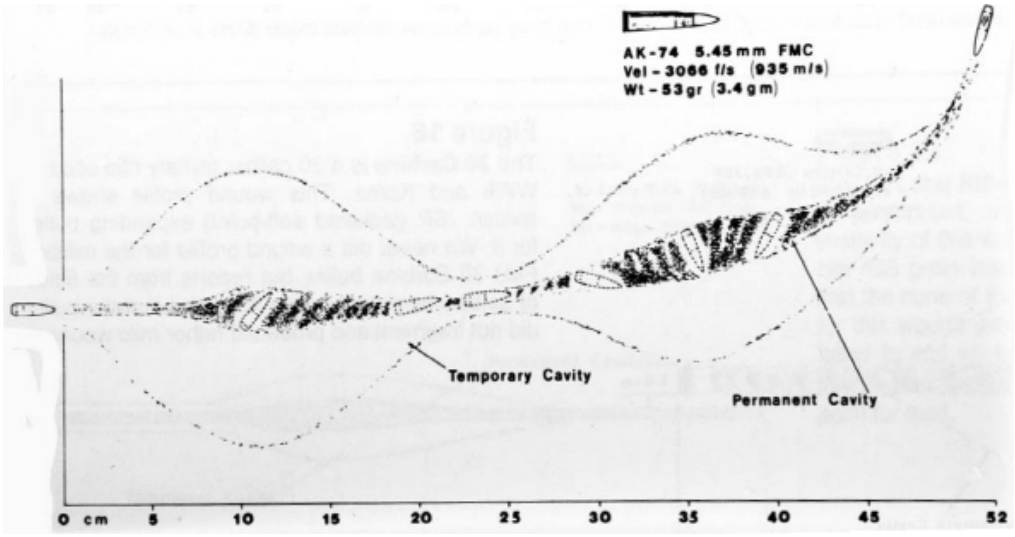
Rifles need velocity to work. Short barrels and range to target decrease velocity, and thus wounding and rifle effectiveness. Chart courtesy Dr. Martin Fackler & the IWBA.

The trick, then, is to make sure imports aren't cut off.

Other chamberings for the AK are the 7.62X51, 8mm Mauser, and 7.62X54R. The first two come to us courtesy of the Yugoslavians. When Yugoslavia was making rifles for export, they'd make them for anyone who had the money. They scaled the AK action up in length and robustness, and produced AK derivatives in both 7.62X51 and 8mm Mauser. While it might be a stretch in some circles to call the SVD and its clones an AK, you'd have to be a real pedant to hold to that position for very long.

7.62X39

The original, and a very good cartridge! The round that most think of as the "AK cartridge," the '39 uses a .311" bullet and a tapered case. Ejection of the empties is forward, to the right, and in many cases quite a distance. Still, the cases are not so roughly handled that they cannot be reloaded. While this may not seem like a consideration to some, what with cheap surplus ammo available, keep in mind that the ballistics of the 7.62X39 are entirely suitable for deer hunting, and few DNR offices that I know of would look kindly on hunting with FMJ ammo. A few boxes of boxer-primed brass-case ammo, and a reloading setup, and you can make your own hunting ammo.



The typical wounding of the 5.45X39, with a sooner and more-guaranteed overturn than the 7.62. Chart courtesy Dr. Martin Fackler & the IWBA.

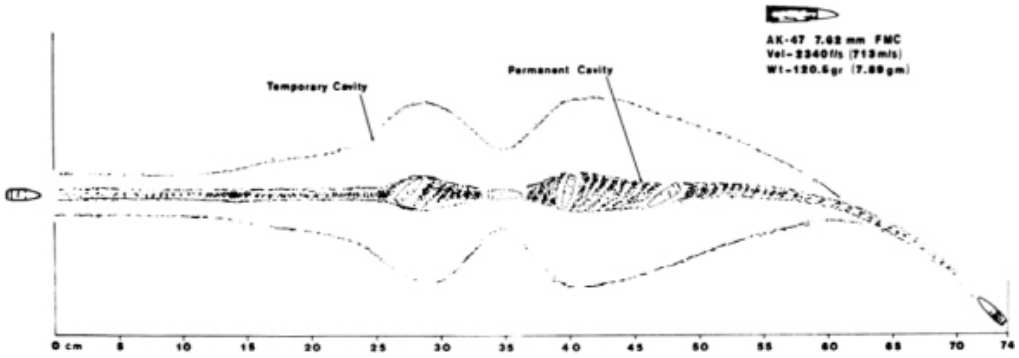
Yes, you can stretch the ballistics of the 7.62 for more power, but what's the point? You're simply putting more stress on your rifle, more wear on the bore, and for a couple of hundred feet per second, what's the benefit?

Since the 7.62X39 uses .311" bullets, your loading dies will probably come with two belling stems: one for .308"

bullets (the American standard) and one for .311” bullets.

I have not seen cases stretch enough on reloading (but then, I usually lose them before I get more than four or five loadings out of a case) but if you do, the trim-to length is 1.518”. The cases use large rifle primers. Typically, a quick-to-medium burn rate powder like IMR-4198 or IMR-3031 works just fine. You won’t need a lot of powder, and you can easily boost a 123-grain FMJ or a 130 soft-point to 2300 fps. For the lighter bullet, a modest practice load, for the heavier bullet, sufficient for deer hunting. Since cheap surplus ammo imports can’t last forever (if for no other reason than even the Warsaw Pact stockpiles will run out) there will be interest in American-made ammo and reloading the 7.62X39.

As I pointed out earlier, there is no case from which you can make 7.62X39. In that regard, we are all prisoners of the ammo companies. We have to use brass, reloadable ammo, if we want to have a reloading supply, and we can’t switch to another case.



The 7.62X39 is late to overturn, and with tumbling beginning past 20 cm, it in many cases simply causes a puncture wound. Chart courtesy Dr. Martin Fackler & the IWBA.

Standard ammo is now a lead core with a brass or mild steel jacket. There were literal boatloads of steel-core 7.62X39 ammo brought in from China, and while it isn’t marked as

such, it works quite well as armor-piercing ammo. (This is part of the reason its importation was banned.)

A brief aside: the 7.62X39 cartridge was the basis for many of the very popular benchrest cartridges now in existence. The 6mm PPC (Palmisano & Pindel Cartridge.) Those two gentlemen were pioneers in benchrest shooting in its modernization and expansion phase. In the mid-1970s they convinced importers to being a batch of .220 Russian cases in. These are 7.62X39 cases made for target shooting, in .22 caliber, and with small-rifle primers. Palmisano and Pindel necked them up to 6mm and "blew out" the shoulder to create a short, stout, relatively long-necked case. It, and its derivatives, went on to overwhelm almost all other cartridges in the accuracy-intensive sport of benchrest shooting.



This bullet shed its jacket and still penetrated 12 inches, after going through plaster, glass and wood.

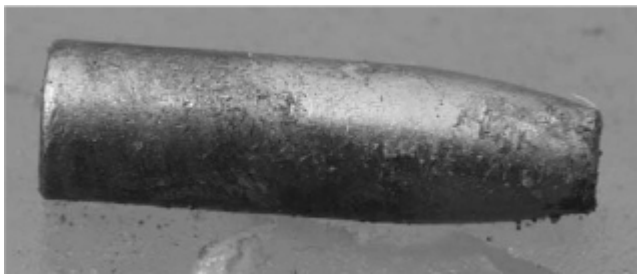
5.45X39

The AK-74 cartridge, this one is an oddity from the word go. The bullet is a nominal .221" in diameter. (Oh god, why couldn't they have just used a standard .224"? Would it have killed them?) The case is also odd, being .391" at the rim (I

measured a handful of cases) instead of the .374” of the 5.56. Nominally, it is supposed to be .394-5” at the base and rim, but manufacturing tolerances being what they are, .391” is close enough. And still not compatible with anything we already have. So, we will have to wait for American-made 5.45 cases to do any reloading at all. I suspect that it will be possible to push a .224” bullet down a .221” bore, but not at anything approaching standard velocities. So, we’ll also have to wait for a supply of .221” bullets, too.

All this also makes it tough to re-barrel our AK-74s, once the ammo runs out and/or our bores wear out.

The facts of the 5.45 situation make it a bit less appealing to many shooters. “What if imports are cut off?” Then someone will calculate if all those AK-74 owners would be willing to buy American-made ammo, that’s what. “What do I do when my bore wears out?” What do you do with any AK with a shot-out bore? Scrap it, or re-barrel it.



The steel core in original 7.62X39 loads weighs as much as the whole early .223 bullet: 55 grains.

As most DNRs do not allow a .22, even a centerfire, for deer hunting, then loading hunting ammo is out. And lacking the tack-driving accuracy needed for varmints, I don’t see much use there. Basically, it is a low-recoil, higher-accuracy AK round for training, practice and defense.

The commercial ammo is plain old lead core and brass or mild steel jacket. The military stuff is something else again. The military (original Soviet design) features a steel core with a lead plug in the base and an empty space up front, inside the jacket. The mujahedeen called the AK-74, and its cartridge, the "poison bullet" due to the severe wounds to extremities and the resultant need to amputate. This led some to point to the hollow interior as the cause, explaining that on impact, the core would shift forward, and the bullet would then thumble, causing severe wounds.



Mild steel, the bullet was not designed as an armor-penetrating round. It was cheap. If the Soviets could have made bullets from cement, they would have.

With all due respect (some of the people saying this may well be highly educated), it is nonsense. First of all, no one, let alone the Soviets, could make a bullet so finely crafted that you could count on the bullet to shift its core on impact to then cause wounding. Second, if the core does shift on impact, it would lessen, not increase, tumbling.

No, the bullet does its work for the same reason any other spitzer bullet does; the center of mass is behind the center of aerodynamic stability, and when it strikes a denser medium, the bullet tries to swap ends. A bullet that overturns in the target does more damage than one that does not, but it does not do as much damage as one that overturns and then fragments.

So the early observers who thought the 5.45 had stepped up to what the 5.56 did, terminally, were wrong.

The original Soviet loading, the 7N6, has been upgraded since the 1970s. The original tumbling bullet had its penetration improved, becoming the 7N10. (I'd bet they found the same problems with the 7N10 that we've found with the M-855: penetration gained at the expense of incapacitation.) The Russians have since gone on to duplicate our own pointless efforts, with the 7N22 and 7N24, even greater penetrating loads that cost much more, and offer little useful extra penetration.

5.56X45

Yes, AKs in the American caliber. Why not? The cartridge fits the magazines and mechanism, with a few tweaks here and there. It is common, and while not as cheap as it used to be (but what is? After all, there's a war on) it is still a lot less expensive to practice and train with than the various .30 caliber rifle cartridges are.

In an AK, the 5.56 offers all the benefits it does from the AR-15, except one: accuracy. Yes, an AK can be usefully accurate, but no one really expects to see an AK compete successfully on the line in an NRA High Power match.



A sealed crate, with two sealed sardine cans of 1080 rounds each in it. This ammo is good until the crate rots and the cans rust through. And then some.

7.62X54R

Not only is this round suited for hunting, you can buy suitable ammo imported for hunting. The various-color Bears (Gold, Silver and Brown) offer bullets in weights and designs intended for hunting. Since the cartridge has been the standard Russian cartridge since 1891, and even in Russia they've hunted with Mosins since then, you'd expect hunting ammo. Ballistically it is a close cousin to the .30-06, so you can count on your Dragunov for anything you'd use a .30-06 for. Just with not so much accuracy.

7.62X51

The .308, the derivative of the .30-06, and the standard for the US Army since the mid-1950s. It does anything the .30-06 does, it is so common now that you might even be able to find it in hardware stores that don't even have .30-30 ammo, and it will work just fine on anything you hunt with it. One thing to

keep in mind: modern loads such as the Light Magnums from Hornady use powders whose burning rates are unsuited to the AK. Or any other gas-operated self-loading rifle, for that matter.



If you don't have sidecutters or pliers, you aren't getting the band off.



You do not simply rip the band off by hand. If you can, you probably don't need a rifle, do you?

8mm Mauser

Another .30-06 equivalent, it has a history longer than the .30-06's, and you can find nearly as much ammo for it as you can the '06.

While the AK platform is adaptable, there are limits. It would be mechanically possible to fit the following into the AK, just not tactically, economically or rationally feasible.

6.8 Remington SPC

I heard of one fellow, Marty Ter Weeme of Teppo Jutsu, who actually undertook the engineering to make an AK in 6.8. Since he'd built many AR-15s in some wild and crazy calibers and had them work just fine, he figured "What's the big deal?" How about things like a bolt face the right size, making a barrel (and the concomitant problems of pressing it home and notching the barrel for the cross pin) and then magazines. Oh, let's not forget the problems with magazines. He finally threw his hands up, and let someone else who was just dying to finish the project buy the parts from him.

And what advantage, terminally ballistics-wise, would he have gained? Gee, he'd have essentially duplicated the 7.62X39 now, wouldn't he? And one of the advantages of the 6.8 R-SPC is the accuracy it provides, an advantage that would be lost in transferring it to an AK. I suspect that if the 6.8 really takes off someone will do the work to build an AK in it for commercial sale. But for now, the idea just isn't do-able.

.300 Whisper

I suppose, if you really wanted to, you could make a 5.56 AK into a .300 Whisper. After all, the magazines would work, more or less. But you're back to a new barrel, with all the lathe work of fitting it to the receiver, and all the extra parts to the barrel. If you really want a quiet AK, invest the money in a good suppressor (which you're going to need with the .300 Whisper anyway) and the means of lashing it to your AK.

6.5 Grendel

This has all the problems of the 6.8, in spades. Plus, the greater vigor of the 6.5 (it pushes bullets of the same weight as the 6.8 a couple of hundred feet-per-second faster) means more recoil. As it is also a precision long-range cartridge, the 6.5 Grendel advantage is again lost in the AK translation.

Basically, if you think you have a good idea for a new chambering for the AK, think again. A lot of people have been here ahead of you, and the chances that what you have in mind are a) a real advantage, and b) something that will work, are pretty slim. Not that I want to discourage experimentation, but you probably aren't the first one to think "Hey, the AK in .35 Remington would be a real deer-slayer."



Here are the two cans. Thank the stars, this crate has a can opener in it.

Terminal Ballistics

The standard 7.62X39 bullet is a very poor stopper. Oh, we have all heard the "AK engine of doom" hand-wringing from

the anti-gun pants-wetting hysterics, but it ain't true. The 123-grain steel-jacketed bullet is quite stable, and does not begin to overturn (thumble) until it is out the other side of most people. When working at the gun shop, I had a number of customers, vets, who were singularly unimpressed by the AK-47, and had the scars to prove it. The typical response to "AKs are great stoppers" was to pull their shirt collar around to show you the scar (usually a round keloid in inch in diameter) and then tell how they "hosed the little so-an-so down after taking this hit."

The Yugoslavian loading of the M-43 happens to be constructed such that it overturns sooner, and produces a more-effective wound.

With soft-points, the AK works like any other original-design "cup and core" softpoint and will expand to some extent.

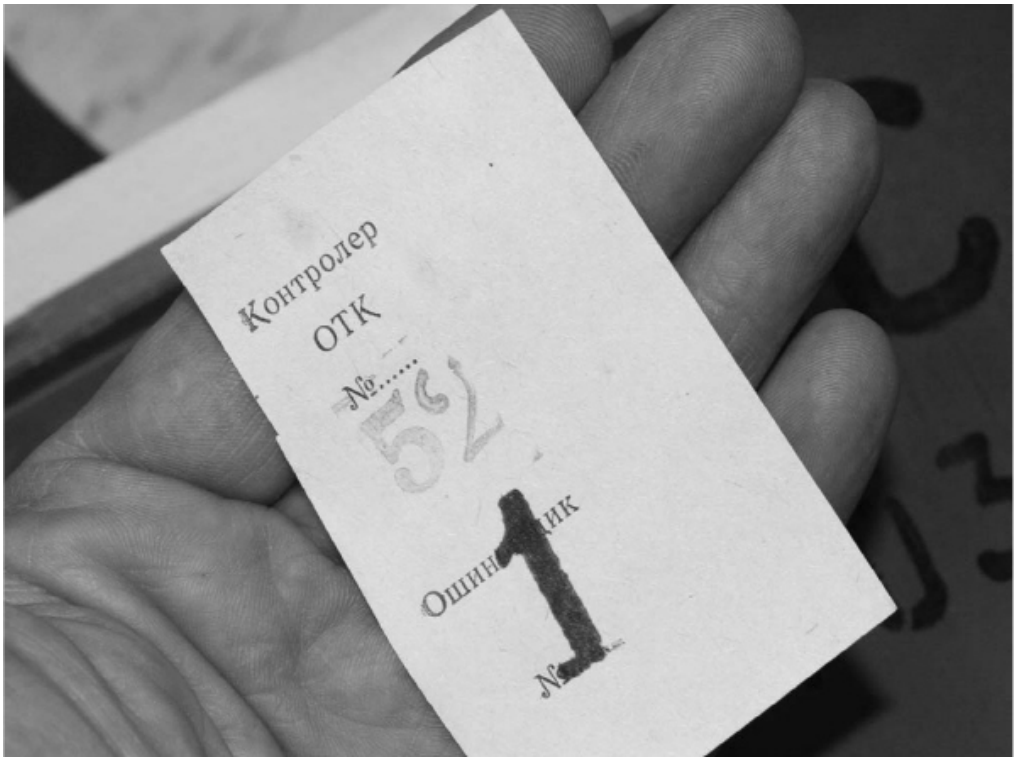
The 5.45, in the commercial loadings, is much like the original Soviet M-43: not much tumbling, and no bullet breakup. The military loadings will overturn much faster and can produce much greater wounding than the 7.62X39, but not as much as well-designed 5.56 loadings.

In trajectory, the idea of the 5.45X39 becomes obvious. Not only is it a better wounding cartridge than the 7.62X39, its trajectory is much more useful. The baseline here is the 5.56, in a 55 grain FMJ, commonly known as the M-193. The best loading of that type is the Federal XM-193, which produces all the velocity the cartridge and barrel length can produce: out of a 20" barrel, 3200 fps, out of a 16" barrel, 3,000. With the line of sight 2.6 inches over the line of the bore, and the rifle

zeroed at 100 yards, the trajectory puts the bullet 2.23” down at 200 yards, and 12-14” down at 300.

If we apply the same setup to the 7.62X39, we produce much different figures. The 123-grain FMJ, at 2400 fps, is dead-on at 100 yards, then 6.7” down at 200 yards, and 27.2” down at 300. Basically, low enough at 300 that you have to adjust your aim, where the 5.56 does not. I might also point out that a standard AK, delivering 3-4 MOA at 100 yards, produces a group at 300 yards that is at best a foot in diameter. The stubby 123-grain bullet is prone to drift from the wind, and you cannot always count on a hit at 300 yards on the computer popups, even with a perfect hold.

The 5.45 produces a much better result. While the bullet is more streamlined than a stubby 55-grainer is, that doesn’t give it a whole lot more advantage. The starting velocity of only 2800 fps also hurts it a bit. But still, the results are quite good. It is down 3-4” at 200, and 14-16” at 300. Less recoil, flatter trajectory, and better wounding than its 7.62 brother. (Well, better for the guy shooting it, if not the guy receiving it.) Accuracy is improved, also. A well-built AK-74 can deliver 2+ MOA on a good day, which translates to groups still under eight inches at 300 yards. Once you have the peculiarities of an individual AK-74 figured out, it isn’t difficult to get consistent 300 yard hits. But, if what you need is to reach through stuff, then the old 7.62 does have its benefits. Dave Fortier has had a chance to talk to those who have been there and tells me that when the Soviets sent out special units in Afghanistan, they’d include some 7.62 weapons in the mix, so they could count on having the penetration it provided, if they needed it.



The inspector’s tag, letting you know who boxed these cans.



Lacking the can opener, you can try a lot of ways to get a can open. This is one of the more expensive ways

One thing you have to keep in mind is that a rifle works through velocity. As velocity drops off, so does a rifle's effectiveness. Here, AK users have an advantage over others. Well, some others. The AR can be had with barrels ranging from 10.5" (where legal) up to 24". Mostly, they are 16" and 20". AK users, unless they spend the extra money for a Krink, can count on that same, boring regularity: sixteen inches and change. So, velocities aren't going to vary much. Still, if the load you're looking at has as its spec a velocity measured from a 20" barrel, you are going to get a bit less.

AK Ammo Basics

Ammo will come one of two ways: in commercial boxes, typically paper-wrapped and in a cardboard box, or in "sardine cans" of paper-wrapped bundles.

The commercial ammo may well have come off the same production lines as the military, but they wrapped the ammo in paper (no Styrofoam sleeves) and then shoved each bundle into a brightly-printed pasteboard box. The idea is to make the ammo look more like the commercial products we are all familiar with. Inside will be either FMJ or hollowpoint ammo. If you really need some kind of expanding bullet for hunting, track down a box of Winchester softpoints, and do it right.

The more common, at least in the bulk that AK shooters buy, is the ammo crate with two sardine cans in it. If you plan on "buying it cheap, and stacking it deep" then you should be aware of a few things. First, the ammo is good for almost forever, if sealed. Second, getting it open isn't easy. Keep, and keep with the ammo, at least one pair of sidecutter or channellocks, to get the steel band off the case. Then, a small

crowbar, to try the lid off. Finally, keep a “can opener” with each crate. The can opener is used to cut the can open. Yes, cut. The Soviet method of sealing an ammo can was not to use a hinged, rubber-gasketed ammo can. They soldered the cans shut once they’d been filled. Lacking the can opener, you will have a devil of a time getting a can open.



At least, with the rim milled off, I can frame the can lid.

It would be ironic to have stacks of ammo, and in an emergency not be able to get them open because you loaned out your sidecutters, channellocks, crowbars or can openers. Me, I think that were I depending on AKs for defense in an emergency, I’d have a crowbar and channel-lock set duct-taped to each crate. The crate should come with a can opener in it, but I’d have a spare hanging from the shelf just in case.

Stripper Clips

The original 7.62X39 strippers were meant for the SKS. The AK magazine lacks any means of accomodating them, so you will have to go with some sort of aftermarket adapter. Generally, they are some sort of over-the-magazine guide that

you have to hold in place while you strip ammo off. The AK-74 is much more accomodating than that. While the ’74 strippers only go one way (unlike the M-16 strippers, which go both ways) the AK-74 holds fifteen rounds per strip.

So if you really want to be prepared, you’d have loaded magazines, loaded strippers, and all sealed into cans, boxes or bags to keep the dust and moisture off of them.

However, as a wise old man once told me, “You generally run out of time before you run out of ammo.”

Chapter 5

Stocks and Handguards and Magazines …

… and all the other stuff that goes along with a rifle.

When it comes to changing an AK, a certain group of purists will come out of the woodwork. They want their AKs (and all others, too) to be as completely period-correct as possible. They'll agonize over things like the exact dye color of a laminated stock, and even the number of laminations. Being seen with a Soviet-pattern AKM, circa 1961, with a Chinese magazine in it is enough to give them the vapors. (They'd have a stroke if they saw the same rifle with a synthetic US-made magazine in it.) Some of them do, however have a sense of humor. They'll take period propaganda posters and put a new tagline on them. Things like a little boy sitting on his Dad's shoulders, with a tag line of: "Little Sergei sheds a tear, each time he sees an altered AK." Or, stalwart Chinese

peasants, standing next to a member of the PLA, arms held out as if at a traffic stop: “Keep that crap off my AK.”

So, the subject of just what is and isn’t “tacti-cool” on an AK is obviously a point of enthusiastic discussion. Me, I see both sides, and I don’t care either way. Then again, I have enough of everything to be able to have both period-correct and gussied-up firearms.

Let’s take them in order, so we don’t get ourselves all tangled up.

Ned, with his sling mod, 550 cord lashed around the stock. Hey, it works, and works well.





Fun, until my hand gets tired of the hammering.



The Tapco stock comes without screw holes. You locate and drill them so they are correct.



Tapco makes a Galil-pattern handguard that replaces yours.



The Saigas lack a pistol grip, and on the 12 gauges I find it hard to shoot.

Stocks

As you will quickly find out, the rear trunnion of your AK determines the stock it takes. If you have (for example) A Romanian AKM, you won't be able to put a Bulgarian sidefolder on it. Or any other original sidefolder, for that matter. Underfolders, ditto. If you have a Polish underfolder parts kit that is missing some essential stock part, you'd better make sure you get Polish parts for your kit. As we've covered before, imported rifles lack a pistol grip, and in order to put that grip on you have to replace some parts with US-made ones.

However, given the number of rifles and parts kits out there, you can find what you need, with a little work. And there are some options.

Tapco is the big name in AK and SKS accessories. They make a solid stock for those who need a US-made one that will fit into regular AKM trunnions. It won't fit milled

receivers, nor the weird curved-back receivers you'll encounter. It will fit AKM, stamped receivers. The stocks come without screw holes. There is enough variation in hole position that Tapco leaves that to you, so you can get yours drilled in exactly the right location. As solidly-made synthetics you won't have any problems with the durability, and you can have the stock in a number of colors. The stock have side-mount sling swivels and matching-color handguards and pistol grips.



The Tapco stock, with side-mount sling swivel.



Some love the SAW pistol grip. Me, not so much.



Here is the Tapco in place.



The Tapco folder, which fits a fixed-stock trunnion.



The Vltor adapter tube, next to a fixed stock.



The Tapco, folded.



The stock collapsed, on the Vltor tube.



The Vltor tube in place, stock on it, extended.



Surefire makes a railed handguard that has more rails than you can use.



The Galil stock folds to the right, below the ejection port.



The Galil stock locks in place with a spring and wedge.

If it is folding you want, but you have a fixed-stock AK, again, Tapco is the answer. Theirs is similar to that of the FAL, and is quite strong. As an aside, it also adds an inch or so to the length, folded, of your AK. So if you live in a location where they measure AKs folded (i.e., in a place where the rules are made by morons) then it may be enough to keep you on the correct side of such inane distinctions. As with the

fixed-stock design, there are no screw holes, Tapco leaving that detail to you and your AK.



Sidefolder stocks can only be put on sidefolder trunnions.

If folding isn't your bag, but telescoping is, then Vltor is the place to look. They make tubes that bolt into the rear of your AK, using the trunnions for guidance and support. To the rear of the trunnion, the tube is shaped to allow the use of AR-style stocks. If you have a favorite stock or just want one for the looks or battery storage, then you can slide your stock onot the Vltor tube. Or just buy the whole shebang from Vltor. It will make your AK shorter, but not so short that anyone can complain about its lack of stature.

Those of you who have sidefolders, you can switch between a metal and synthetic by knocking out the pin that holds the stock to the trunnion, and replacing one with the other. (If you can find it.) But you can't go from a sidefolder to a fixed stock, unless you build something that fits the sidefolder trunnion.

Another approach to the folder-on-a-fixed-stock AK is the Vltor. Instead of the fixed-stock adapter tube for AR stocks, you go with the folder Vltor tube. It also bolts right into the trunnion of your AK (in my case, my Romanian test mule) and then folds when you want.



The sharply curved magazines are those for 7.62X39. Here an Afghan national Army soldier unloads after a day of training. U.S. Air Force photo by Senior Airman Stacia Zachary.



Here an Iraqi policeman give us a clear view of his underfolder, while out on patrol with Marines in Rawah. *Photo by Cpl. Ryan C. Heiser USMC.*



Here two Marines conduct a serial number check on an AK they've uncovered, Notice the lack of a stock, common for "car guns." *Photo by: Lance Cpl. Shawn Coolman, USMC.*

Underfolders come in a number of different basic types, such as the Chinese, Polish and Yugo. Parts do not readily interchange. The underfolder has an advantage over the sidefolders, and that is compactness. When you use a sidefolder you make a rifle shorter, but you do so by making it wider. The ten to twelve inches you lose off the back, you add in width to the side, three to four inches. The metal sidefolders don't add as much, but they aren't as comfortable to shoot.

Sidefolders on Soviet and Bulgarians fold to the left; on the Polish, Tapco and Galils, to the right. You should pay attention, for if you get into a class and keep grabbing open the

wrong side, it will be clear you've spent time with other stocks.



The base and mount for an AK-74.



The scope mount slides on from the rear, although not without effort.



Swing the latch forward.

The underfolders simply rotated underneath, and don't add appreciable thickness when folded. But try to shoot them. The

stock is not too bad on something like the MP-40, with its 9mm recoil. But in a 7.62X39 it can be a thump. On something like the Hungarian or Polish models, with the stock directly behind (on the line of thrust) they aren't too bad. But get one of the Chinese, with a downpitch stock, and your face will get thumped on every shot. Some have found that wrapping the stock on one side with 550 cord eases the impact, but I haven't found that to be the case. It is a convenient way to store a few feet of 550 cord, but it isn't much of a cheekpad.



And hook it under the bottom of the mount.



You can see the height of the scope above the receiver cover.

Stocks are too short. The average Soviet trooper apparently was quite a shrimp, and the stocks are meant to fit a short person while wearing winter clothing. US-made stocks can be longer, but are not longer unless you ask for one longer. The

RPK stock, with its lower curve meant as a gripping surface, is longer. But getting extra length of pull at the expense of a stock that looks more like a paddle for a canoe isn't a great trade in my book.

And the stocks that come on Saiga imports are just plain weird. Plus, on the 12 gauge Saigas I find that the lower corners are too hard on my hand. Unless I rebuild a Saiga 12 ga (and the 922 compliance dance) I can't shoot it for very long.



One disadvantage to a high-capacity magazine, besides drawing the ire of the DNR, is the inability to go to a low prone.



This Iraqi soldier in Tahrir has an AK with a Polish (or East German) sidefolder on it. Note his finger is straight, and his safety is on. Good habits. *Photo by Air Force Staff Sgt. Stacy L. Pearsall.*



The problem with underfolders is they lock in the folded position. Here an Afghan soldier in Asadabad remains ready. *Photo by Staff Sgt. Joshua Gipe, US Army.*

Of course, you could simply do without a stock, but if you do, make sure your AK is a properly-constructed handgun. (And no vertical foregrip.) Otherwise it may be an unlawfully too-short rifle, and could get you into trouble. Apparently, it is pretty common in Iraq to simply remove the stock, bolt on a sling, and use it as a car gun. Less length to be a bother, and who aims, anyway?

Pistol Grips

As a US-made 922 (r) compliance part, pistol grips are everywhere. The basics are just like the originals in shape. I find them to be quite useful. Some people like the SAW/ M-249 pistol grip shape, but I don't. One advantage of the SAW grip is the storage compartment in the grip; you can stash an oil bottle, cleaning patches, broken-case extractor and other small items there. Unlike other aspects of the AK, the pistol grip is the pistol grip. If you need one, you buy what strikes

your fancy, and it will fit. Within reason. The production variances between models, countries and decades means that sometimes yours will be a tight fit, and sometimes a loose fit.



With a solid wall as cover (at least against some incoming) this Iraqi soldier in Tahrir has his AK at the ready. Note the down-pitch of the underfolder stock. *Photo by Air Force Staff Sgt. Stacy L. Pearsall.*

Handguards

Here, things can get very interesting. In the beginning there was simple, laminated wood. There are subtle differences in shape, conotur, thickness and color between the various country-of-origin AKs, and the purists will go to great lengths to match. Oh, when it comes to 922 (r) compliance, the ATF feels that handguards are a set and count as one part. So, you can't count the upper and lower as two US-made pieces. (If you only change one and not the other, do they "ding" you for being short by half a part? I don't know, and I figure if they get that persnikity, they have something else to charge you with, too.) The Romanian, with its shark's fin foregrip, was for

a long time an exotic. Before the parts kits deluge, you would see them only in books and museums. Now, every other AK has or had it.

The AK-74's shape differs from that of the '47, and while some like to mix 'n' match, I have to side with the purists on this matter; the 7.62X39 rifles should get proper handguards, and so should the 5.45 and 5.56. Now, if you change the handguards entirely, all bets are off.

Replacement handguards can be as simple as plug-in replacements from Tapco, either Galil-type or not. The new ones, US-made, are 922, blah, blah, blah. (How did we end up with this idiotic situation of having to replace perfectly-good parts with US-made ones? Because we let it happen. End of soapbox.) The Tapco ones do not work with the original wood on the gas tube, so you'll have to pry that off. Then you can either use the handguard cap that came with the handguards, or a railed cap to mount a red-dot scope on.



A tactical vest allows you to use a single point sling, attached to the vest, as a means of carry.



This shooter has a sling lashed around the wrist of his stock, which works just fine on an AK.



One advantage of a single point sling is that you can unbuckle it to do left-side drills.

And speaking of railed handguards, you have a plethora of choices, three of which I find quite useful. Again, Tapco leads the way, with a railed handguard that gets the job done and done well. Second is the Surefire, which offers so much rail real estate that you could double the weight of your rifle by bolting things on the free space. Last, but certainly not the least is the Krebs railed handguard. One thing you should be aware of with all railed handguards is that the simplicity of the AK system works against you. You will have to spend some time fussing, fitting and tightening of screws, to get your

railed handguards assembled, in place and tight. That is simply the nature of the beast. They also will get hot. The AK was meant to be used by the masses, and be cheap to make. That means no elaborate handguards, no heat-shield liners, no extra cooling.



Who says synthetic magazines don't work? This experienced operator found them to work just fine in eight days of classes.



Anyone who tells you to get your hand off the magazine, because it might cause a malfunction, is probably wrong

Magazines

Some day, magazine collectors are going to go crazy over AK mags. Not that the variety is great, but that we, in these simpler times, didn't care. Yes, there are differences in the

shapes of the sheet metal of the AK-47 magazines, but I can't be bothered. I'm sure there are collecortrs out there who are already compiling the differences in patterns of the spot-welds between [fill in the blank] and [fill in the blank] magazines. And how that pattern shifted over time, as the factory replaced worn-out welders with new ones. Pardon me, but yawn. Big yawn. The differences are simple: the ones that really curve are 7.62X39, those that don't curve so much are 5.45X39. Some, made for the 5.56 AKs, will have the caliber marked on them. I hope, for if they aren't those magazines will get used in 5.45 rifles with indifferent results, and unsatisfied customers.



Note the lack of a stock, on the right, on the AK used by the first man in on an entry stack.



Some like the SAW grip, I do not. Hey, that's why manufacturers make them all.



The Krebs railed handguard, with an Aimpoint up top.



The Vltor folder, in an fixed-stock receiver.



Practicing entry tactics in Mosul. Note that the first AK has synthetic furniture, while the rest have wood. *Photo by Spc. Christa Martin, US Army.*



Here you see the disadvantage of folding stocks: the thickness when folded.



Grab the M-16 stock, and extend.



The Vltor tube bolts right into the receiver.



The RPK stock is longer but that is one wide chunk of plastic.



Here you see the Saiga as imported.



The Krebs sight rail rides over the receiver cover.



The curved magazines are 7.62. I have no problem with synthetics, but I test all my magazines. You should too.



As a quick way of carrying magazines the Warsaw Pact mag bag works well.



The less-curved magazines are 5.45. The left one is a 30, the right is an RPK-74 with 45 rounds of 5.45.

AK-47 Mags

Capacities for the 7.62 rifles range from five shots, to 10, 20 and 30, with some 40-round ones being reported but not very common at all. Also, there are 10-shot single-stack magazines. Made to satisfy import requirements, they are thinner, and the rounds do not feed from alternating side of the feed lips. Unless you live in some rational-thought-forsaken place like the Socialist Workers Paradise of New Jersey, you need not concern yourself to much with the single-stacks, as no one wants them and everyone ditches them as soon as they can rebuild their rifles.

The fives are for hunting, the 10s and 20s relatively rare, and by far the commonest are the 30-rounders.

The imported ones will most likely be steel, although there are some Bakelite ones floating around. (Collector's stuff, they don't work any better or worse than steel ones.) The all-synthetic ones are US-made, and if you're interested, they count as three 922 parts: tube, baseplate and follower. However, if you build or re-build a rifle, counting on the three US-made magazine parts as your compliance parts total, you cannot put an imported magazine into your rifle; to do so would make it non-922 compliant.

The US-made synthetics have gotten a bit of a rap for not being reliable, but I figure that's part of the learning curve. And an AK mag is so utterly reliable that anything, even big rocks, would suffer by comparison. I have found the current magazines to be quite reliable. In some of my rifles some of the magazines are a bit cranky, but hey, we're talking one-off

hand-made rifles, from commie parts kits here. You'd expect a bit of grumpiness now and then, right?

AK-74 Mags

The 5.45 mags offer differences that are more- easily seen. First of all, while there are some Bakelite ones, most are synthetic. Bakelite was among the first plastics developed, and it has a number of advantages: it is incredibly cheap to make, it is temperature stable, and it is non-conductive. But it isn't as easy to mold Bakelite as the later synthetics, so yours are probably the red, brown, plum or black synthetic. Those are the colors of the polymer. Do colors matter? To the purists, yes. If they've gone to the trouble of making an AK-74 as period-correct as possible, they aren't going to want to stick a grubby Bulgarian magazine in their Russian clone '74. They'll search for the right color and the right mould marks. One advantage polymer-made parts have over other materials is that the mould can be cut to produce a raised mark when the part is molded.

So you'll see things like the Russian Molot star, the Tula arrow, or in the case of those "awful" Bulgarian magazines, a 10 or 25 in a circle or circles. (There's nothing wrong with Bulgarian magazines, despite the purists' aversion to using them in a Russian clone '74.)



The mould mark indicates it is a Molot magazine, from Russia.



Here we have a mould mark, “18” and an ink-stamped acceptance mark.



Mould number 44.

The AK-74 magazines come in 20 (rare), 30 and 45 (less-rare) capacities.

The AK-74 also has an advantage over the ’47, and that is stripper clips. The Warsaw Pact stripper clips differ from US-made ones in several respects. First of all, they are not designed or fabricated as disposable items. They are sturdily-made and can be used over and over again. They hold 15 rounds, and they are directional. That is, rounds go on, and come off of, the clip on one end only. The clip has a latch that is not easy to override with the cartridge rim. You have to hold the latch open as you insert rounds. The AK-47 did not have any provision on its magazines for stripper clips. The AK-74 magazines do. On the top rear are two machined slots that the guide fits into. Then the strippers are placed in the guide, and

the rounds stripped off to load the magazine. Curiously, while you can buy stripper clips for your AR-15, almost by weight, buying AK-74 stripper clips isn't so easy. You have to hunt for them. But if you want lots of ammo ready to go, and quickly loaded into magazines, nothing beats stripper clips.



The arrow in triangle of Tula, Russia.



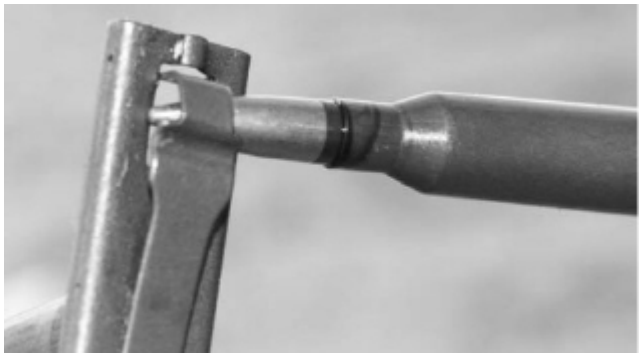
Here is an AK-74 stripper, showing the locking latch on the back side.



You have to push the latch open to get rounds into the stripper.



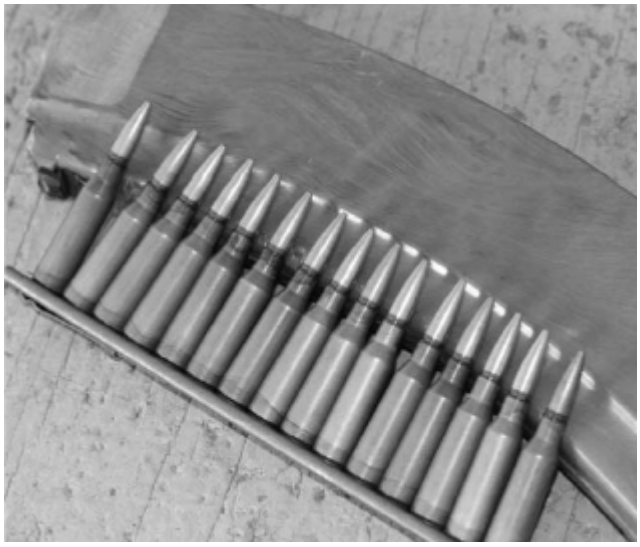
Once in, each keeps the latch open.



You can lock it open with a bullet tip.



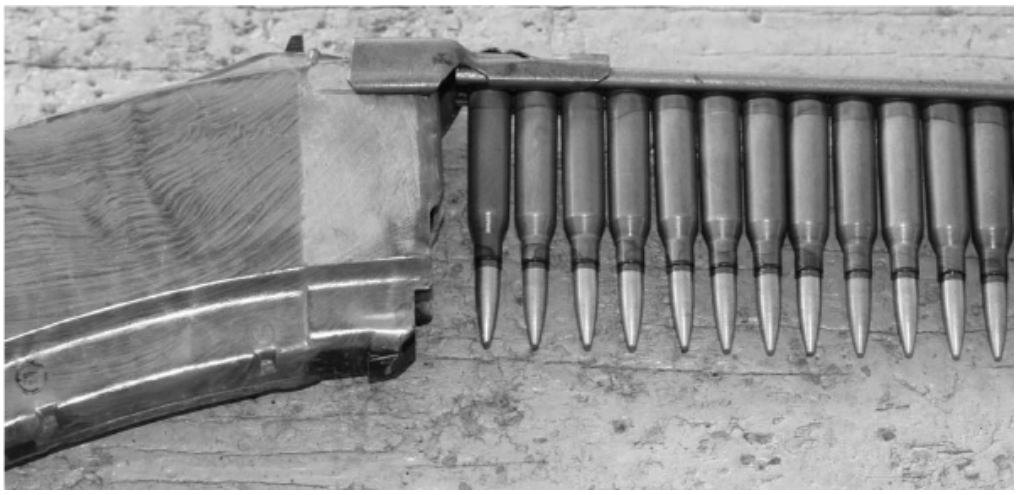
As you push each on, it keeps the latch unlocked if you do it right.



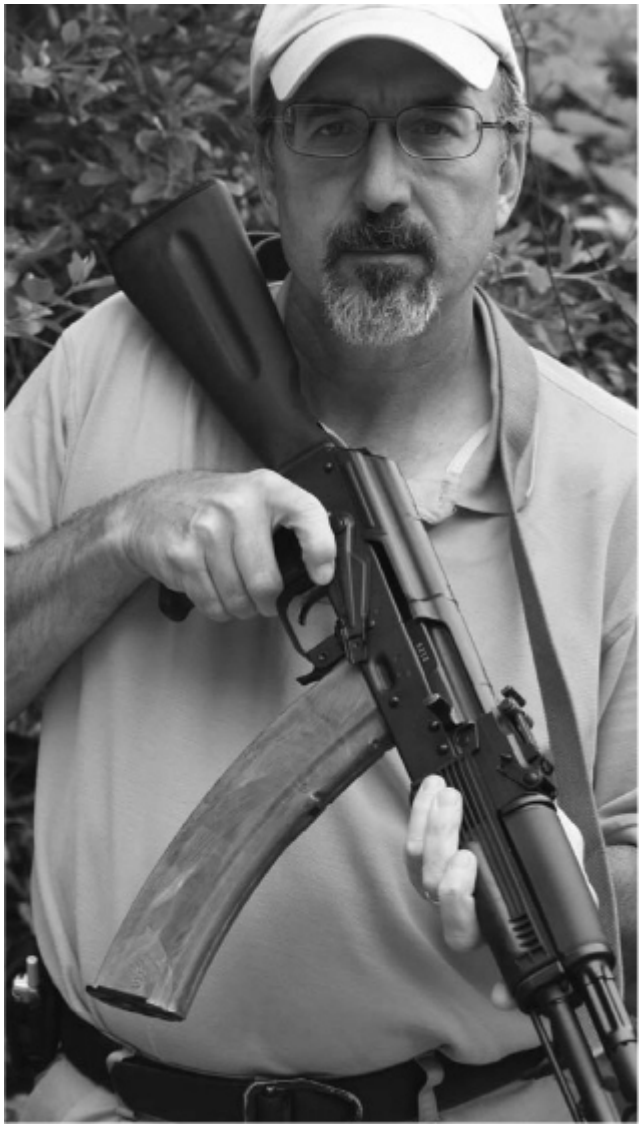
Fifteen rounds of 5.45, ready to go into the magazine.



Here you see the guide, in the slots machined into the magazine for it.



With the stripper in the guide, run the rounds into the magazine and then insert the magazine in the rifle.



Three strippers load up this RPK-74 magazine for some run ‘n’ gun fun.



Magazines come from 5 to 40, in 7.62. Here are a 10, 20 and 30.

Slings

Sling-mania hasn't hit the AK market like it has the AR market. You can buy a mile of strapping for your AR, and not buy the same sling twice. On the AK, you put a simple sling on it, or a sling attached at the wrist, and you are pretty much done. I've seen photographs of Iraqis with a length of 550 cord on their AK as a sling. Ouch. I've tried that, and unless you are wearing a tactical vest, or something else that spreads the load, pretty soon your shoulder feels like someone is trying to saw it off. The standard sling works, as does the "Nedster" field expedient. Take your regular stock, and lash a couple of wrappings of 550 cord around the stock, using the rear sling swivel as an anchor. (Obviously of you have a Tapco stock with a side-mount sling swivel, you won't have to do this.) Tie them off tight. You now have a rear anchor for your side-mount sling, using the front loop on the gas block as the front anchor. Now, you can attach anything there, from a length of nylon strapping to a full-blown tactical sling, and not have it get in the way.



Note the sling location on this Iraqi's AK: on the rear of the receiver. *DoD photo by Cpl. Brian M. Henner, U.S. Marine Corps.*



Taking a break, this Iraqi soldier is doing it right: muzzle down, safety on, finger off the trigger. Note his 7.62 milled-receiver AK has an AK-74 handguard. Purists cringe. *DoD photo by Sgt. Tierney Nowland, U.S. Army.*



Romanian and Bulgarian troops, in a combined training exercise with the US Army, use an armored vehicle as cover before the next move. Note the Polish/east German pattern sidefolder. *Photo by Spc. Tanya Polk, US Army.*



Here, Iraqi troops get another reminder of muzzle discipline before doing a shoot house exercise. Note the rope sling on our middle trooper. That's got to get uncomfortable. *DoD photo by Tech. Sgt. Andy Dunaway, U.S. Air Force.*

Scope Mounts

The standard Soviet scope mount is interesting, a mechanical curiosity, and almost useless as a mount. The problem is, if you make the mount (between the base on the

receiver, and the scope up top) high enough that you can take the top cover off for cleaning, then the scope is too high. You have no cheekrest, and can't aim well. If you make it as low as possible, to have any hope of a proper cheekweld, you can't ge the cover off. Any cleaning requires removing the scope, and thus re-zeroing it afterwards. One way out of the problem is using the handguards, and mounting a red-dot scope forward. The other is the Krebs top rail that goes over the receiver cover. It, however, has the same problem, in that it is high, and you had thus better be using a red-dot scope. Red-dot scopes are very forgiving of parallax error.



Checking serial numbers on uncovered AKs. Note the lack of a stock. *Photo by Air Force Master Sgt. Jonathan Doti.*

Replacement Triggers

Since you have to replace parts, and hammers and triggers are relatively easy to make, many AK shooters use US-made

hammers, triggers and disconnectors as their 922 parts. One big advantage you gain, at least with Tapco parts, is that you get rid of the annoying "trigger slap" that some AKs are prone to. When the hammer re-sets, driven back by the carrier, it has to push the second hook out of the way to get underneath it. When it does that, the tail of the disconnector gets in the way. The result is that your trigger finger is rudely pushed forward by the trigger, impacted by the disconnector, and your finger soon tires of the game. On full-auto AKs, the slap isn't there because the extra fire control parts change the dynamics of the system. Lacking the select-fire option, the semi-auto AK has the disconnector getting involved in ways it should not. The Tapco (and other brands, too) disconnector lacks the rearwards tail that creates the trigger-slap problem.



A DoD police officer teaches an Iraqi police officer low ready and marksmanship. *DoD photo by Sgt. 1st Class Michael Guillory, U.S. Army.*



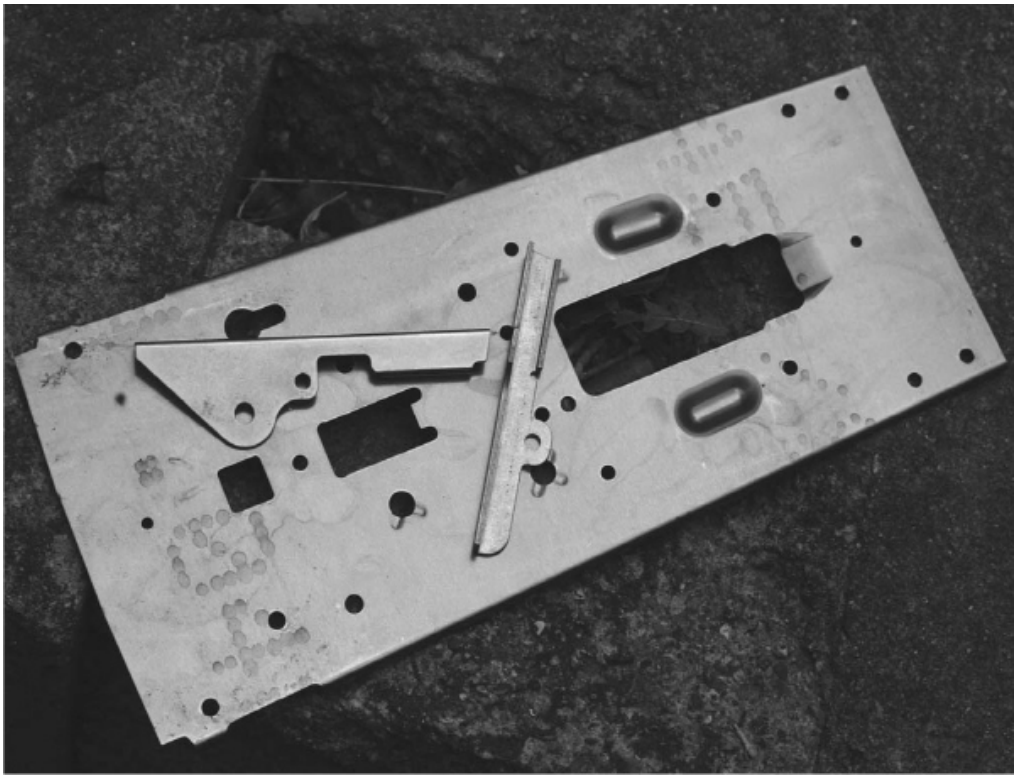
On patrol, note that both have radios, and the Iraqi soldier has a wire-stock sidefolder. *DoD photo by Cpl. Brian M. Henner, U.S. Marine Corps.*

You get US parts, a better trigger pull, and no slap besides. What's not to like?

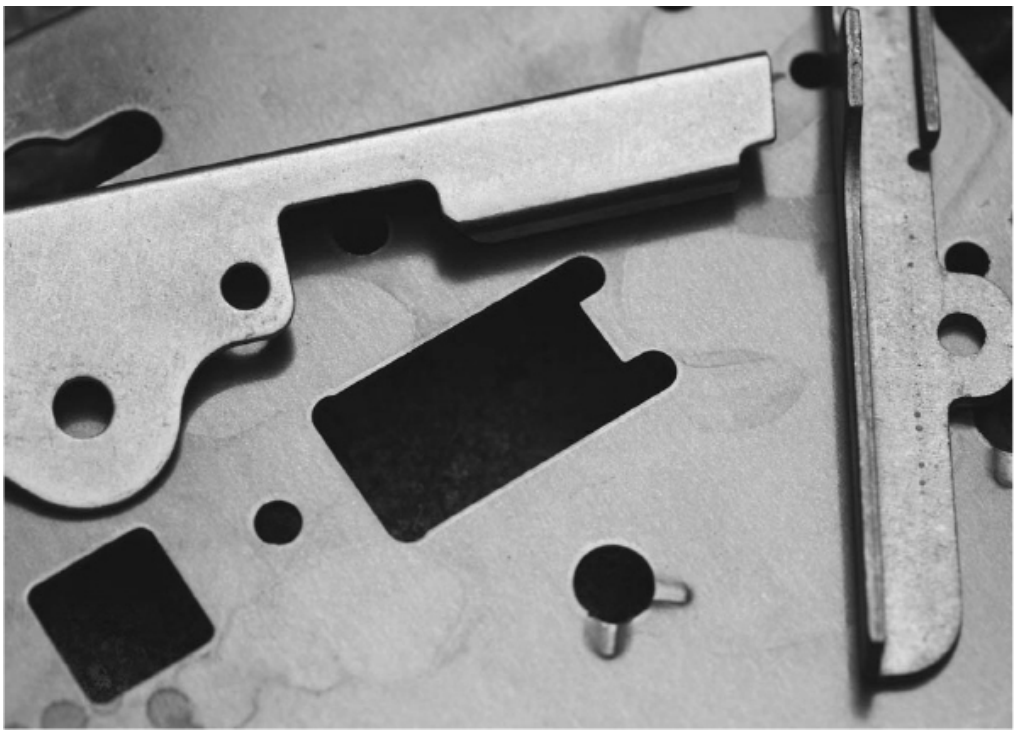
Chapter 6

Building an AK

The first thing you have to know, which I have mentioned before, is that the AK receiver is not a blank slate. If you are assembling an AR-15 from a bare receiver, you can make it into just about anything you want. Short, handy M4 clone, or full-size-plus High Power Space Gun, you can build them both on the same receiver. You can build one, then take it apart, and then build the other, if you want. You can select from a host of calibers (but not go up from the .223 to .308, alas) and not have to do anything but pick up a “plain, standard, AR lower” from your local FFL.



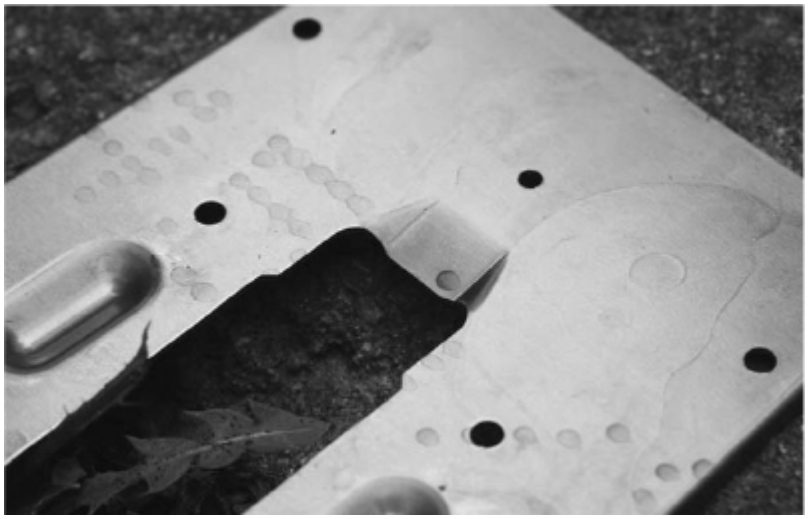
Your flat comes caliber-specific. It should also come with the particular holes you'll need for your stock type; fixed or folding.



The rails are not only caliber-specific, but you'll have to attach them in the correct locations, or forever have a cranky AK.

Not so the AK. There is no such thing as a “plain, standard AK receiver” extant. If you are planning a build, you have to plan ahead, for there are a number of things you have to account for. If you buy a kit, your kits will have everything you need, save perhaps the barrel. The kit will determine what you can build.

First, caliber. The receivers will differ between the 7.62X39 and 5.45X39 variants. The ejector is the main difference between calibers, but not the only one. The magazine well opening is also different. Is your kit (or the replacement parts you plan to use) a single-hook or double-hook semi-auto trigger kit? You’ve got to know, or you’ll be doing extra cutting and fitting. You have to use the stock that comes in the kit, unless you plan to build using a different stock that you purchased, which also means a different rear trunnion. And you have to pick one style before ordering a receiver, and order it accordingly. A fixed-stock receiver can have several different tang configurations, and all the folding stock variants differ as well. A Chinese underfolder, a Polish underfolder and a Yugo underfolder look similar, but they won’t fit a receiver except the ones specifically made for them. Then there are the sidefolder variants. Luckily, the front end is the front end. More or less.

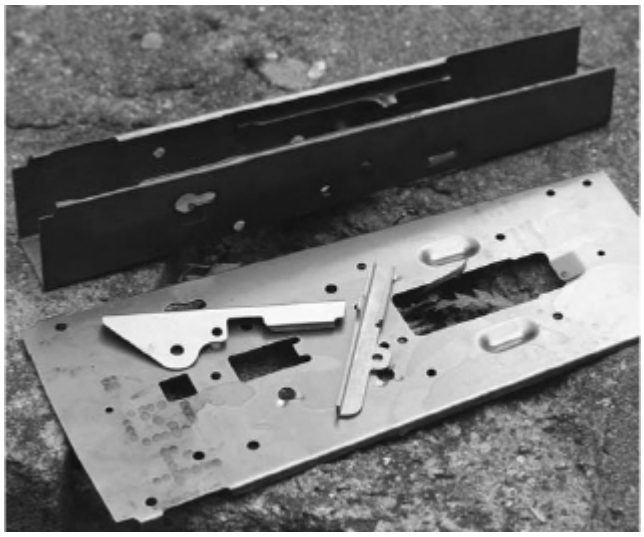


Note the front of the mag well. It is angled for a reason, and it's why you buy a flat pre-cut.

If you are buying a flat, you have to make sure your flat is specific both to caliber and stock configuration; a bent tube, ditto. The easiest way to get it all right is to simply contact NodakSpud with the particulars of your parts kit ("Polish Underfolder" "Tantal in 5.56" or "Fixed-stock Romanian" for instance) and have them ship the correct lower to your FFL for your pickup.



The dimples on the flat (some flats come sans dimples) are magazine locators. They keep the magazine from wobbling in the receiver. You want dimples, or inside rails, to stabilize the magazine.



From flat to receiver. As soon as it begins bending, your flat is now a firearm. Do it right, and do it legally.

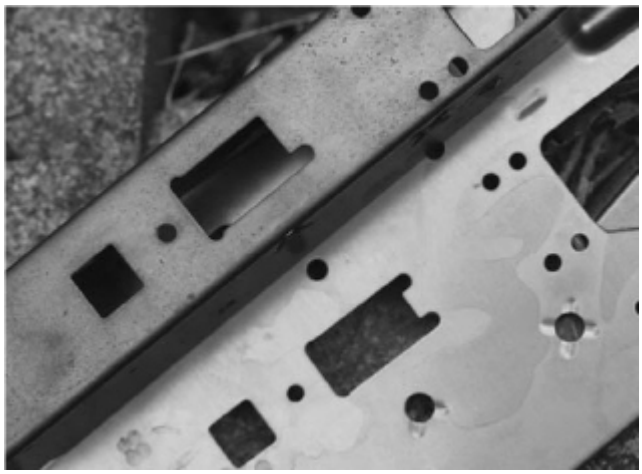


Note the bent flat lacks trunnion holes, while the unbent one has them. Having trunnion holes already drilled is a gamble: if yours don't line up, you have some work to do to make them right.

If you plan to build from a flat or tube, you'd better know exactly what you have, or you may be the proud owner of a bent and built lower, looking for a particular parts kit to fit it.

Do your homework, and shop carefully, before you log onot a secure page to order a parts kit. Some things to be

aware of are the key words you'll see there:



Single-hook or double-hook? If your trigger parts are double, but your flat is single, you have to cut. If the opposite, you have to fill, or leave a gap.

All-Matching

This means all the parts in your kit came from the same rifle, and were kept together when stuffed into the plastic bag. This is a good thing, as the barrel and bolt will be correctly headspaced (at least within commie specs) and the parts all came from a working rifle.

Matching

Generally, this means the barrel, bolt and trunnion are all matching, and the rest are what was handy. If so, then headspace will be fine, and since you're doing the hand work to make all the rest fit anyway, it is no big deal.

Non-Matching

Look out. This could mean anything from the wood is non-spec to every single part came from the spare-parts bins, bins filled from scrapped-out rifles, so your rifle will need a whole lot of work to make it right.

Virgin Parts

Never a rifle, this is “one each of all the parts needed to make a rifle.” No two of them may have even met before they were scooped into the box and shipped overseas. These kits are definitely for the experienced builder only.

All NFA Rules Apply

Code for “You’d better apply for an SBR on a Form 1 before you start building.” Krink kits, and kits that commonly come with barrels too short such as some Hungarian models, will be in this category.

New

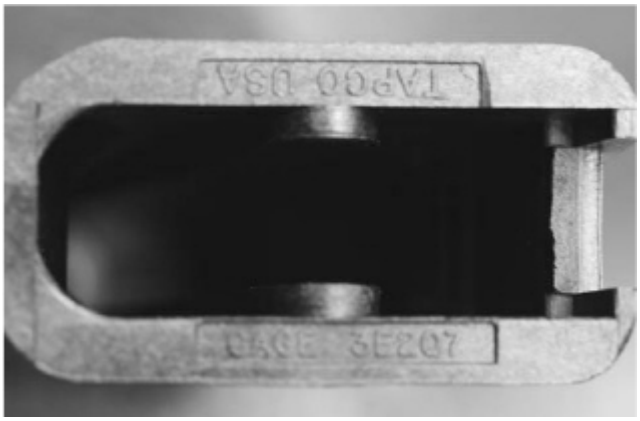
A rifle that was made, then scrapped as a parts kit, without ever leaving the rack or being issued or fired.

Like-New

Issued, but not fired, or fired so little as to not make any difference.



US parts: you need them, so get them. This Tapco slant brake counts towards your 922 (r) compliance.



Here you see the US-made markings that prove you're 922 compliant.

Good Bore

The kit may be rough, but someone took the time to look down the bores and set aside the rifles that had unpitted bores and strong rifling.

Building It

As with anything, the better the condition, the better the prospects of making a good rifle – and also the more you can expect to pay for the kit. I bought some AK-74 folder kits, like-new Bulgarian, when the parts kits were still commonly found. They cost me $249 each. Before they dried up, those same kits were going for $499. I bought Romanian kits at $79 for used, good bore and $99 for like-new. Before they dried up they went up to $249 and $299 respectively.

Parts kits are still out there to be found; you just won't find a guy at the local gun show with a pallet of them, selling dirt-cheap. Be aware of condition, as it makes a difference in the end result and the work it takes to get there.



Your fire control parts count as three parts.

We are not going to go through a blow-by-blow description of all the gory details of building an AK. To do so would require a book as big as this, not just a chapter. What I will be covering are the details you'll need to know to intelligently shop for parts, seek out builders, or undertake the process of learning to build an AK yourself. The details of building vary from caliber to model to country of origin.

You also need a bench full of tools to build an AK. If you think "Hey, I'll buy a parts kit, a flat, and the tools, and I'll make my own inexpensive AK," you're going to be disappointed. By the time you buy the receiver fixture, bucking bar and anvil, barrel press and rivet punch, you've eaten up any savings from buying a ready-to-go AK. And then there is the multi-ton press. You can get all the tools except the multi-ton press from AGI, American Gunsmithing Institute.

They also have instructions on how to do the work. The multi-ton press commonly comes from Harbor Freight.



The pistol grip counts, too. So get the US-made one that feels comfortable and looks correct. (If that matters.)

Rivets or screws? Put me solidly down in the rivet camp. If they were good enough for Comrade Kalashnikov… .



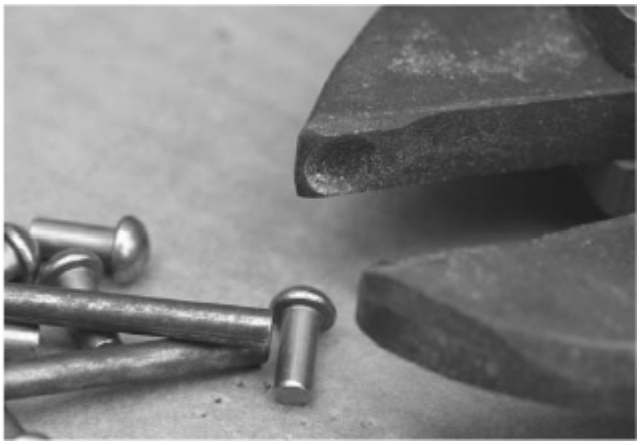
Getting Your Kit Apart

The parts will be in a plastic bag or paper-wrapped in cardboard. They'll be encased in cosmoline. Pull the parts out

and make sure they are all there. I had one parts kit arrive with two complete full-auto hammer/trigger assemblies. When I saw that, I immediately thought of the scene from the Jack Webb movie *The D.I.*: “Maybe in the Russian Navy they have rifles with two operating rods, two trigger assemblies and two bolts, but in the United States Marine Corps we only have one each.” I guess someone out there got the next box in line, which had no hammer/trigger parts. Since we’re changing those parts anyway, it didn’t matter. But lacking another part might mean you’ll have to either complain to the seller for redress or buy the missing gizmo. Take off the handguards and stock. Typically, the trigger guard is free at its front end, where they torched the receiver away, and if you aren’t careful you can bend the triggerguard. If bent too much, it won’t straighten properly, and you’ll have to buy another one. Or you can just put up with a fugly triggerguard. You’ll have to grind off the rivet heads on the sheet metal that remains from the receiver. Then grab the sheet metal edges with a big pair of channelocks, and pry it away.



A modified bolt-cutter works quite well as a rivet-setter.



Here you see the modified faces of the cutter jaws, made to be rivet-setter jaws.



You need a slew of rivets, of different sizes, and you need a tube. That tube is the center support.

Here you see the rivet setter in place, on the lower rear river of the front trunnion.

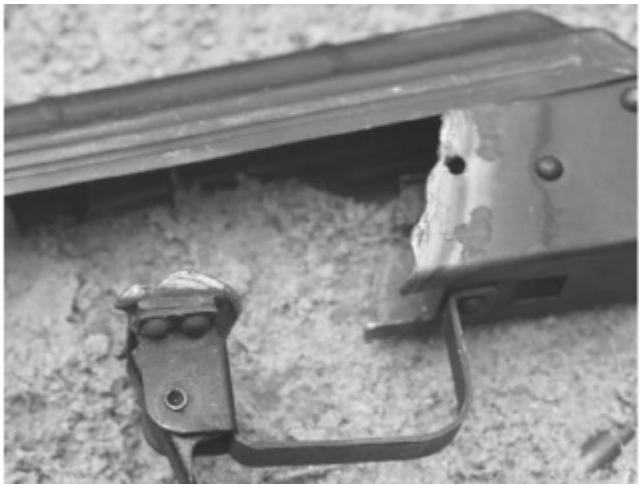


The trunnions will still have the rivet stubs in them. On the rear, you drill (carefully) the stubs out until you can drive them out with a punch and hammer. The trunnions are hardened, so you may bust a few drills getting a feel for the technique. From the inside, grind off the rivets for the triggerguard, front and rear. Again, don't bend it.

Once the old sheet metal is pried off and the rivets gone, you use the multi-ton press to push the barrel crosspin out. It is in there to stay, so getting it out may take more than a little work. (You can do it before you remove the sheet metal, it doesn't really matter.) Once it is out, you use the barrel press to remove the barrel from the front trunnion. Then you can get the last of the front rivets out.

Trigger guards on parts kits can easily be damaged. Take care in opening the package.

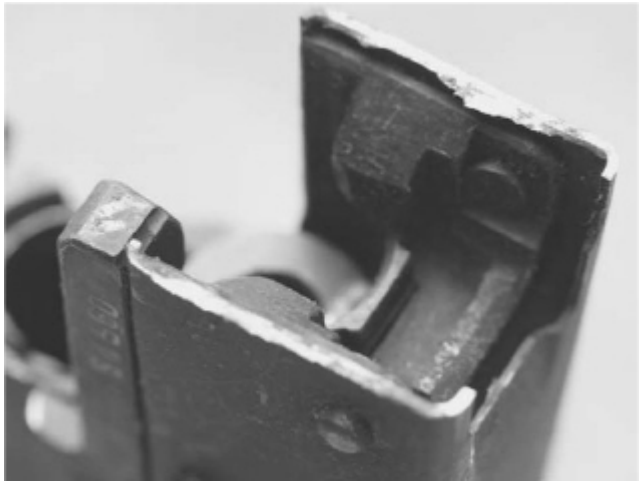




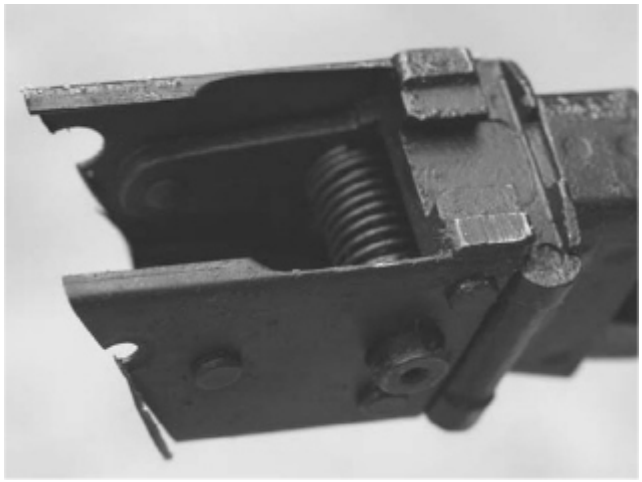
Knock the rust off after you've removed the trigger guard. And all other parts, too.



There's a front trunnion with barrel in there. Your job is to get the sheet metal off.



It must have taken a bit of skill to lop off the receiver right behind the trunnion and not touch the important parts. I guess the rust is a bonus.



It is important to delicately pry the sheet metal off this trunnion, if you expect to have a working sidefolder when you're done.

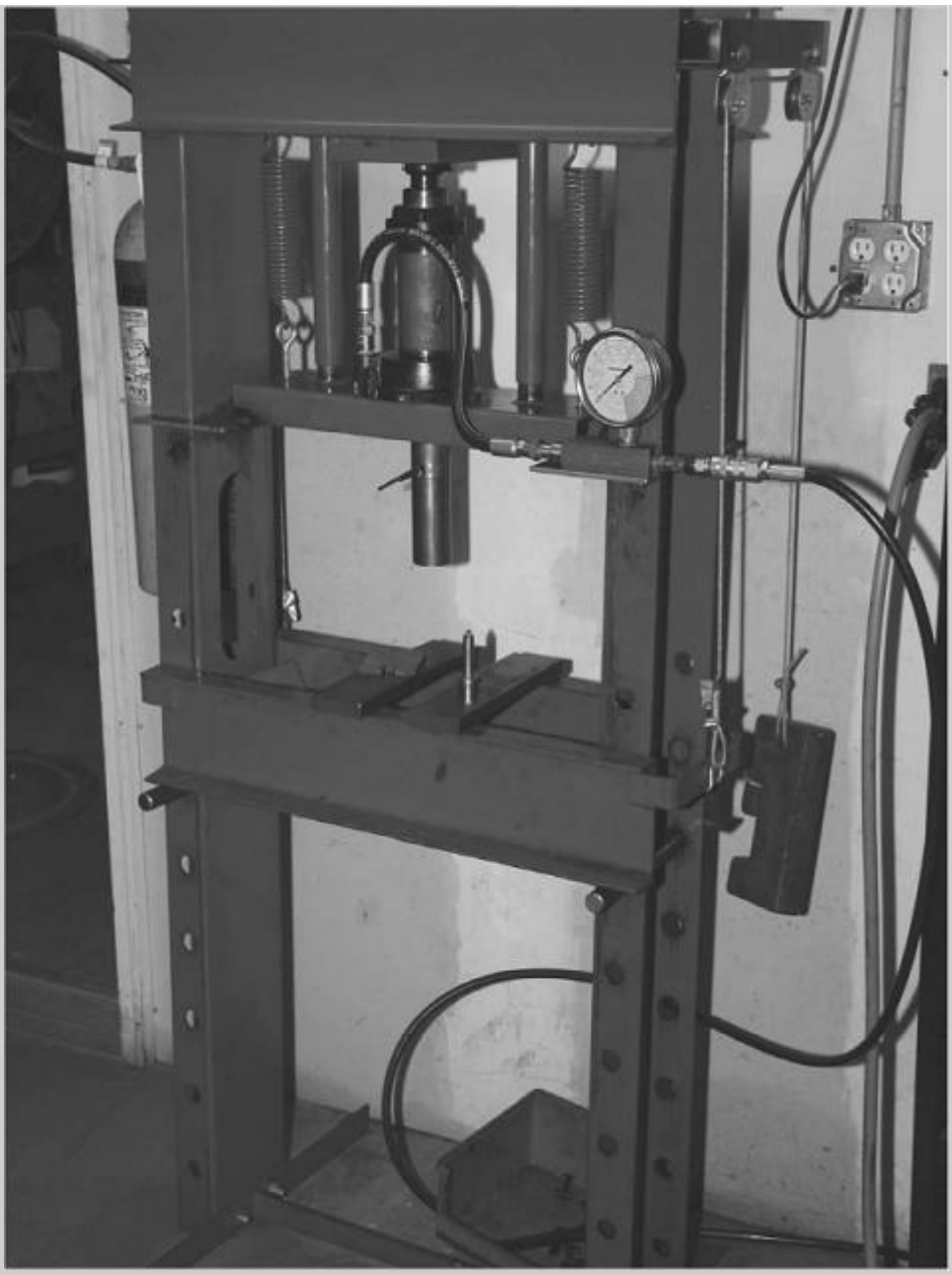
They used a bandsaw on this AK-74, and included two complete FA fire control units.



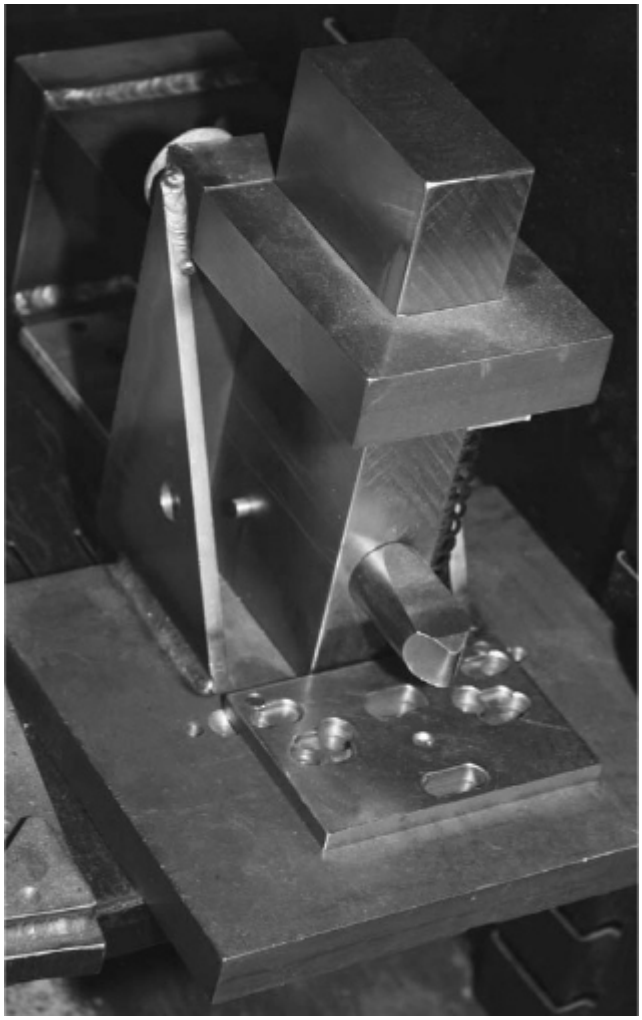
Lower Receiver Builds

The Federal regulations concerning firearms are at times maddening, and at times quite rational. Occasionally they are both at the same time. One of the rational sections concerns unfinished receivers. Basically, it is the “80% rule” in that any receiver that has less than 80% of the work done to make it complete is not yet a firearm. And a good thing, too. If not for that, any section of pipe close enough in diameter could be construed as a future Sten gun, or who-knows-what. Exactly how the less-than-80%-work-done determination is made is not something I know, I’d guess that if you wanted to market “79% receivers” you’d submit a sample to the ATF along with the workflow charts showing how much you did and how much remained. (Quick bit of advice: I’m not an attorney, nor do I play one on TV. But I’d certainly want to be doing this as someone who was incorporated and had a firearms manufacturer’s license already. Otherwise, you might be in

trouble, sending an 81% receiver in for inspection, lacking a manufacturer's license. But that's just me.)



To bend flats you need a multi-ton press, like this 30-ton model.



To set the rivets on the trigger assembly all at once, you need a fixture like this. Or this very one.

As a result of the differing approaches to the “less than 80%” threshold, you are faced with two different types of partially-made receivers: flats and tubes.

Flats are just that, flat sections of sheet metal, with all the holes, magazine slot, etc., already drilled/cut. It is up to you to fold the flat into a channel and get all the holes to line up. Now, “just bending it” is more involved than hammering it over the edge of your workbench. And it is also the step that takes you past the 80% threshold. As soon as you bend it, it is a firearm, and you’d better be sure it conforms to the laws of your state as well as Federal regulations and statutes. A quick

heads-up: just because you are making the receiver from a flat does not exclude the assembled rifle from the requirement to be 922 (r) compliant. To bend a flat you need a forming die, which is a big chunk of steel shaped like the interior of a receiver, plus a multi-ton press big enough to bend the steel. As in: bigger is better. Ten tons? Barely. Twenty is better, and more is good.

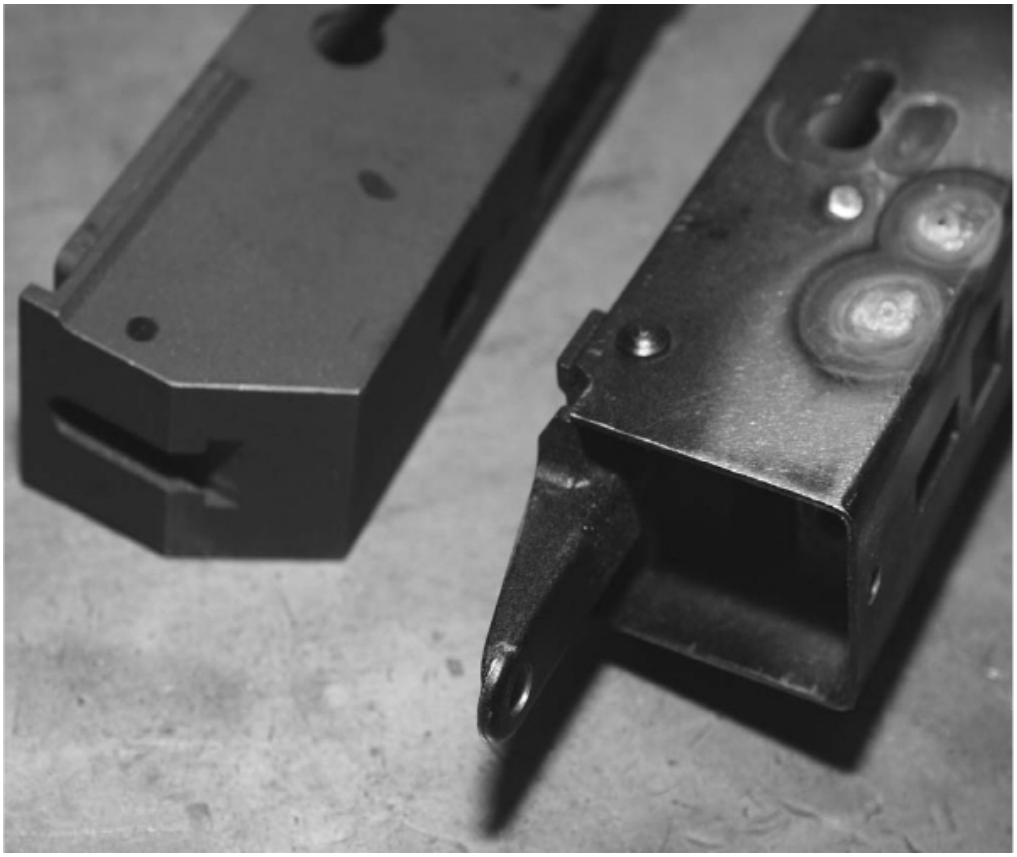
Making yours from an un-marked flat or tube is allowed, quoting from the ATF: “per provisions of the Gun Control Act (GCA) of 1968, 18U.S.C. Chapter 44, an unlicensed individual may make a ‘firearm’ as defined in the GCA for his own personal use, but not for sale or distribution.”

Tubes are pre-bent flats. How can someone sell you a pre-bent flat and not exceed the 80% rule? They don’t drill the holes. The process is simple: you acquire the tube, and then paste or tape the provided drilling diagram to the tube and drill the holes in the right places. You don’t need a multi-ton press, just a drill press and a selection of the correct-sized drills. However, if you aren’t very careful you will drill the holes lightly out of alignment, and that is a bad thing. I could point out at this stage that the absolute best tool for drilling holes and cutting the magazine well opening in a receiver tube is a milling machine. However, for the cost of a mill you could buy a footlocker full of ready-to-go receivers. If, however, you have access to one, then by all means, use the right tool. Just remember you have to work the controls. Having your buddy the machinist do the cutting just means he has made his own AK receiver.

In both methods you have to weld the interior rails in place. The rails are the guide rails and ejector for the bolt, and

some rails also provide fillers for the magazine guides. If you are using an industrial welder, four or five spot-welds will do. If you are using a bargain (let's just call it "cheap") benchtop spot-welder you'd be wise to do six or seven welds. The correct AK receiver has two dimples stamped in place, acting as magazine guides. You can get the tools to stamp the dimples, or you can weld the rails with guides in instead. They both work to keep the magazine under control, but those shooters wanting a correct-appearing AK will opt for the dimples.

On both builds you will have to then hand-fit the forward and rear lengths and rivet holes for the kit you have. Again, there is no "plain, standard AK" lower in this regard. As the factory intended the front and rear trunnions (the steel blocks the barrel and stock go into) to be permanent installations, there was no incentive to make the rivet holes at all standard. If you had parallel assembly lines of AKs in the same factory, I'd bet the rivet holes would not line up on rifles from each line, even on rifles made on the same day. As for rifles made in different decades, in different countries, get real. (I'm sure someone will come to the defense of Soviet manufacturing standards and assert that all rifles were made to the highest level of precision. Ask him if he is driving a Lada, Yugo or Zil.) AKs were made as well as they had to be made and were almost considered disposable items. The rivet hole locations are hand-locate-and-drill items. If already created, you can bet that if you build enough AKs you'll find you'll have to adjust the hole locations on some of them.

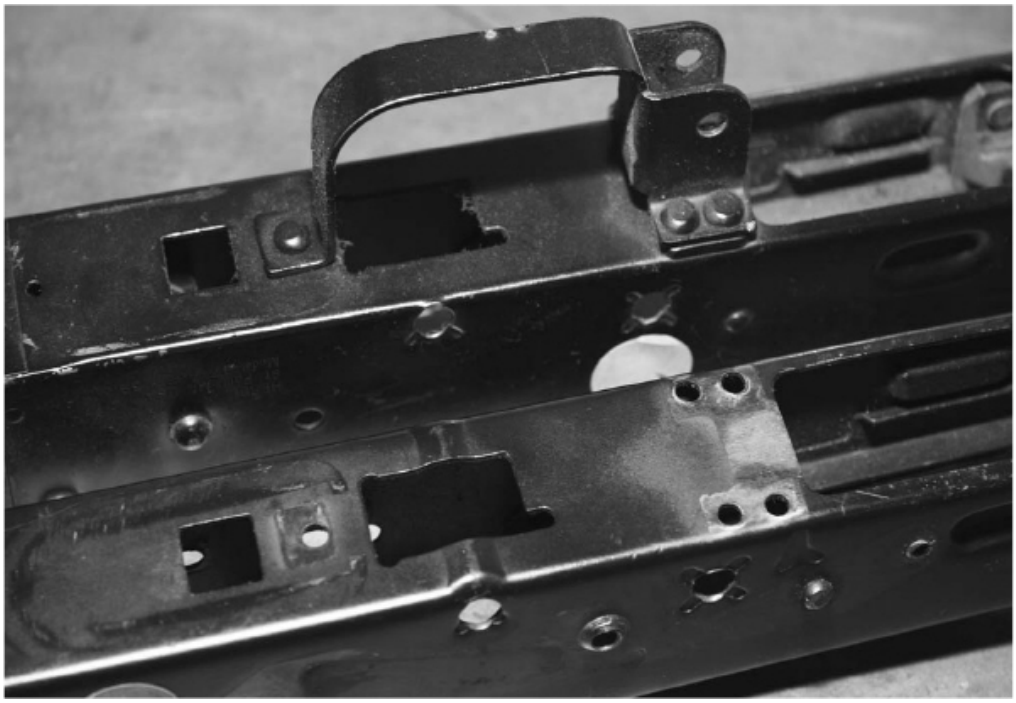


Your receiver dictates what kind of stock you put on it. Ditto the parts kit.

The ejector has to be heat-treated before you weld it into place. That means a propane torch and a bucket of water or oil. The rails have to be welded in place. For that, you need positioning rods or fixtures. The easiest way to properly locate the rails is by using drills as spacers. The rails are usually spot-welded in place. However, if you lack that you can drill and rivet them in (you'll need more than the usual number of rivets) or even use machine screws and solder. (Although I have to confess, even thinking of that last part makes me just a bit ill.) My welder took one look at the process and felt that "plug" welds would work too. That's where you drill through the receiver wall, and then weld through the hole to attach the rails, plugging the hole with weld as you finish. That sort of welding is a bit delicate, and not something I'd turn over to a welder who attaches tow loops to Mack trucks for a living.

However, you need a welder, or knowledge of welding and the gear, to do any of this.

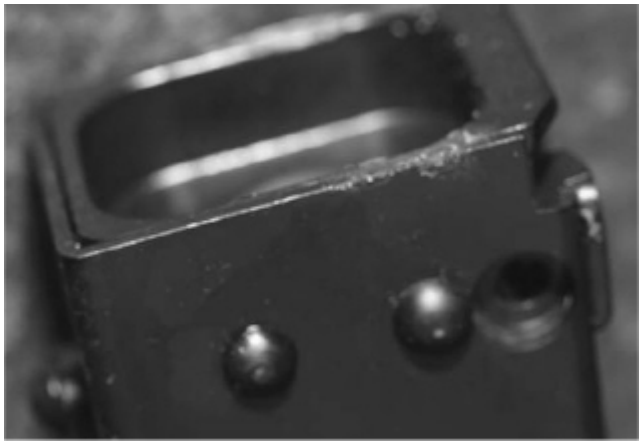
Next, you have to spot heat-treat the receiver. You can't just heat-treat the whole thing because it isn't the correct alloy. Most manufacturer-made receivers, such as NoDak Spud, use a 4100-series alloy. They can heat-treat the whole thing. They also have the ovens, experience, and tempering fluids to do it correctly and not warp the receiver. Your flat, or tube, is a 1000-series alloy and cannot be so heat-treated. You have to spot-treat it. This involves using a propane torch to heat each hole to the correct temperature, and then plunging it into water or oil. (Each requires a different temperature in order to work properly.) If you do not heat-treat your receiver the hammer and trigger pin holes will be too soft, wear with use, and your rifle will become unsafe to shoot. (Too hard, or too hard over a too-large area, and the receiver will crack.) A receiver that lacks heat-treatment will not last long, something I'm sure the Soviets found out pre-1947.



The proper fixture, and a press, lets you set all five trigger guard rivets at once.

You can, if you want, check the fit of the carrier to the rails. However, the trunnion fitting, and the center support post and rivet, are likely to "tweak" the receiver rail alignment just a bit, and what was fit and a free-running ride before binds just a bit after later assembly work. So while it is fun to check, you really need to save that work for later.

You now have to fit the trunnions and seat the rivets. The 17 rivets that go into an AK are not all the same. Sort them out, and keep like with like. Then, make sure the trunnions fit properly before you try and do any riveting. If you need to, file or dremel the top rails so the trunnion fits snugly, and the rails don't sway the receiver out. A few minutes spent getting things right here, will save you headaches to come. Make sure the rivet holes line up. You can even hand-seat rivets and hold things in place while you check the fit. If you find that you have to do some filing, then go slowly. The ideal tool for riveting is the multi-ton press you used to fold the flat with. However, if you used a tube, or folded your flat on someone else's machine (you did pull the handle yourself, right?) then you may not have access to the press. Then, you use a modified bolt-cutter. A 12-ton press costs you $120 or so. A 20-ton press runs $200. But you also have to find a place to keep them. It isn't like you can shove them into a closet when you need the floor space, because they are heavy, need a concrete floor, and they are not on wheels. A modified bolt-cutter runs $80, and you can hang it on the wall next to the weedwhacker. It sets rivets just fine.



With the holes correctly located, rivets go in easy, and set hard and tight.

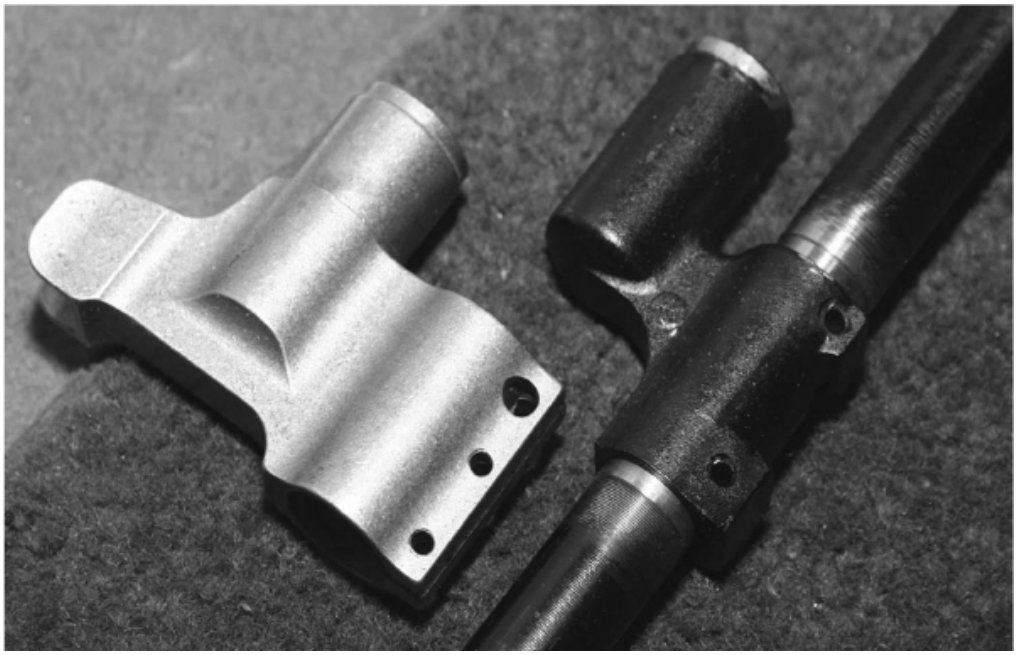
The question comes up of using screws or "u-drives" (a self-tapping sort of "fastener") instead of rivets. All the professional builders I've talked to grimace when they hear mention of screws as a means of AK assembly. Why? Screws come loose. No gunsmith I know of is ever enthusiastic about screws on a firearm of any kind, let alone those that hold it together. Yes, you can degrease and apply Loctite, but screws still can come loose. Firearms vibrate a great deal when fired, and screws come loose when vibrated. There's also the matter of the alleged time and cost savings. You have to buy screws, which cost pretty much the same as rivets (a couple of bucks, big deal) and the tools with which to install them. You'll have to drill the trunnions holes out, from their metric size to the 10-24 or whatever thread pitch you've decided on. You need taps, and as the trunnions are hardened, you'll probably break a tap now and then. They also get dull. So, if you build one and only one AK, you might save a few bucks. If you build more, you'll probably not save any at all. U-drives are worse, and I would not shoot one so built. (And I'm sure there will be a bunch of readers who own screw-built or U-drive built AKs at this point who will exclaim: "Mine works fine." Good luck with that. I'm still not shooting it.)



Once you've pried the front trunnion out, you have to make sure your new receiver channel fits it properly. If you don't, things won't go well after that.



A good-fitting channel, and well-set rivets look like this. (It's Russian, so you'd expect it to be right.)



One drawback of a “virgin” kit is that the barrel is not going to have things like the gas block already fitted. That means more work, and more places things can go wrong.

One last assembly method you could, theoretically, use is welding. The trunnions could be welded to the receiver, but why? You need not only as much or more equipment then with using a press or modified bolt-cutters, but you need the skill to use the welding gear, too.



Bullet guides (feed ramps to some) are caliber-specific. If your kit needs one, get the right one, not just the cheapest one.

Just get the proper rivets, a tool or the time on a press, and do it right.

You'll also want to install the center support. That is a sleeve and long rivet that goes in the middle of the receiver. It supports the long, empty channel that the receiver is, and keeps it from twisting or being dented in the middle. (I wonder if the very first pre-production and early production AKs had the center support? If so, I wonder if Mikhail thought of it, or did field-testing made it obvious?)



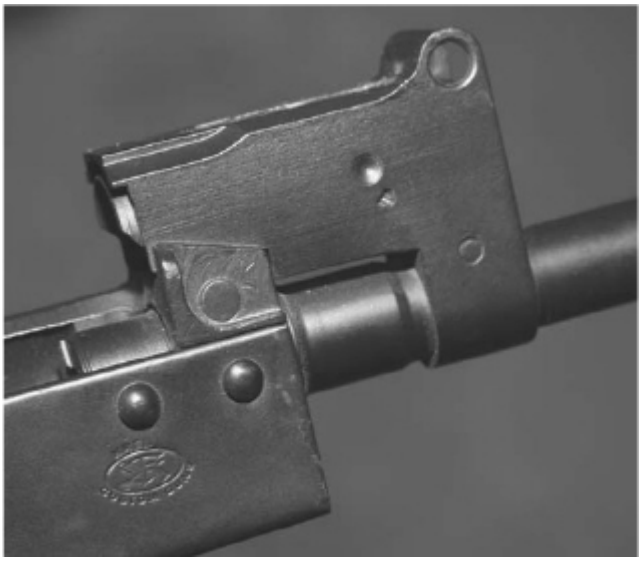
If you want to have a scope mount, that means more rivets or welding.

The trigger guard and mag catch assembly are next. You'll need a backing plate or bucking bar and anvil to set these rivets. The backing plate lets you squeeze or hammer the rivets one at a time. The bucking bar and plate let you seat them all at once, using a multi-ton press. AGI makes all the tools you need here, as well as the forming fixture to fold your receiver flat into a channel.

Your receiver will need some dremeling. You have to cut the carrier access gap in the rear channels of the carrier. Do not

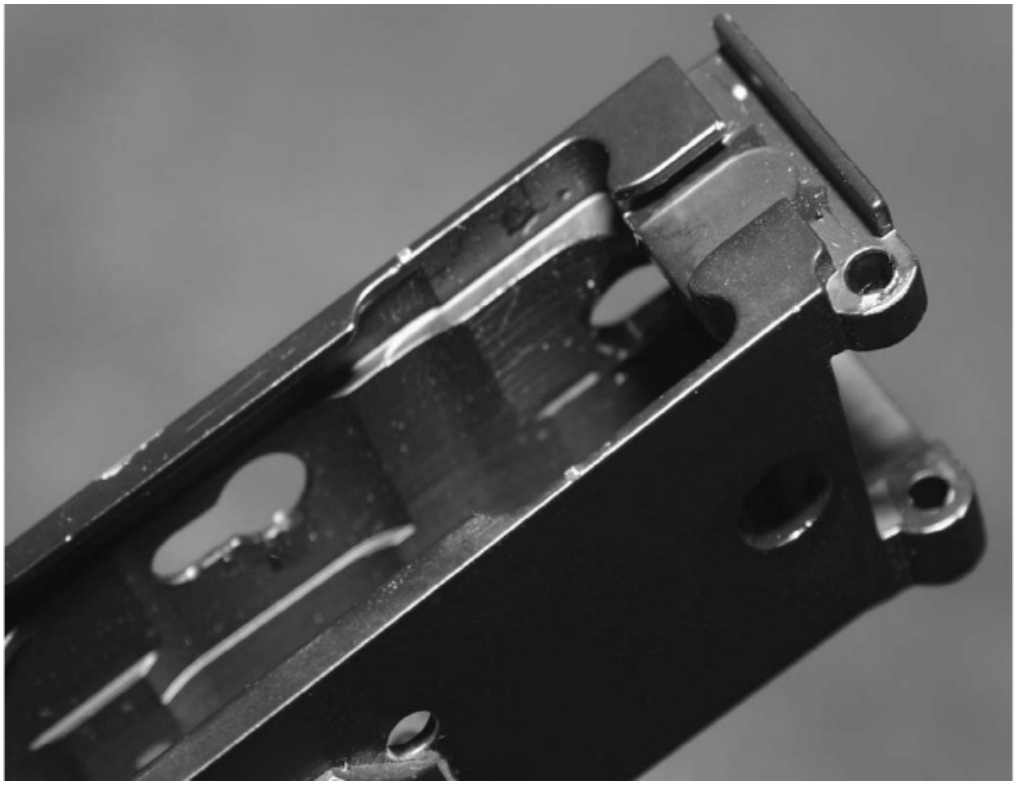
remove any more metal than is needed to fit the carrier down into the receiver and allow it to ride on the rails. If the carrier binds on the rails, dress the rails with a file to make them even and the carrier a smooth-running fit.

Barrel installation is a hassle for some, a breeze for others. First, you have to be absolutely sure that your rivet installation on the front trunnion has proper clearance for the barrel shank. No clearance, no barrel fit. (You'd think it was obvious, but some people can mess up anything.) You need a fixture and that multi-ton press, or a long threaded rod that fits down the bore, and wrenches and nuts to fit the threads. The trick is to get your barrel in vertically. That is, with the sights dead-center above the bore. If you count on the top ends of the front trunnion to "straighten out" any misalignment as you press the barrel in, you'll be disappointed. Get it right, be patient and keep things lined up, and it will go smoothly. Try to cut corners, or be sloppy, and you'll have an ugly AK. (You also won't be the first.)



The rear sight pillar has to slide smoothly (and vertically) into the space in the trunnion. If not, back out and start again.

If you are replacing the gas piston as part of your compliance set, look on the blued portion of the carrier. You'll see a polished-over rivet. If you can't see it, sand ½" behind the piston to show off the pin. First, notice how much play, if any, there is in the fit of the piston to the carrier. Some are loose, self-centering, and some are tight, made to be straight and fit. You'll want yours to fit properly when you replace it. Place the carrier on partially-open jaws of your bench vise, and use a tapered punch to start the rivet. Once it begins moving, you can switch to a closer-fitting straight punch, or just pull the rivet out on the other side with a pair of vice-grips or channel locks. Or you can centerpunch the rivet, and then drill with a drill one size below 1/8" and either drill it out, or drill enough to drive it out with a drift punch. (As the man once said: this ain't rocket science.) When you install your new one, take a few moments to check for length. Then, screw it in and check for fit. The simplest way to make sure it is locked in place is to have your welder tack-weld it in place (assuming that, screwed in snug, it is a free-running fit in the gas tube.) Or you can screw it in, drill through the existing hole, and install a pin. Peen over the ends, polish and paint/touch-up blue, and you're done. You can drill here, while you can't drill a new barrel, because the new piston fills the void completely.



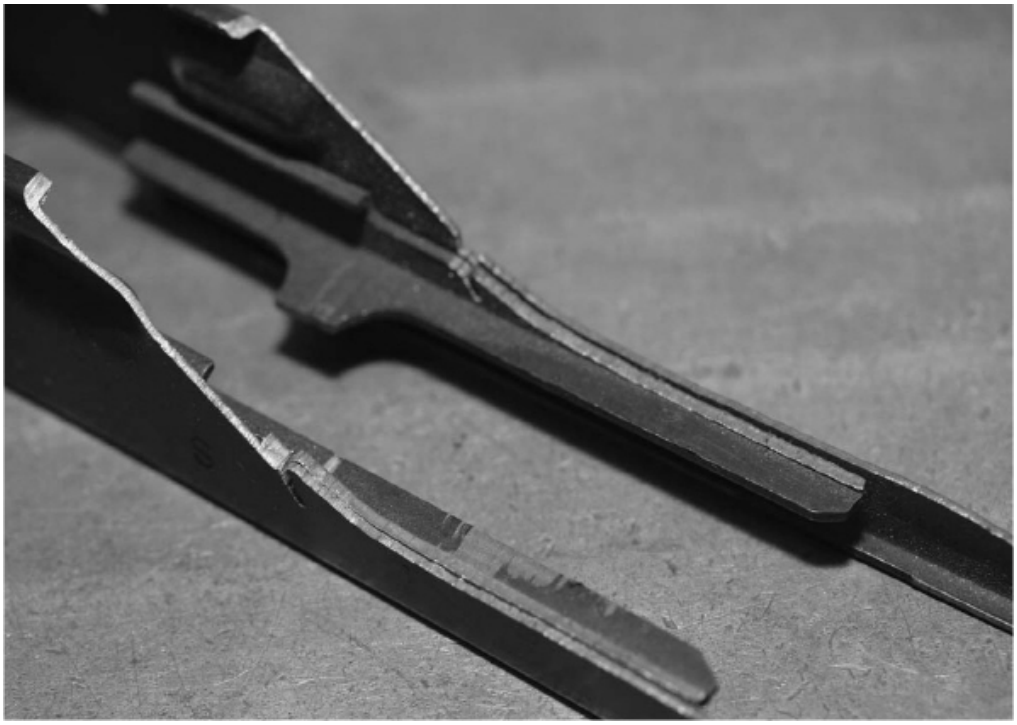
Here's a sidefolder setup on a milled receiver. Oh, that had to cost some.



The center support is important. Don't skip it because it makes for more work.

Assemble the handguards and make sure they fit the receiver/barrel installation. If you have to do a bit of filing on the piston tube to make it fit (you shouldn't, because the distance is dictated by the parts attached to the barrel), go slowly. It is easy to take metal off but hard to put it back. More likely, the handguards will have to be fitted, as the lower handguard is caught between the front of the receiver and the

bracket locked onot the barrel. If you have to cut or file, do it to the handguard. Handguards are cheap and common. Mess up the locking bracket, and you have a real problem.



Here, on a sectioned receiver, we see the ejector and guide rails.

Bolt on your stock, install the internals, and do a non-firing check. This brings us to the next chapter, Testing the AK. But before we go there, let's take a moment to consider all the above.

What does it cost to build your own AK? Let's assume, for the sake of argument, that we can (and will for the foreseeable future) find all kinds of AKs for a reasonable price. A plain, imported, rough and not-to-your-specs Romak, WASR or other AK will be available for $400 or less. Add in all the existing Chinese, Yugos, Bulgys, etc. that can be picked up from $250 to $500, depending on condition, features, etc. Then, at the upper end we have new-made, overhauled Arsenal or Saiga rifles, which will run you on the order of $1,000. (God, I can

already hear the screaming; “A grand for an AK? Has the world gone crazy?”) Those will be well-fitted rifles, with nice finishes, smooth actions, the caliber you want, and options to get the features you want.

What does it cost to build? Well, you need a parts kit. You’ll need the hand tools, which means at the very least a rivet-setter, dremel, files, etc. The tooling, which means at the very least a couple of hundred spent on a barrel install/ remove tool, backing plates, etc. If you use pre-bent receiver channels, a drill press. If you use flats, you’ll need a multi-ton press. If you use pre-made receivers, you’ll need money and an FFL willing to do the transfer, but no forming block and press or drill press.



The ejector is the one with the little crease in it. The crease is a stiffening component. You must harden your ejector before you install it.

At the minimum, it’ll set you back about $300 in tooling, plus the odds-and-ends parts such as rivets, propane to do heat-treating, etc. At the top end, you can spend about $800 on tooling, and you’ll need at least one side of a two-car garage for the press, workbench, etc.

Then you need the parts kits. Those who stocked up on kits (“Buy ‘em cheap, and stack ‘em deep!”) are ahead of the crowd. With a Romanian parts kit you bought for $99, you’re

probably ahead of the game on your first build. The rest of us are not so lucky. Parts kits cost more, now, and the addition of a US-made barrel complicates things. You see, few parts kits with US-made barrels have those barrels already with the gas block, front sight and rear sight pillar installed., You have to do that, and it isn't always easy. If you buy receivers, it throws you another $40 behind the curve.

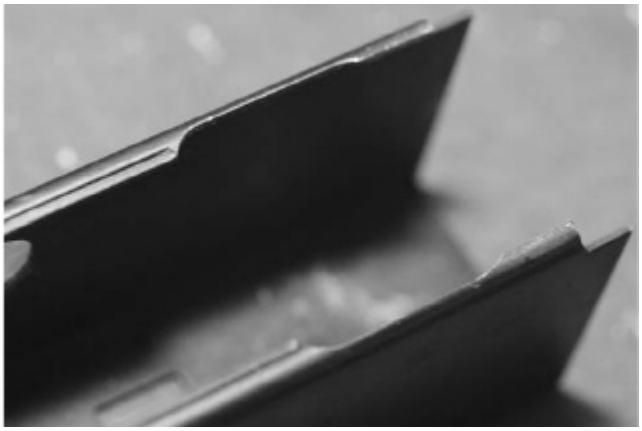


Saiga trigger guards, pried off of importable rifles. They'll be replaced with proper, in-front-of-pistol-grips trigger guards.

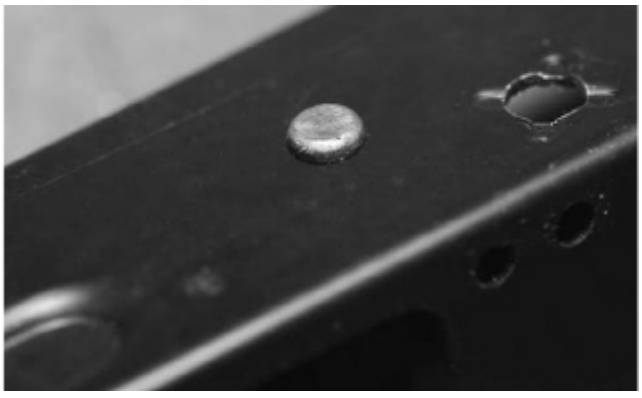


The top rails must, sometimes be dressed with a file to make sure the carrier rides smoothly on them.

It is entirely possible that if you invest in the tooling to do it right, you could have bought half-a dozen AKs, by the time you've bought a parts kit, built it, learned the tricks and quirks, and finally have a rifle you want and are proud of. And if you started from flats you can't sell your experimental/learning curve guns.



Here is the carrier insertion gap, cut out of the rails near the back of the receiver. (Typically, you rivet the rear trunnion in place, before making this cut.)



The center support rivet in place.



9A-22 If you build AKs full time, you have lots of parts. If you do one, you have only enough parts. Don't lose yours as you won't have drawers like this to dip into.

Unless there is another flood of AK parts kits, with original barrels, such that we can see all kinds of options for $200 or less (with the real rarities going for under $300), then there isn't much point in building your own – unless, of course, what you want simply isn't an option any commercial maker offers, or you really, really want to do it. Then, knock yourself out, but don't try to convince us that you're saving any money.

Future Building and Repairs

OK, we're some years down the road, and we've run out of original barrels and/or parts kits. What to do? As I see it, the great mass of AK owners out there are going to be unwilling to simply scrap a rifle because the barrel is shot-out. However, fitting a new, virgin barrel to an existing AK receiver is not easy. Those with milled receivers using threaded barrels can

rest easy. Any competent gunsmith can re-barrel your AK. It is the pressed-barrel AKs (the vast majority) that will be a problem.

You see, the notch on the barrel is difficult to duplicate. It defines the headspace of the rifle, and must be precisely located or things will go very wrong. When your rifle was made in whichever socialist worker's paradise, the barrel and trunnion were machined and fitted by experienced workers. The barrel was pressed in, the headspace set, and then the trunnion and barrel were drilled as a unit. A replacement barrel cannot be drilled in place. If you pressed a barrel blank into the already-drilled front trunnion, and then tried to drill out the notch, you'd make a mess of things. The drill would "walk," that is, try to bend away from the obstacle, and oval the hole in the trunnion. Even a good end mill would have problems. Milling the notch beforehand would be a level of machine work beyond most gunsmiths.

No, the best way to do it would be expensive, but doable: EDM the notch. Someone is going to make money in the future, using EDM (electrical discharge machining) to cut the notch through the pin hole, after the barrel is pressed in and headspaced. The big question is, what will it cost? A new barrel, lathe-turned and ready, might run as little as $200. If a shop is set up to do the work they might be able to do it for $100 in labor. Is the US market ready for a $300+ barrel-swap, on a mass of AKs, most of which cost $350 when new?

We'll see.

Chapter 7

Testing Your AK

You could be looking at a rifle in a store, or at a gun show, tempted to buy. You could be handling your freshly-made-with-your-own-hands AK, before shooting it. We'll start first with buying one, and then move on to testing yours, and what to do at the range.

First, make sure it isn't loaded. Oh, don't be so touchy. You're going to hear that for the rest of your life, so let's make sure it is a long one, and not a short one because you got testy over being reminded. Besides, think how lousy it would look, carved on the face of your gravestone: "He thought it was empty."

Over the irritation? Good. Now, at gun shows today it is common to use cable ties to keep the actions shut on firearms. The idea comes from two different directions. One, the dealers, who want to keep the un-buying noobs from handling the merchandise, and in doing so putting wear and tear on it.

The word “shopworn” comes from just that, goods that show wear from having been handled by would-be buyers. The impulse is understandable, and I can commiserate with the dealers. The second comes from the moronic people who think that by sealing a firearm they can preclude idiots from getting a round into the chamber. Unsafe people are going to be unsafe, regardless of what you do. Except to watch them and stop them, you can’t keep them from being unsafe.



If you want to be sure, you have to test all your magazines, with the full cross-section of ammo you plan to use. If you send your rifle (or in this case, shotgun) off for serious gunsmithing, you have to test all over again.

So, there you are, with a “banded” rifle, wanting to buy, but not wanting to buy a pig in a poke. What to do? Simple: get the dealer to remove the band. Understand, once he cuts the band, you’ve bought the rifle, unless you find something so egregious that the sale is obviously off. If the gun show rules are strict that no cable ties can be cut, then my suggestion is to move on. Let the management know why you didn’t buy

anything there this trip, won't buy anything there ever again, and won't be back. Leave, and don't be tempted back until you hear word the policy has been changed.

Move the selector down to fire and work the action, making sure it isn't loaded. Remove the top cover, take out the recoil spring and set them aside. Pull the carrier back and lift it out. Look inside. Are all the parts there? Do you see signs of work? I refer to this stage of inspection as looking for "Hammer marks and tire tracks."



If it is made by the hand of man, it has the potential to malfunction. Here is a brand-new, brand-name AR-15 that malfunctioned within an hour of the AK in this chapter. Same range, same conditions, etc.



Make sure you use ammo that is correct for your rifle. Some of the newer loadings, known as "light magnum," for example, may use powders unsuited for piston-driven rifles. Not much risk of that, in a rifle, chambered in 7.62X54R.

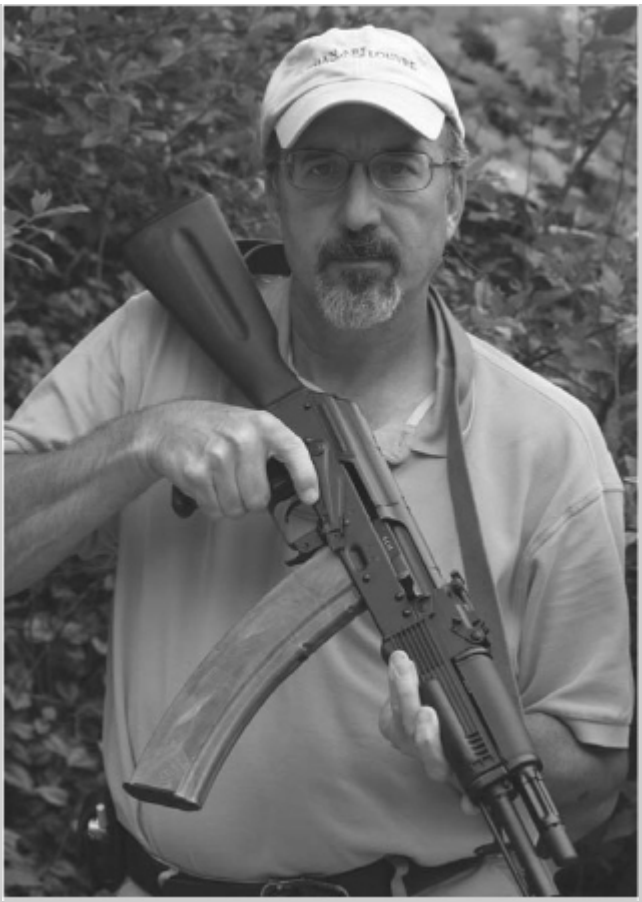
Put your thumb in front of the hammer. Pull the trigger and catch the hammer. Now, while still holding the trigger back, push the hammer back to catch it on the trigger hooks. Let go of the hammer. Now ease off of the trigger. The hammer should catch from one hook to the next. If it does not, the parts are either modified, or the pivot pin holes have been drilled in the wrong spots. If you're curious, look to see which it might be. In any case, it is a rifle you do not want to buy. (However, if the hammer/ trigger show obvious dremel marks, then you can bargain it down in price due to the obvious malfunction and plug in new parts later. Just get the price down by at least the cost of new parts.)



Once you find ammo that works and shoots well, stock up. “Buy it cheap and stack it deep” is the mantra here.



You own more than one magazine? Test them all. You own more than one rifle? Test them all, with all the magazines. Yes, it takes ammo, but hey, you're getting practice, right?



Items like the 45-round APK-74 magazines are fun, but they do have drawbacks. Like, how do you go prone with a mag like this?



If you have optics, install and test. Don't take it for granted that the scope is already zeroed or that the base is well-aligned enough that the scope has enough adjustment range to get you on the paper.

Look down the bore. Is it bright, shiny, with sharp rifling? Good. If not, bargain the price down more. If the seller insists that "That's just residue from the test-firing" and you like that

particular model or its features, insist on a brush and patch to clean it out. Here's your clue: if the patch comes out black, it is powder residue. If it comes out brown, you're probably looking at rust.

If you have the time, take the gas tube off, and look at the piston while you're at it. A rusty gas tube is almost required on an AK, but a rusted piston is not. If the piston has a brown residue on it, and it does not wipe off, it isn't chromed, and probably isn't stainless, either.

If everything checks out, ask about a guarantee, get a receipt, and pay the man. (Or woman.)

Test-Firing

OK, you're at the range, and you want to shoot your new rifle. Bought or home-built, you follow the same process. Get settled on the bench, with your ammo, rifle, spotting scope, soft drink, etc., and get comfortable. Load one round into a magazine, insert the magazine, and keeping the muzzle downrange, work the carrier handle.

Settle in, and fire that round at your target. Look to see if it came close to your point of aim. Look in the ejection port, and make sure the hammer is cocked. If the hammer is not, your rifle "follows" and will need gunsmithing.

If the hammer stayed cocked, load two rounds and fire them. Once you're certain the hammer/trigger works as it is supposed to, load up and shoot to your heart's content. Test all your magazines. Don't assume that just because they are "commie-made" that they are infallible. And don't assume that one, tested in one rifle, will work in all your rifles. I have some magazines that are cranky in some guns but not others. I

have the choice of either selling/trading them off, or marking them in some way to let me know. You'll also want to mark your magazines. If you go to a match, or are in a class, you might find that you're on the line with others, and getting back their magazines has the potential for creating problems. You can use paint and stencils, paint pens or Sharpie-brand markers.

Of course, in the midst of all your happy blasting there is the little matter of sight adjustment.

On the AK, all sight adjustments for zeroing are done to the front sight. The post screws up and down in its bar to change elevation. Screw the post down to raise the point of impact, and up to lower the point of impact. The tool is a little circular tab with a post on it that fits over the flats of the front sight. It is common to try and use a pair of needlenose pliers, but they invariably fail. To adjust windage (left-to-right) you have to drive the post you see in the sides of the front sight housing. This post is press-fit, and I suspect that the specs call for the post to be a metric smidgen larger than the hole into which it allegedly fits. I say allegedly because they are all a pain in the butt to move. The sight adjustment tool is a modified C clamp, in that the far side has clearance for the supposedly moving bar. I've found that is is not uncommon that you have to bash the bar with a punch and hammer to get it started, then fine-tune (if you can even use that term in the context of AKs) to finish zero. If you feel the need, some wicking Loctite to secure it once you're done will keep it secure. What if there isn't enough adjustment? Then you have the dreaded "tipped" front sight housing. When manufactured the sight wasn't put on dead vertical. To solve the problem

you'll have to drift out the pins, tap the sight to vertical, check by firing, and then drill the holes larger. Typically, 1/8" drill and pins, Loctite-d in place.



Having someone to watch is a good thing. They can tell you if there is excessive muzzle flash, where and how far the empties are ejecting, etc.

What if your rifle won't feed? It could be the magazines, the fit of the magazines to the receiver, the bullet guide, the ammo, or a twisted receiver.

Getting work done on your AK can be easy, or it can be difficult. If you have a name-brand (so to speak) AK, then the importer, wholesaler or builder will be the best place to go. If you built it yourself, you'll have to either figure it out or throw yourself on the mercy of the nearest AK builder/gunsmith.



When you test-fire for the first time, load one round.

Which may be difficult, if you built from a flat or a channel. Yes, you can take it to a gunsmith, but not all will accept it. Some will turn it down on the grounds that it is home-built and they cannot legally accept it. Don't argue; they won't relent. Others will refuse on the quite understandable grounds that they will basically have to review your entire build, inspect everything, and then figure a way to correct whatever they find wrong. It is entirely possible that they could end up charging a significant fraction of what the rifle is worth.



Yes, even AKs malfunction. This is a brand-new AK that is being just a little bit recalcitrant.

Gunsmiths are leery of (for example) telling a customer that they will rack up a $200 bill, repairing a $350 rifle. Most gunsmiths realize that at that point the customer will walk, and

want to take his rifle with them. They are then in the unenviable spot of having to bill for the bench work/inspection they've done, and the customer finds himself paying at least $50 for no repairs at all having been done and a rifle that still doesn't work. So, if you find few takers to repair your home-built rifle, they are not conspiring against you.

If you have a working rifle, then your "testing" from then on is simply a matter of seeing how much ammo it will consume before it wears out.

Maintenance

Having tested it, you should take care of your AK. After all, you built it (or bought and upgraded it), so why not? The typical level of maintenance by AK owners is something more than benign neglect. "Hey, it's an AK, it runs just fine rusty." Or, "It's an AK, it doesn't need oil."

Which reminds me of an old story. Two lumberjacks get into an argument about who is the better cutter. So they decide the next morning will settle the issue. They'll start at dawn, and at the lunch break, whoever has dropped the most timber is King of the Forest. At dawn they're out in the woods, chopping away. They drop a tree, and then let the rest of the crew strip and haul. An hour into the morning, the old lumberjack walks off and goes into his cabin. The young lumberjack keeps cutting. A few minutes later, the old lumberjack comes back out and continues chopping. An hour later, he's back in the cabin.



I suspect it is a magazine, or a magazine location problem, with cartridges this grossly out of line.

They break for lunch, and the crews measure the stack. The old lumberjack won. The young lumberjack is agog. “How’d you do that? I never stopped, I’m younger, stronger and swing faster.” The old lumberjack told him. “Simple, every hour I went into the cabin, had a glass of water and sharpened my axe. Son, you’ve got to learn to pace yourself.”

Yes, your AK can work without lubricants. But it will work longer, smoother and more reliably if you take care of it. What to do?

Scrub the bore. Yes, it is chrome-lined, but even chrome wears, flakes and chips. Once it does, and the exposed steel begins to rust, the rust will peel the chrome of quickly. Scrub the gas system too.

Lube the internals. The hammer, trigger and disconnector can do with a coating of oil. Not so much that it drips out, but enough to coat them. The rails also benefit from oil. The carrier cam should get a dollop of gun grease, or my favorite; Lubriplate. You may have to search old-style hardware stores for it, but one tube costs no more than a little tub of specialty

gun grease and will last a lifetime. (Or until you lose it when moving.)

The exterior should be kept clean and dry. If yours is painted, look after the chips and scratches. I've mentioned the purists, who want their rifles to only be exactly as-issued for the time and place of its origin. There are also the "pristines" who expect every rifle to appear as if it just came off the assembly line. Don't swing so far to the other end that you're proud of the scratches, rust and dents on your rifle. Pride in service, yes, but not like some photographers I knew, who would deliberately sand the paint on the corners of their cameras to show the brass, so the poor thing looked like they'd had it for years as a war correspondent.

Chapter 8

Arsenal and AK-USA

My first foray into the world of AKs (besides my FEG SA-85) perhaps led me a bit astray. As in "Damn, these are really nice rifles." I contacted Chris Butler at AK-USA to build me one in preparation for the book. I figured for the first one I'd do something a bit exotic and settled on what turns out to be the plainest-looking and best rifle in my AK rack.



My AK-USA synthetic-stock AK-74.



Here you see the result of most Soviet-length stocks. Ned is at least four inches shorter than I am, and the stock is still too short for him.

Out of all the choices, a fixed-stock, synthetic furniture AK-74 is probably the plainest non-Romanian rifle I could have selected.

We first discussed building a ’74 as a 5.56 rifle, but between us it took exactly two emails to list all the shortcomings of the project. Later imports, made specifically for the 5.56, are available, but back then they were not. (Things are always changing in the AK world, and a couple of years can mean what was available then is no longer so now.)

Arsenal is a Bulgarian company, and their location in Nevada is where all the rifles come into the US for distribution to wholesalers. They bring in rifles that meet the law, as far as being sporting rifles. Then they re-build them with US-made parts to be 922 (r) compliant and then distribute them to wholesalers. Chris gets the rifles (at least this one) in its imported state, and then custom-builds them to customers’ requests. So, in due time an Arsenal sporting rifle in 5.45X39 went from Nevada to Florida. There, Chris rebuilt it, installed US parts, changed the stock and pistol grip, and shipped it to me. The end result is very nice, indeed.

First, the stock and furniture. The stock is not the normal, too-short-for-real-people Warsaw Pact length, and thus the usual, “I have to watch my nose” length. Instead, it is the K-Var stock, which is 1.5” longer than W-P stocks, and thus usable by normal people. It also has the AK-74 flute down the side, just so no one confuses it with a ’47. The pistol grip and handguards are the correct Soviet pattern, and US-made, so I have three parts right there. The fire control parts are also US-made, so I’m up to six and done as far as compliance is concerned.

The receiver is marked “Made in Bulgaria” and has the ten-in-two-circles arsenal mark of Bulgaria. It has a scope mount, and all the metal is finished in a matte black. The front sight is properly vertical, and the gas block is the correct ninety-degree one. (I’d expect no less, from Arsenal.) The brake is tight when indexed and doesn’t wobble, and everything has the proper fit. It doesn’t have any gaps, and the parts don’t have to be hammered to fit on re-assembly.



The stock is longer, to accommodate my normal frame.

Internally, the hammer and trigger fit well, and the trigger pull is smooth. Magazines lock in without wobble, and don't have to be "mallet-inserted" to lock in place. The carrier moves smoothly along the rails, without that gritty sound some AKs have, and without binding at any point.

The sights came zeroed, and with Soviet surplus ammo it hits to the sights, shoots under 2 MOA with irons (about as good as I can do) and a bit better with Wolf 70-grain ball.

I have had no problems shooting 20-for-20 on the National Guard base computer popups. In the several years I have had the AK-USA '74, it has not failed me. I have tried dozens of different magazines as well as Soviet, Bulgarian and Wolf ammo in it. If it wasn't for the stupid commie scope mount, I'd probably have a scope on it for even more fun dropping plastic popup targets. However, the usual mounts put the cope

so high my face floats above the stock. I got tired of that almost 20 years ago with AR-15s and have no desire to go back.

In a world of rattley, rough-edged neutered imports, this is a smooth piece of machinery. If this is the future of AKs, then I'm all for it.



Re-built on an Arsenal form Bulgaria receiver.



The scope mount, I added it for authenticity, but I don't really expect much in the way of optics on any AK.



Single-hook US-made trigger, all rivets properly mashed and domed.



The fluted stock, to show it is in 5.45X39.



The K-Var handguards are Soviet-pattern correct, made in the US, and make shooting fun.

Now, don't get my praise for the AK-USA AK-74 wrong. I'm not saying that other makers aren't as good. My other custom AKs are in many respects as good. It's just that after I had a chance to work with this one, I then spent some time

wrestling with WASRs, Romaks, Chi-Coms and other neutered low-budget guns. Man, that was a real re-orientation.

As a custom maker, Chris can make an AK to any specifications you want, provided they actually will work together and you can afford it. By that, I mean this: if you want an AKM, in 7.62X39, with an AK-74 muzzle brake and sidefolder stock, he can do that. If you want an AK in .50 BMG, that's going to take some design work, engineering, and money. So don't go asking for stuff you don't have the wallet for. He can build on a parts kit, he can re-heat treat receivers. (Although if you have an untreated receiver that is already starting to wear, don't expect miracles.) He also can build rifles on importable Saiga sporting rifles and turn out what you want.



US-made stock, pistol grip and other parts bring it into 922 (r) compliance.

As a custom shop, he doesn't have a laundry list of things done, at 10 or 20 bucks each. If you have a project you want to have done, send him an email, ask for a quote, and be prepared for AK goodness. My next project is definitely going to be something folding-stock.

Chapter 9

Hammerstone Arsenal Romanian

Unlike other members of the Warsaw Pact, Romania was quite prickly about its role. Romania neither participated in military exercises outside of Romania, nor allowed the quartering of foreign troops in Romania itself. Their history in WWII probably had a lot to do with that: coerced into joining Germany and the Axis, they found themselves being used as cannon fodder on the Eastern Front, and then when the Soviets arrived, treated rather harshly as co-belligerents. At the time they joined the Warsaw Pact in 1955, they had already begun preparations for being at war, even going to far as to plan for several different types of war. I guess the prospect for the Soviets picking a fight with someone who was prepared, like the Romanians, was more than they really wanted, after the

bad PR they received in putting down the 1956 Hungarian Revolution. The Soviet suppression of the Hungarian Revolution had cost them nearly 2,000 casualties and turned much of the world opinion against them. Since Romania had three times the population, and by the winter of 1956 had the example of Hungary as well, the Soviets could not expect a walk-over.

Soldiers, including a member of the Iraqi Army, wait for a positive ID before opening up on suspected insurgents. Notice the AKM is a Romanian (curved foregrip, gray parkerizing) and he has the selector set on Full.
Photo by Staff Sgt. Stacey L. Pearsall, USAF.



My Romanian AKM, from Hammerstone Arsenal.





The high level of craftsmanship exhibited by many products of the socialist era. I didn't let Greg clean this off, because I wanted to save it for the book.

In any case, the Soviets preserved the PR fiction of the big, happy socialist family and left the Romanians alone as long as they didn't stray too far from the fold. After all, the Soviets had the Black Sea naval bases in Bulgaria they needed, and the Bulgarian KGB was quite efficient. As long as the Romanians kept cranking out AKMs, everything was fine.

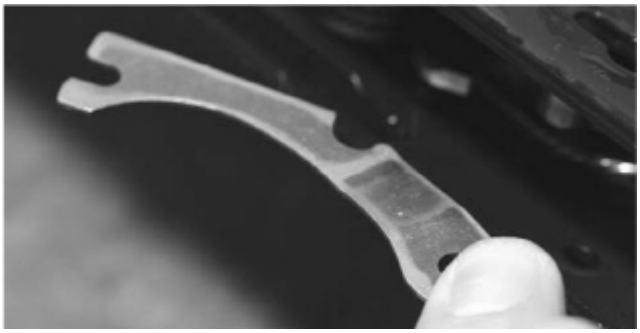
And as it happened for the rest, the Berlin Wall coming down changed everything. (I know I mention this again and again, but it is important: the pivotal event in the history of AKs in the USA, not to mention world history as a whole.)

It is fashionable in some circles to bash the Romanian AKs. Hey, someone has to be the low-cost supplier, and in the AK market it apparently fell to the Romanians and the Chinese. As a result of Chinese exports of rifles and Romanian export of rifles and parts kits, any gathering of AKs is going to have a large contingent of Romanian rifles on hand. The Romanian rifles can be kind of rough. In some instances parts are not well-fitted, and thing may even be a bit crooked. Take that into account when you're bargaining over a rifle, and figure a certain amount of roughness is simply an excuse to get practice in gunsmithing. There are, even more so than other countries of origin, a confusing array of Romanian rifles to choose from.

Romanian Types

As with most AKs, the Romanians were imported during the several different import restrictions regimes. What you'll hear, when people talk about Romanian AKs, are buzzwords like SAR, WASR, Romak, and WUM. What you need to know are the basics, and the variations of those will work themselves out.

The SAR models have a scope mount attached to the left side of the receiver. The other variants may or may not have the mount, depending on when imported.



If you have a chance, always, and I mean always, exchange the shepherd's hook for a curved plate as your hammer and trigger retainer. Always.

The baseline Romy is the AKM with the "bad" features removed. Here, you'll see the thumbhole stock, and a muzzle nut welded in place, but quite often the muzzle nut does not cover any threads. (Why weld on a nut to cover threads that don't exist is beyond me.) Calibers are both 7.62 and 5.45. However, that wasn't good enough at one point, and you find the "low-cap" Romy models, the WASR-10. Here, the magazine is a proprietary 10-shot single stack magazine that doesn't work in a standard AK. (Why you'd want to use it there is again beyond me.) The single-stack magazine sidesteps the whole "this rifle could take a hi-cap magazine" problem, that so bedevils the governmental hoplophobes. (Hoplophobe: a word coined by the late Jeff Cooper, to describe someone with an irrational fear of weapons, specifically firearms.)

The various combinations of 10-shot mags, thumbhole stocks and lack of threaded muzzles run the gamut. You'll see lots of them for one reason: they are inexpensive. As a result, the big-box sporting goods stores would stock up on truckloads of WASR-10 rifles and sell them for $289 each. Combined with ammunition (when it was cheap) for $129 a thousand rounds, the big-box discounters sold millions of dollars worth of invenotry.

Are there drawbacks to the Romanian imports? A few, some cosmetic and some due to rough workmanship on the part of the Romanians. You can remove the wretched thumbhole stock if you replace enough parts with US-made 922 (r) compliance parts to bring it up to snuff . That does sort of defeat the purpose of an ultra-inexpensive AK, though. However, buying a rifle for $289, and then installing perhaps $200 worth of US-made parts still leaves you with an inexpensive rifle. The trigger tends to suffer from pretty vigorous trigger-slap. That comes, as described in earlier chapters, from the disconnector having too much of a tail on it (or not having been altered at all) and thus when the hammer re-sets on the trigger it has to cam the trigger and your finger out of the way.



I had mine done in gray Parkerizing to match the military-issue AKM.

The single-stack magazine can also be replaced. Again, you should check the US-marked parts and make sure there are enough. If not, then you have to replace enough parts with

US-made ones to be 922 (r) compliant before you begin. The 10-shot magazines fit, and the hi-cap ones don't, because the Romanian plant, Cugir, stamped new receiver flats that had a narrower opening for magazines., You, with a dremel (or better yet a milling machine) can open the mag well to the correct dimension. For your first one, go slowly, have a hi-cap mag and rifle on hand to measure, and don't cut anything that doesn't directly advance your desire. Inside the receiver you'll find positioning tabs that keep the single-stack 10-shot magazines in line, those also have to be ground/machined out to allow the hi-cap double-stack mags to fit. Once done, the magazine will have a bit more wobble than a rifle originally cut that way, but it will work. Century International imported many WASR-10s, and once here swapped US parts and then cut the mag well for hi-cap mags. In many of those rifles the opening will be less then pretty, and may even have burrs and areas of less-than-stellar machining that interfere with a magazine insertion. You can make it better with a little judicious file and dremel work. Again, go slowly, as you will find it very hard to put metal back.

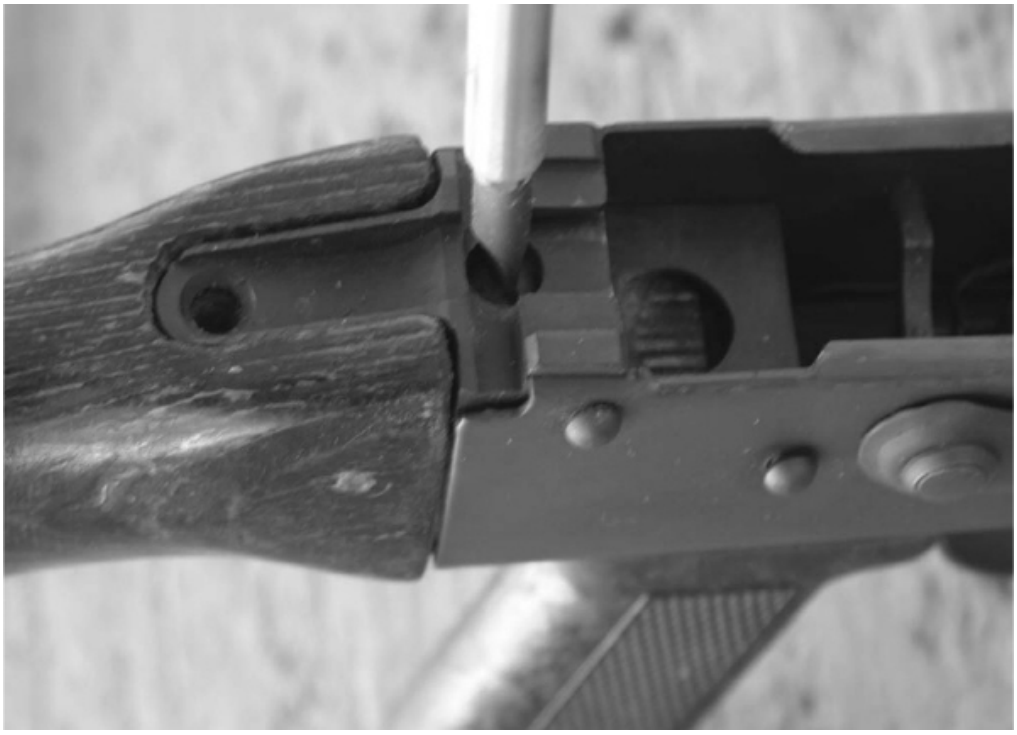
There are reports of canted front sight bases. That is, the front sight assembly is not dead vertical. More than just cosmetics, it makes it difficult to zero the rifle if the cant is too great. A front sight canted too far doesn't allow the front sight post to properly line up with the rear sight and bore, and you can't hit the target.

That repair involves driving the front sight pins out (left to right) and then tapping the front sight housing until the assembly is vertical. Then, secure the barrel/sight assembly on

a flat surface and re-drill the holes to 1/8” and fit new 1/8” pins in the holes.



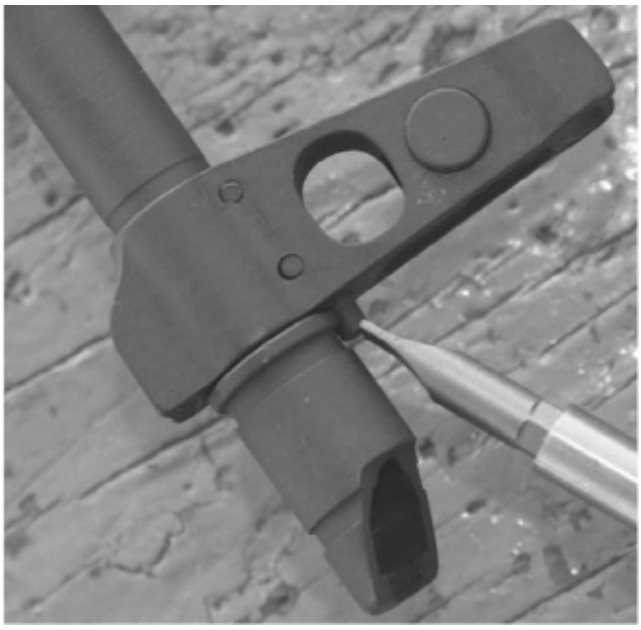
Oh, those wacky Romanians. This gas tube on my Hammerstone gun is a part swapped in from another rifle. Swapped in Romania, before being de-milled and shipped here.



A standard, fixed rear trunnion. If you have a Romanian parts kit and want a folder, you’ll have to get a folding stock with trunnion, and your new receiver has to be made for the new trunnion, not the old.

Notice the difference between the gray Parkerizing of my Romy, and the usual sort of flat-black that many AKs get. I have plenty of black rifles so I felt it was time to be a bit different.





The parts kits will have threaded muzzles and slant brakes. Many of the Romak, WASR and other imports will not. Their muzzles will have welded-on caps that you'll have to thread if you want some sort of muzzle device.

Apparently all Romanian AK, AKM and '74 rifles come with the shepherd's hook spring keeping the hammer and trigger pins in. It must have been quite the advance in1947, but anyone who has ever wrestled with one is glad to spend the $5 to $10 for a curved plate replacement. The barrels that are

threaded are threaded to the standard left-hand metric of all AK and AKM rifles. What if your rifle has a welded-on cap? First (and I know you've heard this before) make sure your rifle is 922 (r) compliant. Then cut the weld and nut and remove the nut. If there are threads, great. If not, you're out of luck except for extensive re-building. You could fit an AK-74 front sight housing in place of your existing one, by driving out the pins, fitting and re-securing the new one. Just be sure if you've done this to a 7.62X39 rifle that you bore-out the brake for the new rifle. Otherwise your new sight base will go downrange when you try to force a 7.62 diameter bullet through a hole meant for a 5.45 bullet.

Me, I'd leave it alone.

One aspect of the incredible tsunami of parts kits coming in was the Romanian parts kits. They were cheaper than any other kits. At a time when you had to spend $189 to $250 for other parts kits, you could buy stacks of Romanian kits for $99 each. Even as the supply dried up, they only bumped up to $149 and then $199 at the end. (And then there were none.) I, like so many others, could kick myself for not having bought 20 kits instead of only 10 for that price.



Don’t like the Romanian foregrip? It is easy enough to swap it out. Go ahead, be wild and crazy, be different. It’s an AK, after all. It’s not like you can hurt it.

I discovered a few things, looking over my parts kits. One, the Romanians dated their rifles. The military parts kits have the production date stamped on the front trunnion, visible above the sheet metal. (Curiously, I’ve never seen a milled-receiver Romanian AK. I wonder if they ever built any.) Mine all date from the early 1980s, another curiosity. By the early 1980s, it was clear to anyone that the Soviets were shifting to the AK-74 and the 5.45 cartridge. So why were the Romanians still making (and apparently a lot of them, judging from the parts kits) 7.62X39 rifles? I can only surmise it was for some sort of export to local revolutionary fronts or something. The most-noticeable feature of the parts-kits Romanian rifles, and the standard-issue military ones, is the forward pistol grip. It is canted forward for the simple reason that if it wasn’t, you couldn’t get magazines in and out. The handguard is easy enough to replace that if you don’t like it, you can swap it out.

What I did with one of my Romanian parts kits was send it off to Greg Collins at Hammerstone Arsenal. The idea was to

build a representative sample of a Romanian AK that could be just as it was, when it might have been issued. (I'm sure a Romanian Army vet of the period can point out where we went wrong, but we did what we could.)

The main thing was to get it built correctly, and Greg took care of that. The furniture fits well, and he did a great job of installing the parts onot an NDS receiver. We didn't do anything to the wood, and left it as-is. Greg was a little apprehensive about that, not wanting people to think that he couldn't do better. I wanted it as-issued, so don't blame Greg if you think my furniture looks a little shopworn. We finished it in flat gray Parkerizing, and didn't do a bake-on epoxy or lacquer finish. From what I've seen, the Romanian AKMs never got a paint finish, they were left parkerized, so I wanted mine that way. I've got plenty of painted rifles, if I need something other than flat gray.

As far as function is concerned, it works great. It has proven reliable, and hits to the sights. (I guess the military guns suffered less from front-sight cant than the exports.) It has been a bit cranky with magazines, however. With steel AK mags, no problem. My black ProMag doesn't want to feed the last round, but the clear/smoke ProMag magazine feeds just fine. I've run into a few Chinese magazines that area tight fit in the mag well, but hey, they're Chinese, what do you expect?

In all, a great gun. As a standard AKM for the most part, all AK-based stocks, furniture options, etc. will fit right on a Romanian. You may have to do a bit of hand-fitting, but they'll work.

Not all Romanian rifles are going to be as well-fitted as my Hammerstone Arsenal one, but you can certainly get a low-cost rifle that works 100%.

Chapter 10

Kreb's Custom

How would you like to own an AK that has been worked-over by a master gunsmith? Someone who understands every detail of it, and can build not just a perfect recreation of a Soviet 1959 AKM, or an Afghanistan-era AK-74 issued to Soviet Paratroopers, but an AK built to be a run-n-gun competition special? Then Marc Krebs is your man.



The M-249 SAW. What is it doing in an AK book? Simple, a lot of people seem to like the pistol grip it has. Me, not so much.



All business.

"Krebs, Krebs, that name sounds familiar…." It should. He was, in the early 1990s, one of the premier custom 1911 gunplumbers for the USPSA/IPSC competition set. He built beautiful raceguns that not only looked good, but ran like champs. But, as so many of us do, he got burned out of the game and decided to switch gears. The gears he switched to are Kalashnikov.

I dropped in and watched the crew at work, and soaked up the AK goodness. I went home with a custom Krebs AK, with some but not all of the extras.

The test rifle is a KCI Speed Load Tactical, with quad rail, in 7.62X39, built on a Saiga import base rifle. He takes the old stock off, replaces the trigger parts with US-made stuff, and then after welding up the old rivet holes installs a new stock of your choosing. This one comes with an Vltor stock tube and

Vltor M-4/SOCOM slider on it. The pistol grip is an M-249 SAW derivative, that some shooters like and I find just slightly objectionable. It's simply a personal thing; I find the changed angle of the M-249 grip shifts my right arm, throws my form off, and makes it just a bit more difficult to shoot.

Which is curious, because I don't find it to be a problem on a real M-249. Yes, Virginia, I have fired the real thing. I've also fired real AKs, too. Somebody has to, to be able to compare all these guns, right? But I digress. The M-249, being US-made, adds to the total for 922 (r) compliance and makes the Krebs rifle better for some. Me, I'd swap out the M-249 pistol grip for something more traditional. In front of the stock, and above the pistol grip (in its normal location) is the Krebs selector. Wow. Instead of the usual AK selector that can't be reached by anyone with a normal index finger, the Krebs has an extra shelf on it, one located where your finger can reach it.



The pistol grip on the M-249 is thick, tapered and grooved.



The mag release isn't obtrusive, unless you're just too old-school for such things.

I don't normally gush about gadgets. But this is different. If you have an AK with which you plan to use as a piece of emergency equipment (i.e: shoot bad guys) you must, I say, must have this selector on it. It allows you to push the safety to fire without taking your hand off the pistol grip. Not only that, but the ledge your finger reaches is positioned lower than the selector bar itself, so your finger can reach it without having to dislocate at the knuckles. Buy one for every AK you own and for every AK parts kit you have stuffed under the workbench.

The next extra is one that I can see for a competition gun but I'm not so hot about it for a defensive rifle. Krebs makes an extended magazine lever. The lever fits in a standard triggerguard (but is not a user-installed part) and allows you to push the mag catch and release the magazine, using your

trigger finger. As I said, it's for competition, not defensive use. I can see the larger lever getting caught up on stuff. Then again, considering how much stuff we dress our rifles up with, the mag catch may be the least of it. Just call me old-school on this one. Forward of that is another addition, this one more useful.



Here I am, having fun hosing targets in a match. Yes, a match, with an M-249. Be jealous.

An RPK they were finishing up as I arrived. Nice rifle, even if the Soviets should never have gone down that path.





The big drawback to the standard AK selector is the need to get your hand off the pistol grip to select anything.



The Krebs selector lever.



It (again) is set up for right-handed people.

The plate you see forward of the trigger guard, under the receiver, is the mag guide plate. For the right-handed shooter, reloading with the left hand, it provides a stop-plate against which the magazine goes. Instead of lining the magazine up with the mag well, and being careful to kee the mag in alignment with the rifle, you simply slap the mag against the plate, hook the front in the mag well, and lever it home. Fast, very fast, and combined with the trigger-finger mag catch lever, it makes you able to almost keep up with AR shooters. Instead of giving up time on every reload, you're just about neck-and-neck with them. Yes, it adds a bit more bulk and weight, but a few ounces on a rifle is hardly a big deal. (Probably not as much as a tactical sling adds.) And for the faster, smoother reloads, it is worth it. As with other Krebs mods, I would be happy with it in a competition gun, but it just goes against my grain to have it on a defensive gun. I guess I'm just too old-school for it.



Your trigger finger can push the selector down, without having to take your hand off the pistol grip.



The mag well plate. It guides reloads to be surer and faster.



Here you see it is only on one side, for right-handed shooters.



Krebs can install an Vltor stock on your Saiga rifle.



Krebs doesn't make their own receivers, but if they make an SBR they have to mark the receiver.



The quad-rail, installed. It took 10 minutes to install, even with my stopping things to take pictures along the way.



And, a left-handed upper conversion, charging handle on the left side, for you southpaws in the crowd.



The super-cool, if mis-named Krinkov.



Not only does the Kreb's selector work as something you can use, but it also can be used to lock the bolt open.

The rear sight is an aperture sight. Here, I have to differ with Marc and all the others who view an aperture sight on an AK as a good thing. The idea of an aperture sight (or ghost ring, as it has come to be called in the modern era) is that your eye will automatically center itself in the rear aperture, if you let it. However, to do so the aperture has to be relatively close to your eye. As far forward as the AK rear sight is, it is simply another sight, your eye/brain has to hunt for the rear sight, and then align it with the front sight. I know there's some reader going "Hey, this is a new thing, we wouldn't expect and old-school guy like yourself to get it at first." OK, let's go real old-school, and look at the sights that were on the original Springfield '03, and the Japanese Arisaka.



A short-barreled AK, with the quad-rail handguard, and folding stock.



Light, red-dot sight, super-efficient flash hider (a Noveske, by the way) and this shorty is ready.



Marc Krebs has been at it a long time, and he knows guns.

I've fired both. I own a Springfield. They have aperture sights up on the front receiver ring, in pretty much the same location as the AK aperture sight. And they suck. They are not fast. They require more work to use. And they tire the eye faster than regular open sights.

So I have to part company here with the AK aperture crowd, but it isn't a big deal. The rear sight can be changed easily enough so if I were to ever acquire an AK that happened to have an aperture rear, I'd simply swap it out and trade the aperture off to someone who wanted it. As sights go, Marc makes a good one, so if you really want to try the aperture, get his.



Mount a little light on your Kreb's Quad-rail.

Up front are the KCI quad rails, a handguard system that allows you to install whatever extras you desire. At the most-basic you can easily mount a light, either something compact like a Surefire X200/300/400, or an insight tactical light. Or go high-lumens and bolt on a Surefire tac light blasting out 200+ lumens. You can add lasers, a red-dot scope, a vertical foregrip (just be sure it doesn't get in the way of the magazine) or all of them. Of course, if you add all of them, you'll be adding a lot of weight to a rifle that has a baseline weight of six and a half pounds.

I took the Krebs rifle to the range several times, and proceeded to discover that I could not get it to fail. Of course, I didn't do things like bury it in dirt, or freeze it in a snowbank. But then, the basic AK system is reliable enough that you only need a bit of testing to determine if a particular one is in the ballpark" as to reliability, accuracy and handling. This one is, and from what I saw at Krebs, they all must be.

Each rifle is worked on by dedicated gunsmiths who know their business. In the course of getting any kind of tour, I ask questions. Not only do I ask questions about the products, the process and the company, I ask questions about which I already know the answers. Yes, I'm a nosy guy, and I'm also a testing kinda guy, too. Marc Krebs and his crew pass the test.



Or mount a big light, and listen to retinas sizzle when you fire it up.

They can make you a regular, vanilla-plain AK. Or they can build you a wild 'n' wooly one. As an SOT ("special operations tax"-payer, i.e., a Class 3 manufacturer), they can build you a short-barreled rifle, commonly mis-named a "Krinkov." While I was there they showed me an RPK they were finishing up. Very nice, even for a rifle that the Soviets should never have built. Krebs also makes a number of AK-specific parts to improve the fit and function of your rifle. You

can replace the shepherd's hook with a curved plate hammer/trigger pin retainer, you can get new front sight for your Saiga shotgun as well as a quad-rail handguard. And, for those who want a proper aperture rear sight as well as a scope mount location, they make a new rear sight rail. It rides over the receiver cover, and has a rail the length of it. At the back end is a good and proper aperture rear sight, suitable for aiming. They'll have to take your old rear sight off, but the Krebs rail simply bolts in place, and is held securely. Yes, it looks odd to the purist, but then what improvement doesn't? While I was visiting they also showed me a new development: a left-handed upper. A new cover and carrier, and you can crank the charging handle on the left side instead of the right.



The Kreb's quad-rail handguard fits onot the regular brackets of the Saiga. And many other rifles, too.



The Kreb's sight and optics rail, shown positioned on a receiver sans carrier or cover.

Call them up and discuss the Kreb's AK of your heart's desire, or peruse the web page (www.krebscustom.com) and see if what they make fits your taste.

Chapter 11

Galils

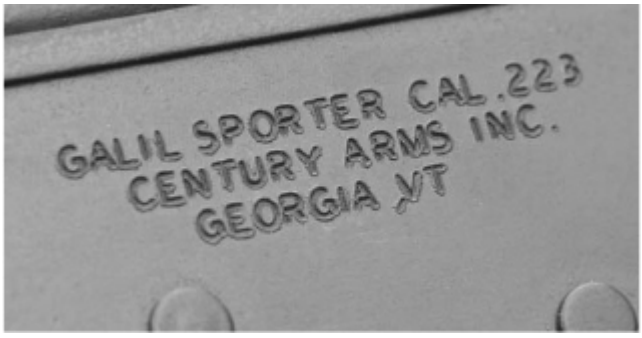
The Galil should be the *uber*-rifle of military rifles. After all, it is derived from the AK-47 so its pedigree as a dependable rifle is secure. It is chambered in either the super-deadly 5.56, or in the manly 7.62 NATO so both sides of that argument have something they can choose. Best of all, it was designed, developed, and manufactured by the Israelis, who, while they might have had a setback now and then, haven't lost a war. That it is not common anymore, and is not even widely issued in Israel, comes as some surprise to some. After all, it has the finest pedigree. Why wouldn't it be a superior rifle?



Israel managed to sell Galils overseas, where they are still working just fine. Peruvian Special forces on a joint exercise with the USAF. *U.S. Air Force photo/Tech. Sgt. Kerry Jackson.*



The Century International Golani. A very nice rifle, if a few Israeli bits are missing. And you need to use Galil magazines. Go find them, now.

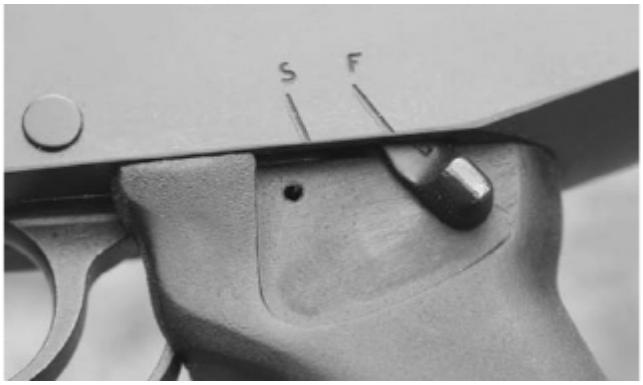


The Century markings are clear, if a bit messy.

First, let's look at the history and development, as well as the design of the Galil.

During the 1967 war, Israeli soldiers were armed mostly with FAL rifles. The experience of that war showed the FAL to be too sensitive to the sand of desert warfare for the tastes of the Israelis. The various Arab armies had been armed with AK-47s (along with a mixture of various submachineguns, carbines and belt-fed machineguns, mostly Soviet) and the better performance of the AK-47 left the Israelis wanting something better. It probably wasn't lost on them that the greater recoil of the .308 was too much of a cost for the range and power, in an infantryman's rifle. In a belt-fed, no problem, but in infantry fighting, sometimes less is more. The competing designs were tested, and the Valmet-derived Galil won the test. However, the manufacture and issue of the new rifle was delayed by the 1973 war.

The Galil is made on a milled receiver. The original prototype rifles were made on Valmet receivers (no telling how they got from Finland to Israel, while the Cold War was still going on) which were then modified, tuned and tested by the Israelis.



The selector only has two settings on the ones we can have: safe and fire.



The Galil stock is derived directly from the stock of the FAL paratrooper version.



The Galil rear sight sits on the top cover, as it does on Valmet rifles.



The front sight is a “circle in circle” style. Notice the gas ports on the gas tube.

A brief aside here: In 1967, the Israelis figured out they needed a new rifle. By 1973 they had a new one ready to go. The U.S. Army has been trying to find a replacement for the M-16 (whether they actually need one or not is an entirely different matter) since, oh, about 1967. We still don’t have one.

The Israelis bought the technical data package (blueprints, materials and dimensions specs, heat-treatment processes) from the Finnish firm of Valmet and began production and issue of the new Galil. I remember seeing news stories on TV at the time, showing the new Israeli weapon. I don’t recall that any newscaster made mention of anything Finnish, or AK-derived. They were probably as clueless then as now.



The front sight has a flip-up night sight, with the glowing stuff long-since expired.

The idea was to make a rifle that was suitable for Israeli use, and could also be sold internationally, to bring in cash to Israel. They were imported here to the US for a while, but they were quite expensive, and when the import restrictions started slamming down, the Galil was on the list. Offered in 5.56 and .308, it was the darling of the mercenary set, the post-survivalist, pre-tactical crowd who were the defensive firearms opinion-molders of the early 1980s. Israel did export them to some countries, and they can still be seen in the hands of some South American armed forces and police organizations. But the Galil didn't last long in Israeli use, at least not wide-spread.

You see, part of the 1973 war was the emergency need of Israel for small arms, such that we simply boxed up and shipped them literal planeloads of M-16s and magazines. With

the M-16 in wide-spread use, the Israelis found that it was accurate, reliable (even in the desert sand) and rugged enough. In fact, it split the differences between the choices so well, it became the new standard.

The M-16 is more accurate than the AK, and as reliable. It is lighter than the Galil, and has better ergonomics, and best of all, it was cheap. So Israel switched to the M-16 and sold the Galils that they didn‘t have storage room for.



The rear sight also has flip-ups for night use.



Standard AK pistol grips will fit onot the Galil/Golani, so if you want something different….

At nine-and-a-half lbs. (5.56 or 7.62X51) the Galil is heavy. Despite that, it was not only sold to countries, but one, South Africa, built their own. Known as the R4 and R5, the rifle is well thought-of for its reliability, but some in the SA army and police forces fault it for lack of power. In fact, one former police officer I know remarked that when they started to encounter more and more criminals in vehicles, they traded their R4s back for FALs, so they'd have something that could "reach into the vehicle."



The night sights up. Notice the lack of glowing schmooie.



The magazine catch shroud on the Galil/Golani.



The upright charging handle. Much easier to get a hand on and manipulate.



Notice the difference between standard AK and Galil charging handles.

The Galil has a number of interesting technical details. The barrel is screwed in – no pressed-in barrel with cross-pin for Israelis, thank you very much. The gas system differs from the standard AK's in that the gas tube is just that, a tube, riding over the barrel and held in place by means of being trapped between the gas housing on the barrel and the receiver cover. Take the receiver cover off and the carrier out, and the gas tube slides a short distance in its track and then falls off. It is big and robust enough that dropping it will not harm it, and it is large enough that the chances of it becoming lost from having been dropped are nil. Both of which are good things. The gas tube is large in diameter, so there is room for grit and gunk. The rifle will keep functioning.

The charging handle is upright. That is, instead of simply sticking out from the receiver, it is bent so the cocking knob is at the top of the receiver, and you do not have to tip the rifle as far to cock it with your left hand as you would otherwise.

Apparently, maintenance is not high on the list of things Israelis like to do. Now, I've never been there, but I've talked to enough who have to get a feel for the standard level of Israeli cleaning and maintenance: somewhere between benign and utter neglect. So having a rifle made of parts that can be dropped and not as a result harmed, and once dropped easily found, sounds like a good thing. Which it is.

The carrier piston is slotted on its piston head, so as to allow dust and sand clearance and not foul and wedge in the gas tube. The AK is easily over-gassed (simply by adjusting port diameter by the designer/manufacturer) and the 5.56 cartridge operates at a high pressure anyway.

The rear sight is one good upgrade in the Galil. Instead of the pistol-like rear sight on the barrel sight block over the rear trunnion as with almost all other AKs, the Galil has an aperture rear, mounted at the back end of the receiver cover. While this would theoretically increase accuracy (longer sighting radius for one, more-precise method as the second reason) it doesn't do all that much. The crappy (pardon my French, and opinion, but for most it is true) trigger pull of the AK system works mightily against any kind of precision marksmanship. That people can shoot well with it is a testimony to their hard work and skill, and not of the superior engineering of the AK trigger. The sights are the "circle in circle" type that the Germans pioneered on the HK G-3, and which I have a lot to complain about. The idea is that your eye can quickly find the centers of two circles faster than it can find a post in the center of a circle. Which is fine, if what you want is blazing speed. However, if you then add a post back in, your eye is back to the "post in a circle" aiming method,

complicated by the eye's wanting to line up those pesky circles anyway.

If, when zeroed, the post is in the center of the front circle, all is hunky-dory. But if it isn't, your eye struggles. Post in the center of the rear circle, or line up circle-in-circle?

The Galil rear sight is good in that it is faster for the accuracy it has, faster than the rear blade. A large aperture is fast, and a smaller one more precise than the open blade sight system. The Galil sights also had flip-up night sights. The glowing radioactive material (radium, tritium, unobtainium) that those flip-ups had is long-since expired and inert. They can simply be painted-over with white paint to give you something of a night-sight setup. In the modern military, night-vision gear is so ubiquitous, and so effective, that flip-up glowing night sights are almost quaint.

The handguards are a pair of flat slabs of wood riveted to the forearm hanger. (Later models featured synthetic material for the handguards.) They provide a secure place to hold, while giving lots of air flow to the barrel for cooling. An important consideration in a desert environment. The open top leaves the gas tube clear to the air, while underneath the Galil has a bipod, configured so it can be used as a wire-cutter. The idea was that for long-range engagements, or precise shots, a soldier would have a bipod for support. If he has to cut wire, rather than bemoan the loss of the wirecutters he ditched several miles back due to the weight, he has built-in wirecutters on his rifle. As I mentioned, I remember seeing the Galil extolled on TV. Even then, I had to wonder who though of such stuff: "Let's make the bipod heavy enough to do double-duty as a wirecutter, add in the alloying and/or

hardening to cut wire, and then make each and every single soldier carry one all the time.” Wirecutters aren’t that heavy, and if you really need to cut with a rifle, shoot the wire. That’s why flash hiders have those clever little divots on the front face: to trap the wire and locate it for shooting. (What can I say; growing up in an engineering household, I thought of such things early.)



The wire-cutter parts of the bipod.



The Galil has “sand-shovels” on the gas piston.



The Galil gas tube simply rides in a pair of short slots and will fall out when the cover is off if you aren’t careful.

The stock folds. It is actually of a size and shape that you can use it for support in aiming and not have your face either hanging in the air or chewed by your own stock. It folds, but with quite some effort. The folding stock comes straight from the design for the folder on the FAL. The Galil magazine catch has a shroud around it, so you are less-likely to bump the tab and drop a mag. It does mean, however, that you have to get your finger up in there to release the magazine when you’re reloading.



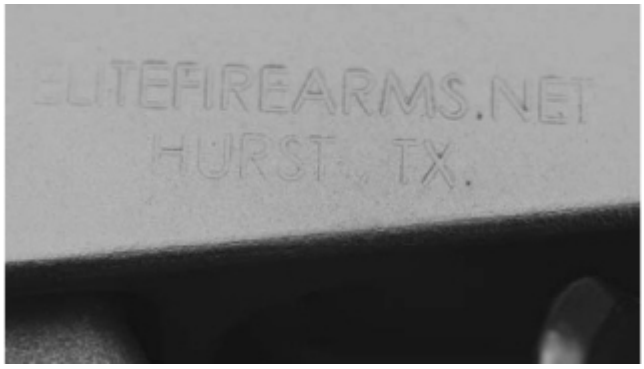
The receiver in its milled glory. That rivet up front holds the bullet guide in place.



Israeli magazines come in steel, aluminum and plastic. 35 rounds for 5.56, 25 for .308.

Magazines? Since the Galil was the first AK derivative to be chambered in 5.56, the designers had a free hand in making magazines for it. They came up with magazines that work.

However, since then later designs of AK for 5.56 magazines have followed a different path, so if you have a Galil you must have Galil magazines for it, and no others. The later 5.56 AK magazines will not work. I have read of, and seen photos of, adapters that allow you to use USGI AR-15/M-16 magazines in a Galil. I have never seen one, nor has any owner of a Galil I've talked to. I suspect that, at something like $100 for an adapter, Galil owners are happy to buy three or four actual Galil magazines and call it a day. That, and every adapter I've ever read about, the author mentions needing three hands to insert or remove a USGI magazine from the adapter during a reload. That'd put me off even if the adapter were free for the asking.



The Elite Firearms Galil arrived in 7.62X39. Verrry innnnn-teresting.

Last is what many like to point to as the crowning achievement of the Galil, its safety. The Galil's safety lever is on the left side of the pistol grip, and on the select-fire ones goes Safe-Semi-Full. It is linked to the right-hand selector/ dust cover, and they move in concert. Move one, and the other moves as well. Too bad it has two glaring problems. One, it goes the wrong way. Two, as you'll quickly find out, since it is geared to the regular AK safety lever, it "clacks" just as loudly as any AK in existence. And the pistol-grip lever goes the wrong way. When I discussed it with Marc Krebs, he

mentioned that the natural direction of the thumb would make the lever go the right way, and the Israelis tried it both ways and went with this.

I guess being born an Israeli makes your thumb work differently than mine. Me, I can't get the thing to go in either direction with anything that approaches a normal motion. I struggle with it. As an "improvement," for me it is a bust.

The Galil as a parts-kit import had to wait on two things: Israeli willingness to de-mill and export, and a source of milled receivers here in the US. Of the two, the latter was the more pressing.

Century International led the way with parts kits imported and then assembled on milled receivers. One roadblock they encountered were barrels. By the time the Israelis were ready, and the milled receivers available, the ATFE had decreed that barrels were not kosher for imports. So Century had to also locate a source for barrels as well. The result is the Golani Semi-auto Sporter. Each comes as it would have been issued, with a 35-round magazine but lacking the bipod/wire cutter. (I imagine the name change is for a very good reason: someone else owns the rights to use the name "Galil" commercially in the United States. Lacking the rights to the name, Century calls the rifle the Golani. Good for them.)

Complete with bipod and carrying handle, the Elite Firearms Galil is a well-fitted rifle.



The Golani is your basic milled-receiver, heavy 5.56 rifle that works thunderously reliably and shoots well enough to hit what you're aiming at. You're never going to do well in an NRA High Power match, but that is simply due to the inherent limitations of the AK system, not the rifle/barrel/ ammo combo itself. I had no problems off the sandbags getting 20-for-20 runs on the standard computer pop-up course at the National Guard base. The trigger is what you'd expect, a smooth but a bit creepy takeup and letoff, and clean, non finger-hammering reset.

The receiver is finished in a matte black Parkerizing. The markings are clearly stamped, and just as clearly are not polished or cleaned up after stamping and before finishing. I find the stock comfortable, and it would be interesting to see if someone could make a good-quality copy of the Galil/FAL stock for other AKs. With Russian/Bulgarian folders trunnions

and stocks listed at $189, you've got to figure that there is a market for a better-feeling stock, if it is competitively priced.

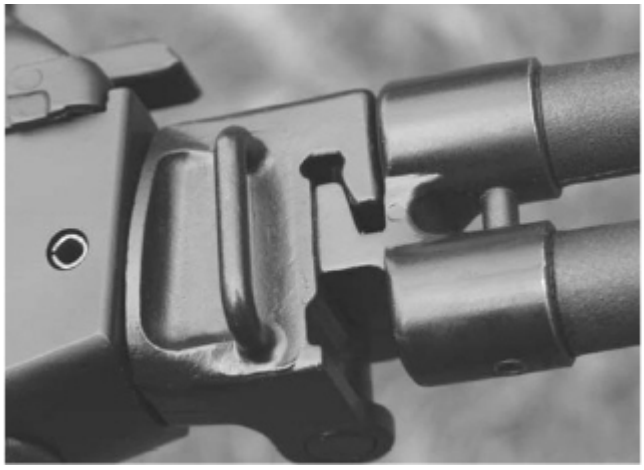


Elite painted in the dots on the night sights. They don't glow, but they do look good.



Even at night you'll get some benefit from big, white dots. Just not much.

The magazines, as I mentioned, are Galil-specific, so if you plan on getting a Golani or trying one out, you'd better find a source of magazines.



The robust Galil folder appears to have been given a new paint job by Elite.



Elite even marks the selector/safety settings in Hebrew.



In case you thought you were mistaken, yes it is 7.62X39.

Another Galil that arrived just in time to make it into the book is one made by Dave Michener at Elite Firearms. What makes this one interesting is that Dave built it up as a 7.62X39

rifle, despite being on a milled Galil-type receiver, and having all the other Galil parts on it. Dave also installed the bipod/ wire cutter, and the end result is an interesting rifle. He did deviate from the Galil on the pistol grip. I'd bet you can have the proper Galil if you want to. He out-Galil'ed the Golani in not only including the bipod, but the carry handle as well. The change to 7.62 is interesting, and I had to wonder just what other details it involved. The receiver is a milled, clearly marked 5.56 Ohio Ordnance one, and the changes had to at least mean a new bullet guide. The advantages are cheaper ammo and commonality of magazines. Using standard AK mags (the Elite Firearms rifle came with a synthetic mag) means you aren't locked into expensive Galil mags. But it does mean you're locked into a 7.62 rifle. I wonder if it would be possible to make a 5.56 Galil that uses the newer 5.56 AK mags? (Another long-term project to soak up more time, machining efforts and R&D efforts.)

Peruvian Special Forces secure an exercise area as U.S. and Peruvian Air Forces perform a joint combat search and rescue exercise.*U.S. Air Force photo/Tech. Sgt. Kerry Jackson.*





The rear handguard bracket is also the carry handle mount, and the locking slots for the bipod.



Cut some wire and you'll mar the new baked-on finish. That would break the hearts of some on the internet.

The Elite Firearms rifle is well-made, but this particular one did show one of the drawbacks of the sight system, taken from the Germans. As-delivered it hit a foot low at 100 yards. Once I adjusted the front sight, I had the dilemma I mentioned earlier: does the eye focus on the post, or the front circle? And while you're deciding, time is wasting and your eye gets more tired.



Folded, the Galil (Elite firearms here) is a compact package. Just be sure your state is OK with it.

However, minor mechanical problems like that are easily solved, and the Elite Firearms Galil is a very nice rifle, that has worked 100% so far.

So, should you consider a Galil or Golani? Yes, with reservations. If you want something that will not be offered again, (parts kits are done coming in, the guns that are built are pretty much all that will be built) and which will probably be something of a collector's piece, sure. If you want to complete your collection, by all means.

If you're expecting some sort of super-rifle because it is a milled receiver, or Israeli, you'll be disappointed. In those aspects it is just another milled-receiver AK, and while the Israeli connection adds a certain amount of panache, it does not make for a rifle any better than others.

Me, I'll be keeping one or the other, I'm not sure which. I'll have to do more testing. (Yes, it's a dirty job… .)

Chapter 12

Bulgarian

As with so many newly-formed countries carved out of the Austro-Hungarian Empire, Bulgaria had a hard time of it until the fall of the Berlin Wall and the collapse of communism. Before someone writes in, I know that Bulgaria wasn't part of the Austro-Hungarian Empire. But it was, like so many of the small countries in Eastern Europe, a flashpoint for larger neighbors. At the edges of Germany, Russia, Turkey and right next to the Balkans, Bulgaria spent a lot of time fending off its neighbors. In WWII, the Germans "had" to invade Greece (Mussolini invaded Greece, had his hat handed to him by the Greeks, and to keep his ally happy, Hitler ordered the Wehrmacht in) and to do so they had to go through Romania and then Bulgaria.

My Bulgarian SLR-100H, in all its milled glory.





The scope mount, mounted on the left side, which has never had a scope on it. A scope on an AK? With all due respect to the Soviets, who were they kidding?

Bulgaria acquiesced and spent the next four years supplying the German war effort. Those efforts did not serve them well when the Soviets rolled back West and by the spring

of 1945 had control of all of Eastern Europe. Bulgaria became a signatory of the Warsaw Pact and supplied weapons and manpower to the Soviets.

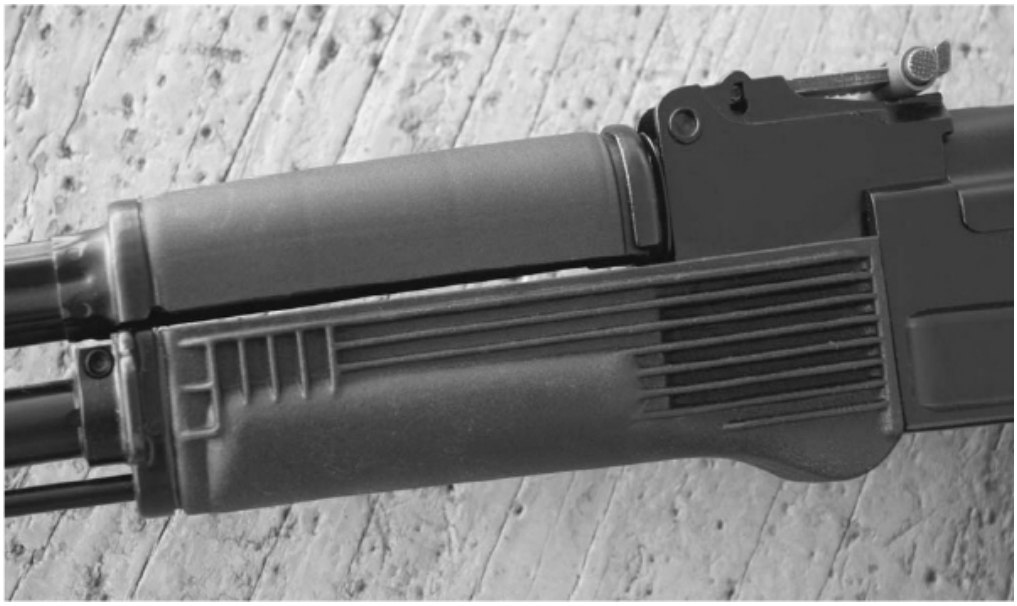
Part of that effort was the manufacture of AK-47s. The import of Bulgarian AKs began in the early 1990s, and they came in a curious configuration: they were and are milled receiver AKs, in 7.62X39, but with AK-74 ninety-degree gas blocks. That is, the gas block is configured so the port is drilled ninety degrees to the bore. The shape of the gas block thus is not the classic, tapered-back block of the ’47 but the upright and rounded of the ’74.

The receivers are, as mentioned, milled, and the machine work is first-rate. The lack of toolmarks is impressive, and the surfaces do not appear to have been polished. Could they have surface-ground the receivers? And if so, why? If they were milled and then polished, then I have to tip my hat to the polisher, and he did a first-class job.

As they were imported over the Clinton Administration years, many are “neutered” and have the muzzle threads covered with a cap of some kind. I’ve seen some cap tack-welded, but the one I acquired had the cap secured with a high-grade thread-locking compound. It took quite a bit of heat to break the bond, and then the application of a really big pair of locking pliers to unscrew the cap. The threads are the standard, AK left-handed threads, and so I can now install any slant-brake or flash hider I desire.



If the machined magazine "divots" weren't clue enough, the lack of trunnion rivets on the back end tells you it is a milled receiver.



The handguards, looking just like (and for all I know, actually are) AK-74 handguards.

The Bulgarians have a scope mount on the left side, so you can mount whatever optics you desire, either classic Soviet/ Warsaw Pact optics, or a basic mount and better, modern

optics or red-dot sights. As much as the Soviets wanted to bring their rifles up to date, I really can't see that the scope mounts do much good. By the time you have a mount high enough to allow the removal of the top cover, you're line of sight is too high, and you can't get a good cheek weld. In that regard the AK is like the handle-mounts of the AR-15/M-16. Yes, you get optics on it, but you can hardly use them, what with your face floating around behind the scope with no support. The classics-lovers will hate me, but in almost all aspects the Soviet-made optics suck. They really are good for collection completeness, but not so good for improving your shooting.

Also as a curious detail, my Bulgy has AK-74 style handguards on it. Since it came in via the Arsenal importer, I have to assume that they took a neutered Bulgy, and then installed US-made handguards and other parts. The handguards certainly have the look of K-Var handguards. The stock is synthetic, and has the sling swivel on the left side instead of the bottom of the stock.



The classic, milled magazines "divots" that let everyone know: "Milled, heavy, quality, classic."

In all respects, it is the common mixture of classic and modern details that so many AKs exhibit – and which drives the purists crazy. I mean, the idea of an AK-74 style gas block on a milled-receiver 7.62X39 rifle is enough to give them the vapors. Me, I only care that it works, and this one works just fine, that you very much.

Notice that this is a milled-receiver Bulgarian from the new-purchase contract. A member of the Saqlawhiya Provincial Security Forces drills prior to heading out on a joint patrol with Marines from 2nd Battalion, 24th Marine Regiment and soldiers from 1st Battalion, 2nd Brigade, 1st Iraqi Army Division. *Photo by: Cpl. Nicholas J. Lienemann USMC.*



Bulgarian AKs and Iraq

When the US rolled into Iraq, the political authorities expected flowers, parades and an easy out. (Do these guys not read history?) What we got was a hornet's-nest of political unrest, suppressed but not stamped out by decades of Saddam Hussein's rule. Also, as part of the war with Iran, and years of embargoes, were hundreds of thousands of clapped-out AKs. My friend Dave Fortier was there, and he reported that even

the newest-looking AKs were pretty shabby. And those with mileage on them? Pretty worn and tired.

So it should have come as no shock when the Iraqi Authority went out and bought AKs. You'd have thought they were trying to steal something. I even heard it from people here, who should have known better. "Why don't they just take all the existing AKs and rebuild them?" went one complaint. If the whole lot are worn and tired, where will the new parts come from? And the AK does not lend itself to overhaul, just broken-parts replacement. For the cost of rebuilding a folder that has a stock that wobbles thirty degrees from side-to-side, you could almost build a new rifle. And replace a barrel? Given the many sources, timeframes and eras, as well as countries they were built in? Give me a break.



As all importers have to, the importer marked who brought this rifle into the country.



Notice the lack of a scope mount on Kermit. I will never mount a scope on this rifle, so why have the base?



“Made in Bulgaria.” The rifle, the stock, or just the label? My bet is, the whole thing, pre-ban.

So new AKs were bought. And the uproar started all over again. It seems the contract winners were the Bulgarians. The Russian Federation complained, saying the Bulgarian production contract with the Soviets didn’t include export sales. (We’ll leave out of consideration the enforceability of a contract between two non-existent entities, at a time when

such contracts were no-doubt coerced into “agreement” between the two parties.) The AKs were bought, shipped and issued.

And they were exactly like mine, except for theirs being select-fire and mine not. The Bulgarians shipped select-fire models of the SLR-100H; milled-receiver AKs in 7.62X39, and with plain muzzle caps instead of slant brakes, and fixed synthetic stocks.

I’ve talked with some of the people who trained the Iraqis who were issued these rifles, and they concur: plain caps, no slant brakes, milled receivers. I haven’t seen a photo of a folding-stock Bulgy in this contract, but then they didn’t photograph them all just for me.

So, just when you thought the milled-receiver 7.62 fixed stock AK was on the way out, they go and make more.

The AK-74s

When the Berlin Wall fell, and the former iron curtain countries started trying to make real money, the Bulgarians found they had something we wanted; their AK variants were of a quality level above those of their neighbors. In particular, their AK-74s were of a quality level not seen from other countries. I think also, the downsizing of the Bulgarian Army had something to do with it. This is a common story with many of the eastern European countries. Under the Soviets, they had to maintain a far-larger army than they needed, because the Soviets expected their Warsaw Pact allies to be the replacements in any future European war. With a military-age population of nearly a million and a half, I would expect (the numbers can be maddeningly hard to pin down) that the

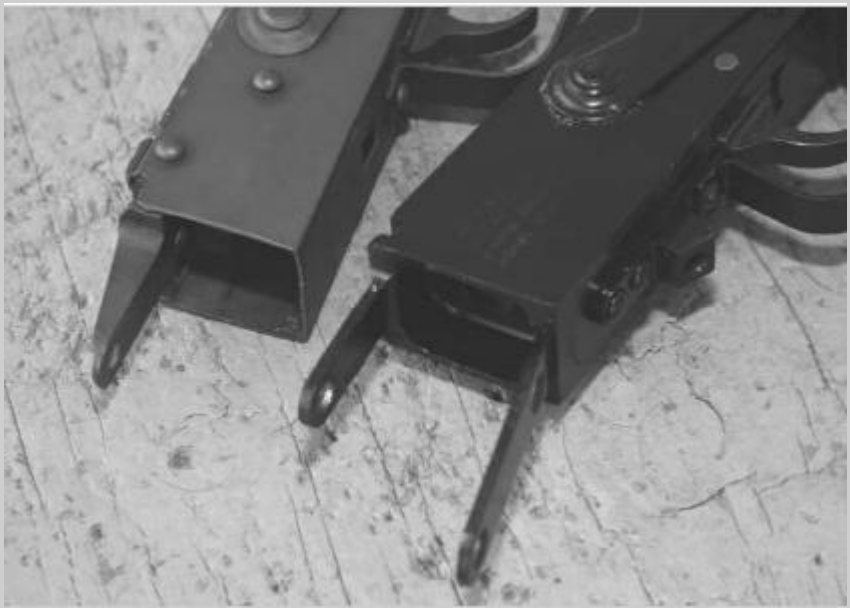
Warsaw Pact Bulgarian Army was on the order of 100,000 men. Once the wall fell, and Bulgaria joined NATO, it down-sized to just over 50,000. At the former figure, and with warehouses devoted to replacement rifles for conscripts in the event of a war, I would estimate the Bulgarians had something like a quarter-million rifles on hand. That's a lot of iron to sell to those crazy Americans. And they were all very good rifles, too.

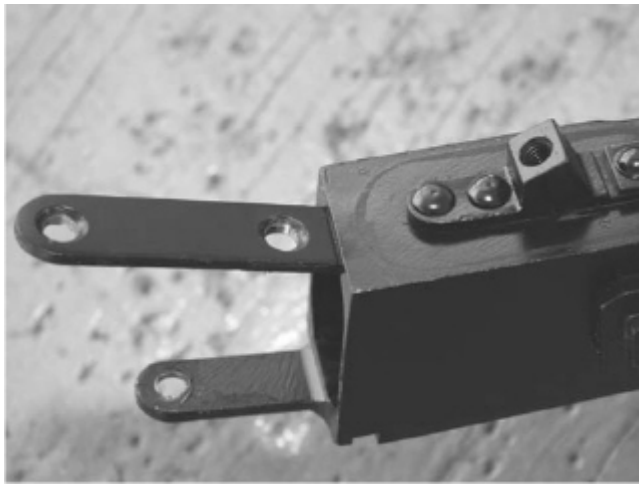
Many of the parts kits imported before September of 2005 (when barrels became verboten imports) were Bulgarian AK-74s. I acquired a few of these when they were not quite as cheap as dirt, but certainly cheaper than gravel. I sent one off to Missouri Custom Armament. There, Mike Branson built it up for me. We took a few liberties from the usual/traditional build and made some changes. First, I could see no point in yet another AK with a scope rail. So we left that off. Next, I was pretty tired of black rifles and the idea of yet another black rifle was enough to send me into a boredom-induced coma. So, Mike gave it a Norrell's OD Green flat finish. The K-Var furniture is an exact match, so he assembled, tested, then painted "Kermit."

The rifle came out very nice, indeed, as you can see from the photos. I used it at a couple of LEO AR-15/Patrol rifle classes, just to wring it out and show that you didn't need a $2,000 AR-15 to do well in the course. I shot a clean score in the qual course and then shot perfect on the computer pop-ups on the National Guard range. That involves computer-controlled hit-sensitive targets out to 300 meters. This is good, but perhaps not the amazing marksmanship you might think. The 300 meter targets are almost a foot and a half wide, and

almost three feet tall. Any rifle that can shoot better than 4 MOA has a good chance of shooting clean.

The milled-receiver tangs are not riveted in, they are (top) an integral part and (bottom) welded in place.





The two tangs differ in length, and you must keep that in mind if you plan to change stocks.



The sidefolder trunnion differs from the fixed-stock and underfolder trunnion, and if you want one you have to build it in from the start.



The sling swivel on the stock is on the side, just like an AK-74, but the stock does not have the ’74 groove running down it.



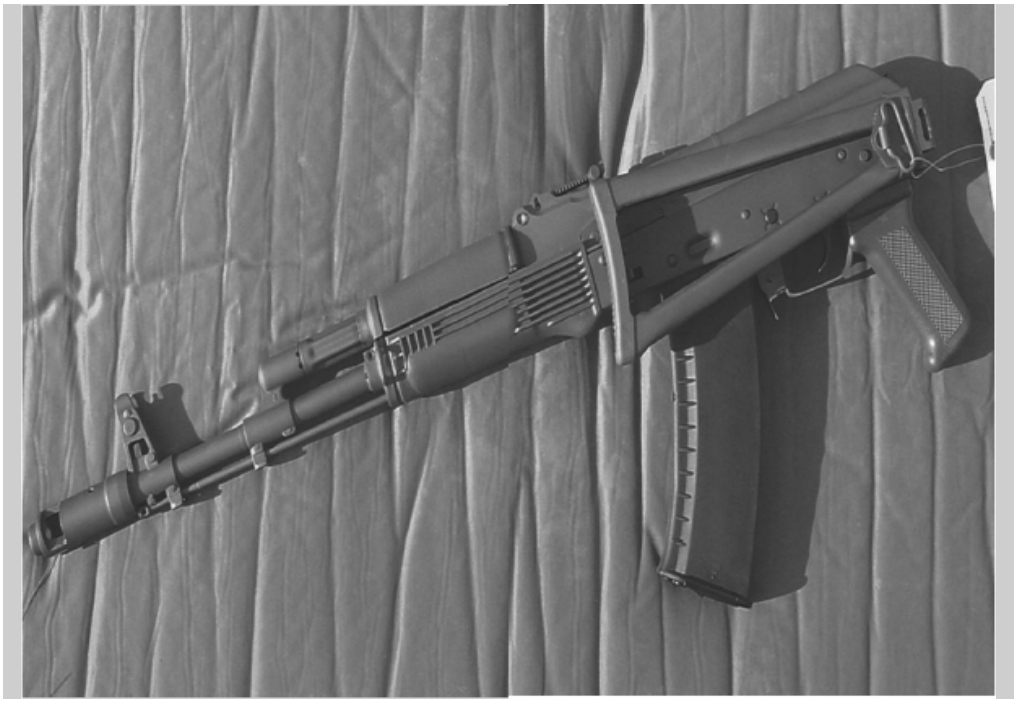
The 90-degree gas block, an AK-74 change, here on a milled-receiver 7.62 rifle. Things like this make the purists crazy.

“Kermit,” my green AK-74 parts-kit project gun, in all its non-black glory.



In the course of building and testing the gun, I talked with Michael about the idea of a more-accurate AK. I have to use a quote of his from our emails: “If I have one more customer ask me how much it will cost to make their $200 parts kit into a sub-MOA gun, I’m gonna scream. No, adding a $500 receiver will NOT do it.” We were talking about swapping a mil-spec barrel with a premium tube, and then screwing the new barrel into a milled receiver for the best-possible fit. He had experimented with just that, and found that it simply couldn’t keep up with ARs. In essence, an NRA high Master, using the best-triggered, best-barreled, best-built AK fed match-grade ammo, was going to be hard-pressed to keep his shots in the black at 600 yards. Since NRA High Power is not an “in the black” kind of game, but an “in the X-ring” kind of game, the whole idea simply wouldn’t work.

This is why they are called “sidefolders.” The stock swings to the side instead of underneath.





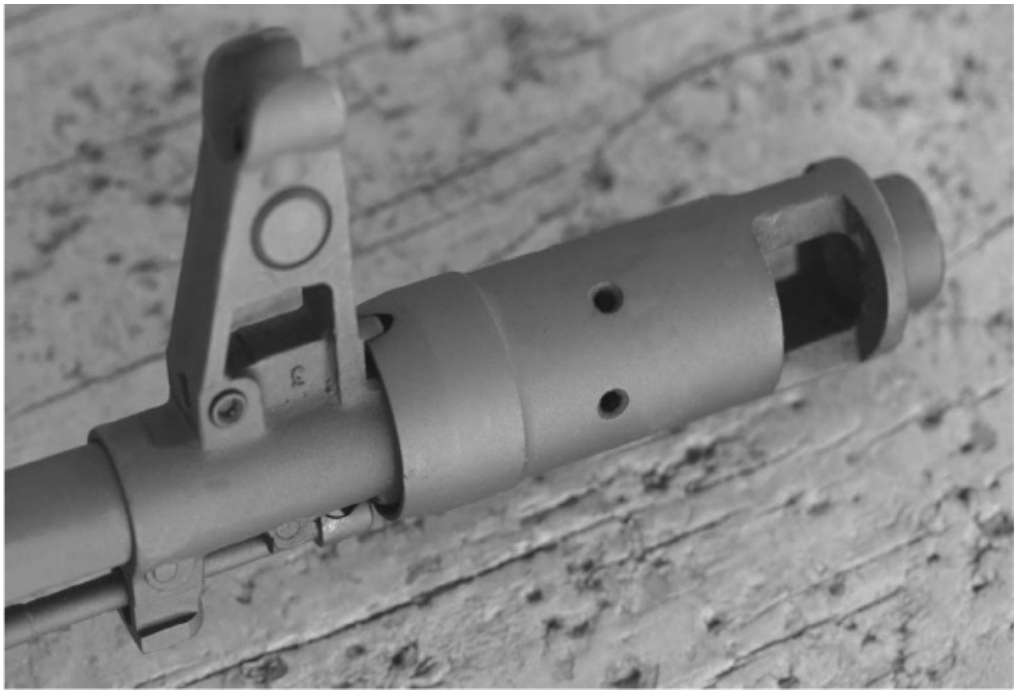
Here we see, in two Bulgarian rifles the difference between the ’47 and the ’74 muzzle threads. The ’47 (left) has the barrel itself threaded. The ’74 (right) has the front sight casting threaded, which is pinned over the barrel.



Another difference between the two Bulgarians are the magazines. The ’74 is straighter, and almost always polymer or Bakelite.



The sidefolder locks in the folded position by a simple door-latch type catch.



The ’74 has a big muzzle brake on it. Despite the size, the standard AK bayonet fits on either the ’47 or the ’74.



The closest NG computer targets are just head and shoulders, but at 50 and 100 meters they can be a challenge if you are not paying attention.



Here Mike Branson is test-firing Kermit. Notice that he holds the magazine, despite the admonition from some that it is a no-no. (AKs don't care.)

But, as a typical-range combat blaster, the AK-74, especially a Bulgarian, and most especially one built by MCA,

is a really good one. The cost of ammo also can't be beat, so why everyone doesn't own one is beyond me.

One thing you do have to be aware of, and that is the muzzle brake. It does work, although it isn't quite as "blasty" as some comps you'll see on ARs. Whether that is due to the AR comps being more finely-tuned, or that 5.45X39 operates at a slightly lower chamber pressure, I don't know. But if you show up at a rifle class with an AK-74, don't be surprised if no one want to be your new buddy. The blast is enough to be noticeable on the line, and other shooters will give you more space as a result.

The stock is a lot more comfortable than I would have expected a folding, steel stock to be. The rounded edges are a lot better than the underfolder stocks are. So, if you have to have a folding stock, consider getting a sidefolder installed on your next build. And definitely contact Michael at MCA for it.

Chapter 13

FEG

The Hungarian FEG AKs come to us through three different periods. The first is the small batch of Kassnar imports in 1986: 7,000 in total. They came in in two configurations, fixed stock and underfolder. The second is the stream that came in after the import restrictions and the fall of communism, which are fixed-stock rifles with thumbhole stocks, but otherwise AKMs. The third are the parts kits of the AMD-63 with fixed wooden stocks and the AMD-65, with various combinations of plastic, wood and metal furniture, and a wire folding stock.

Mine is one of the first batch, an underfolder. I acquired it back when they were relatively new. While I was working at a gun shop, Tim, the boss, called us together (well, me and John) to consult on buying a collection. The guy bringing it in looked very nervous and had a couple of other guys in suits along with him. The seller had a pair of footlockers full of guns: several each of the FEG, folding and fixed-stock, Beretta 92s, Makarovs, Mossberg pump shotguns, etc. He also had an impressive stack of ammo cans, some full of ammo, and some full of magazines for the various and sundry guns he was selling. In the course of working up what was there and figuring the worth, the tale sort of spilled out of him: he was

liquidating. In addition to having an FFL, the seller also had a pharmacist's license. Or should I say, would soon have had both. Past tense. The two guys with him were ATF agents, and he was selling his guns because he would soon no longer have a Federal Firearms License. Why? He'd been caught, as one agent politely put it, in the act of "selling prescription drugs without benefit of prescriptions." His last official act as an FFL holder was to sell his guns. I don't remember now if he was going to go to prison, but I kind of doubt he could have dodged it. And not a "Club Fed" prison, either.

Looking back, I have to wonder: why didn't the ATF just confiscate his guns, and destroy them? Or put some in the local office arms room as references, and scrap the rest? The only thing I can think of is that he was selling before more charges were piled on. Or, the local office wanted to avoid any extra paperwork on their part. (Considering the number of guns, the amount of ammo, and the forms filled out in triplicate for each and every item, I can understand their wanting to have him liquidate.) Until he was officially charged, as in hauled before a judge and slammed with the full weight of the paperwork, he could still own guns and have an FFL. But as soon as he was charged, his license would be revoked. Any firearms he held would then be unlawful, calling for more charges against him if he didn't get rid of them before anyone "noticed" he had firearms. At least this way he could quietly relinquish the license, the ATF didn't have to do any extra paperwork, and he might get something to offset his legal expenses. The exact timing of it all really didn't concern us then, and is only an item of mild curiosity now.



Semi-gloss black baked on over Parkerizing. Class, durable, and the sign of a well-built AK.



Yes, the wood is that blonde.

So John and I conferred, and then advised Tim. He wrote a number on his note pad and showed us. We nodded. Then, the poor guy's wife came in. Holding a bawling infant, she lit into him so ferociously that even we flinched. I think the two ATF agents went a bit pale. (No telling how long they'd been around her that day.) Tim then spoke up, and mentioned a number that was less than a third of the figure we'd looked at on the pad. With a gulp, the poor guy said "OK." It seems we were the last gunshop on their trip. If we said no, he wouldn't

get a penny. Whatever we had offered, he'd have said yes. Afterwards we asked Tim: why? Why lowball an already good (for us) price? He said he was already just about out of sympathy for the guy and his plight when his wife came in. After that, he was ready to be done with them, and named a figure that he was sure they'd say "No" to and then leave. So we bought the collection.



Notice the shape of the pistol grip at the bottom: swells to keep your hand on.

In all, a messy tale.

Except that our shop was like a lot of others, in that the employees could often acquire guns at bargain prices. The store policy was that when collections came in, we could buy one gun from it at what the shop paid for it. So, John and I each acquired an SA-85 FEG Hungarian AKM, two ammo

cans of ammo, and two ammo cans of magazines, for $100. (Yes, be jealous.) The ammo was copper-washed steel-cased Chicom stuff, ammo that worked just fine. The magazines? I don't recall much about them, and they have since gotten mixed in with all my other AK mags, but my recollection was that they were not Chinese. Chinese mags looked different, and these didn't look Chinese. So they were probably Hungarian, the originals that came with the rifle in the shipping box.

The FEGs of that era were imported by mistake – that is, a mistake on the part of the government, to approve the importation permits, not a mistake on the part of the importer or Hungary. The finish is a gloss black baked-on finish applied over a smoothly-polished but not mirror-bright steel. Unlike the Chinese, everything fits tightly, there are no rattles, the metal to wood fit is exemplary, and the trigger does not have undue reset-slap. Some have commented that magazines fit loosely in theirs, but I haven't had any problems with mine. The AK isn't really a "tight fit magazine" kinda rifle anyway. The importer of the first batch was Kassnar, bringing in 4,000 underfolders and 3,000 fixed stock rifles. Despite the relative amounts, the underfolders have always sold for more, as they were among the first underfolders of the time, and clearly much better quality than the Chinese. One aspect of the underfolder stock on the Hungarians is the angle: the SA-85 stock comes straight back from the receiver, unlike that of the Chinese, which locks in place at a downward angle. The underfolder stock isn't very ergonomic anyway, but the straight line of the FEG makes it a bit easier to shoot well.



A Kassnar import, one of the early AKs brought into the US.



A good, clear roll mark, not like the electric pencil buzz-marks seen on so many AKs imported lately.

The wood of the FEG is also unmistakable. Unlike the laminated wood, or the red-stained "whatever" wood of most AKs, the Hungarians used steamed elm as their furniture material. Blonde, as in Scandinavian supermodel blonde. That, and the pistol grip has a unique shape, with knobs front and rear to lock your hand onot the grip.

As legally-imported imports, the SA-85M of the Kassnar set have no USA-made parts on them, nor do they need them. They are fine as they are, at least until the next go-round of legislative meddling in things ballistic. They are reliable (I mean, they're AKs, right?) and accurate. The accuracy is attributed to a lack of chrome-plating in the bore, and some

advise not shooting corrosive ammo through the FEGs. Given that anything not made in the USA is likely to be at least mildly corrosive, that hardly is helpful. If it worries you, be sure and scrub your bore after shooting and leave it with a light coating of oil for storage in the rack, safe or closet. I have used mine for many years now with only minimal care given to the bore, and it is still shiny, sharp, and groups consistently accurately. Again, for an AK.

The FEGs brought in by Kassnar are top-drawer AKs, with all of the details tended to. The finish, as I said, is a semi-gloss black, baked on over Parkerizing. It wears well, protects the steel, and looks good to boot. The stampings are clear and straight. FEG added nice details like the inside of the buttplate "U" of the stock, which has a small pad to keep the forearm wood from being chewed up by the edges of the stock plate. The top cover fits snugly. The stock does not wobble. Whoever assembled it didn't mar the pin heads in assembly, and since I haven't had it apart since it came to me, they remain unmarked. It has proven reliable with any ammo, from every magazine I've fed it with. If you want a nice AK, you'd do a lot worse than to track down one of these.



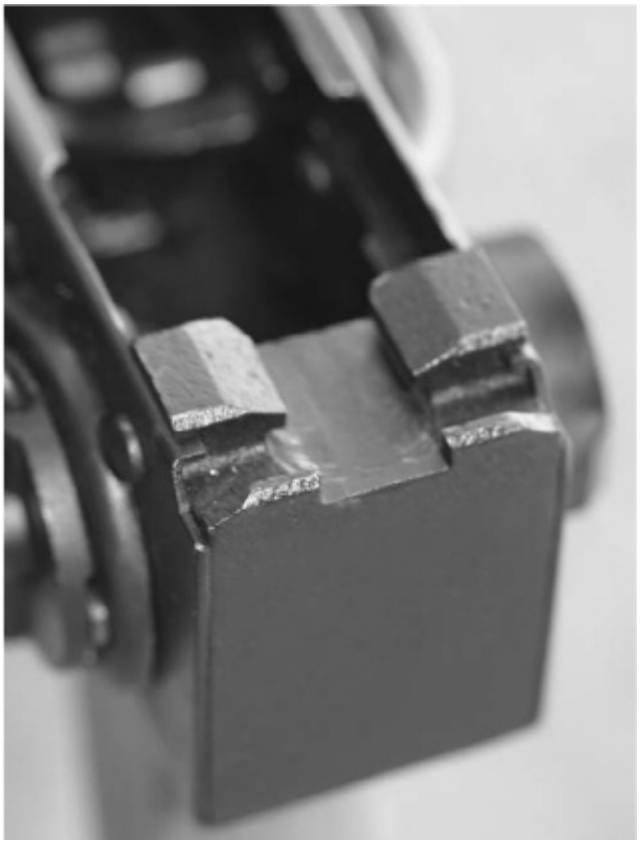
To fold the stock, press the big button on the side.

Mine is nicely accurate, and John proved that one day. Our club was one of the first IPSC clubs (before the USPSA was even formed) to hold 3-gun matches. As president of the gun club, I was encouraging everyone to shoot as much as possible and enter all the matches, so I'd often bring extra rifles or shotguns to loan out during the 3-gun matches. John showed up, and having mis-read the calendar, hadn't brought a rifle. He had his handgun and an Ithaca M-37 pump that he always had with him. So he borrowed my FEG, and promptly kicked ass with it. The rifle stage was a close-range hoser, with the farthest target maybe 75 yards away, and with lots of shooting. He beat the best, for both time and score.

This AK never leaves the collection. Oh, the problem with the importation? It seems that someone in the depths of the government bureaucracy approved the importation of the 7,000 rifles without checking on one important detail: were imported firearms from Hungary allowed? Back in the days before the fall of communism, few communist countries could be exporters to the USA. Hungary was not on the short list. So, while the rifles imported could be tracked down, it would create a great economic hardship, require a great deal of government effort, and was it worth it? The rifles were not, after all, machine guns. It wasn't like someone in the shipping department of FEG had shipped crates of select-fire S-85s. They had shipped SA-85 rifles. So, the government simply told Kassnar no more could be brought in, and that was that. Of course, then the Berlin Wall fell, and things changed. They changed a lot.



The stock rotates underneath (hence: underfolder) and clears a magazine if there is one in the mag well.



The rear trunnion has the recoil spring guide slot and the cover slot, but the back is blank. The stock folds, there's no need for more hardware.



The rails are nicely cleared for the carrier to go in and out when assembling or disassembling.

In 1989 the import laws were changed, and a whole lot of rifles were simply banned from import. Others could be brought in, if they had “neutering” features on them. The big pants-wetting hysteria items of the anti-gunners included pistolgrips and threaded muzzles. (Yeah, like the gang-bangers who were doing drivebys were launching rifle grenades from their firearms. But logic has never been the strong point of the anti-gunners.) So the next batch of FEGs were so-neutered.



The stop-pad in the stock.

Imported by KBI, the second batch features thumbhole stocks. Actually, the stock is the buttstock and the pistolgrip connected by a bridge of wood, all carved from a single piece. As pistolgrips go, it is a bit clumsy, certainly ugly, and does nothing to reduce the supposed attributes that the anti-gunners feel pistolgrips give. Remember, as post-import ban guns, they are OK as they are. Change the stock to a standard stock and pistolgrip configuration, and you'll also have to add more USA-made parts to make it 922 (r) compliant, as if it were any parts kit you'd built.

The newest bunch of Hungarian AKs brought in were the kits, and assembled kits offered for sale. Those are the AMD-63 and AMD-65 models, and there I think the Hungarians went wrong. The newest models (made for their armed forces, so they are "real-deal" AKs in that they aren't gussied-up export models) take the worst features of the AK and make them worse still. The folding stock of the AMD series are wire stocks with a crossbar on them. No place to put your face, and no real way to aim except have your face floating behind the receiver, trying to line things up.

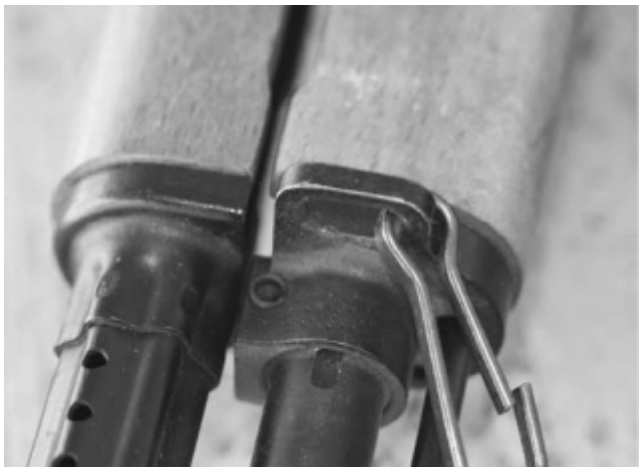
Up front, it gets worse. Not only did the Hungarians adopt the vertical foregrip like the Romanians had, they attached it to a sheet-metal "handguard" that simply acts like a skillet. When the barrel gets hot, the handguard heats up, and your hand suffers. If you choke up on the pistol grip, your hand nestles or cradles the sheet metal guard. Luckily, the handguard can be changed, but the stock you're stuck with.

Out at the muzzle, the Hungarians come with a muzzle brake. Forget for the moment that a 7.62X39 rifle really doesn't need a brake. But this one does, for without the brake

the barrel would be too short. So you can't take it off without immediately replacing it with something else. (And also, technically, being in possession of an unlawful rifle while you swap parts.)



The gas tube has four ports on each side.



The sling swivel is part of the handguard retainer, as on all AKs.

If you've got to have it, for the looks, then go ahead and get it. But don't try to convince the rest of us it is for any reason other than the firearms equivalent of flames painted on a car.

The changes to the AK they made really didn't matter to the Hungarian Army, for there really wasn't much of one. In an attempt to fulfill their Warsaw Pact obligation, the Hungarian government attempted to build and equip a force

commensurate with the Soviet Union's needs. That led to a collapse of the economy (even a socialist country needs an economy) and the attempted revolution in 1956 made it clear: the Hungarians were going to be of no help. So, the Soviet Union simply moved an entire Red Army Group into Hungary, and made the Hungarians pay for their upkeep. Not the only country to be so-treated.

Chapter 14

Saiga

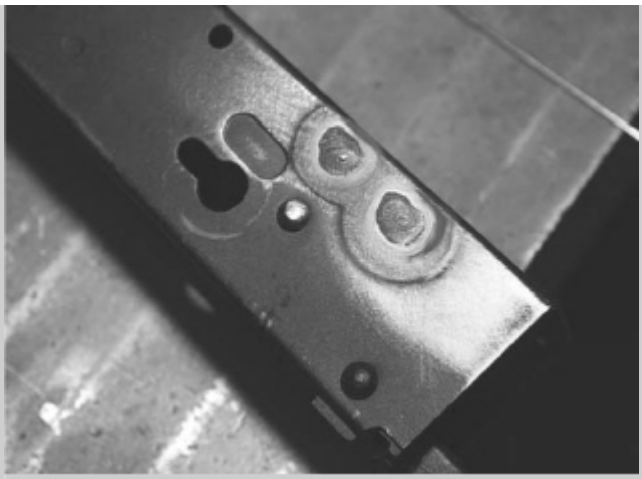
You don’t see many in a duck blind, but yes, Virginia, there is an AK shotgun.

What does it take to build a Kalashnikov in a shotgun gauge? You don’t know? Then let’s go down the list.

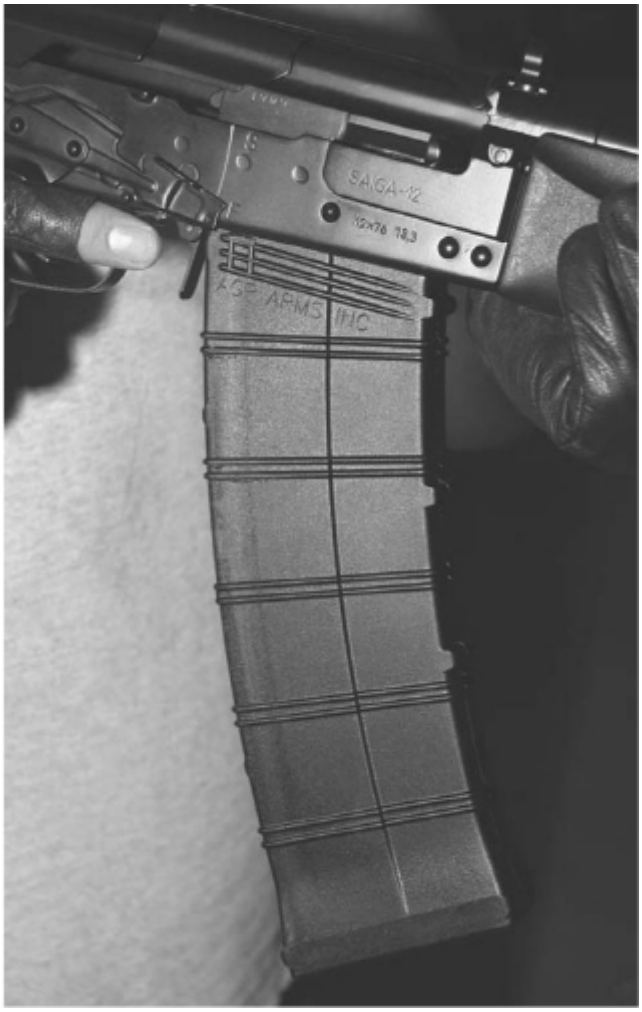
First of all, you need a receiver channel that is wide enough to hold all the parts that will be shuttling back and forth. The barrel has to be larger, because the chamber is larger. A 7.62X39 bullet is a mere .311” in diameter, while the wad or slug of a 12 gauge shotgun is nearly .75”. So we have a wider chamber and thus a wider barrel, which means a larger trunnion to hold the barrel, and a larger bolt to close and lock into the trunnion and shuttle back and forth.



The Saiga receiver before welding to fill the extra holes.



Welded, ready for grinding down and refinishing.



The black APG ten-shot magazine in place. Insert this after you have installed US-made parts

The larger bolt will need a stiffer spring to deal with its weight. However, the 12 gauge cartridge operates at a much lower chamber pressure than the 7.62X39. Whereas the rifle runs in the low 40,000 PSI range, the shotgun runs at a max of 12,000 PSI. The lower pressure means the shotgun has to have a larger gas port to generate enough gas-powered oomph to push the carrier back and work the bolt.

The weight of a shotgun shell is a lot more than that of a single round of 7.62X39. There's also the matter of shape. Where a 7.62 round is pointy, and made of relatively slick steel, the shotgun shell is shaped pretty much like a soft-drink can. Its square-end cylindrical shape and the sticky plastic it is made of make a designers life not-fun. But wait, it gets better. (Or worse, if you're the designer.)

How do you make a magazine for it? Shotgun shells have rims for their extractors to grasp and pull the shell out of the chamber. Since the first shotgun shells were made for single-shot or double-barreled shotguns, a relatively small rim was plenty to lift the shell (fired or un-fired) out of the chamber. Later, ejector guns would throw the empty free of the gun when the action was broken open. The fact that later designers were able to make self-loading shotguns is pretty amazing. However, all shotgun designs before this used a similar feeding mechanism: fresh ammo is shuttled out of a tube under the barrel, and lifted into place for the bolt to shove it into the chamber. Obviously, a Kalashnikov couldn't use such a method, as it lacks a magazine tube. Yes, you could build one, but in order to then feed the rounds you'd have to build in a lifter to carry each shell up from the tube.

Yes, you can turn a plain Saiga into a custom one, but you need US-made parts.



Why go to all that trouble to simply re-invent the Remington 1100? Why not, instead, take the more-difficult method of first devising a magazine to hold and feed rimmed shells? Then, why not figure out how to attach that magazine to the underside of the Kalashnikov, where the magazine properly goes on the other 100 million AK rifles extant. Finally, why not configure the feed ramp of the trunnion/chamber area so your re-designed bolt can strip a round out of that magazine, shove it up the ramp and into the chamber and subsequently rotate closed?

You're either asking yourself "Why do this?" or saying "Way cool!" Why is simple: to sell product. While a number of former Warsaw Pact countries are able to sell products, including rifles, in the U.S, Russia is not. Shotguns, however, are a different matter. So the designers re-worked the Kalashnikov into a 12 gauge and then shipped them here. It doesn't hurt that a self-loading shotgun is useful in a lot of

other markets as well, so the Saiga is a desirable commodity in a lot of places.

But wait, it gets better. I have to admit that when I first heard of the 12- gauge Saiga, I had to think “what the hell? Not only why would you do that, but how could you?” Well, the Saiga confounded all of our assumptions. First of all, the receiver channel is no larger. That’s right, it’s the same width as a 7.62/5.45 receiver. The trunnion is bigger. The recoil spring appears much the same, and the hammer, trigger and disconnector are no different from those of your garden-variety AK. At least if you ignore the trigger change for the stock shape – but more on that later.



You can also install a new front sight, to increase the sight radius.

As for the “cool” part, yes, way cool. The big advantage of a magazine-fed shotgun isn’t the rate of fire. Don’t let anti-gun politicians convince you otherwise, a shotgun is a shotgun when you’re shooting it empty. Where the Saiga has an advantage is in the reloading. A fast reloader can stuff another

half-dozen shells into a tube-fed magazine pretty quickly, but a box magazine gets you six or more in half the time or less.

So, we have a Kalashnikov-derived shotgun that feeds from a box magazine. What are the downsides? Well, you have to have those magazines. Without them you have a very clumsy single-shot shotgun. In fact, if the choice for me was a Saiga without a magazine, and a century-old design single-shot, I might go with the single-shot. If that single-shot had an automatic ejector, I'd definitely go with it over the Saiga. In a shooting contest where time counts, you can get more shells through the single-shot, or the ejector gun, than you can wrestling with the bolt of the Saiga to get another shell in the chamber. So, you have to buy magazines. If you are going to use the Saiga as more than just a plinker at the range, you've got to invest in a few extra magazines. More is better, especially if you're worried about future legislation and the prospect of restrictions on buying more of them.



Krebs makes and installs a loop rear, for a semi-ghost rear sight.

If you have a Saiga with no choke, then your patterns will be more open than shotguns that have a choke or choke tubes installed. Adding a choke tube installation to the cost of a Saiga can start to run into more cost than that of a regular

pump or self-loader. However, even no-choke barrels can deliver quite-useful patterns to defensive distances.

Let's take a tour of the Saiga 12-gauge and see what is different and what is the same.



Notice the difference between a 12 gauge shell and a 7.62? The magazines also must differ.



The rifle feeds from alternate feed lips, the shotgun from the centerline.

Externally

Notice that the trunnion is slightly larger than the receiver channel. Unlike the Yugoslavians, who made the trunnion larger and then folded the receiver tube over it, Izhmash made the trunnion larger, but sculpted the receiver channel around the bulked-up trunnion. They needed that, (the larger trunnion) to hold the 12 gauge barrel.

On some, the barrel has a screw-on choke tube/thread protector. That becomes important when you go rebuilding your Saiga, as many do. The handguards are sculpted to be more shotgun-like and less AK-like, a selling point to some but a definite aesthetic negative to many AK owners. They want a 12-gauge AK, and not an autoloading shotgun built on an AK chassis.

The front sight is a bump on the gas block. The rear sight is a blade or aperture on the rear trunnion/gas tube guide. As you can quickly see, this leads to a very short sight radius, an aspect that (again) many owners change during their rebuild.



The rifle holds 30, the shotgun holds 10.

On the back end, we have a standard-appearing stock, sans pistol grip. The Russian Federation does not have the AK export dispensation that many former Warsaw Pact countries have and thus cannot export pistol-gripped rifles or shotguns to the US. (Do not ask me for a rational explanation, for there is none. That's simply the way the import regulations have been written, and it's what the importers have to live with.) As a result, you have a stock that looks like a regular stock, with a moved trigger and trigger guard. More on that in a bit.



On the left, one shot, 123 grains at 2400 fps. On the right, 9 to 12 pellets, 1200 fps.

Internally, things get quite a bit more interesting. First, taking the receiver cover off. The retainer stub has a spring-loaded button on it. I'd bet that is there because the recoil of the 12 gauge (probably the heaviest loads) were causing the receiver cover to pop off, when the recoil spring was bouncing and rattling around and loosening its grip on things. Before you take the cover off, take a moment to notice that the

ejection port is a whole lot larger. After all, you have to be slinging 12-gauge empties out of the rifle, not just the miniscule steel hulls of 7.62 or 5.45X39. Take the cover off, and the recoil spring guide has a curved plate trapped in the middle. That is the rear of the ejection port cover. Clever Russkies, they kept the ejection port protected from debris, but made part of the cover cycle with the recoil spring so it is out of the way of your empties.



You can see clearly the difference in the triggers between the Saiga (top) and the standard AK.



A Saiga before conversion, in the Krebs shop.



The Saiga 12-gauge receiver is the same channel size, length and conotur.

Also, they sculpted the carrier so the top rod of it provides clearance for the empties. Considering how much effort goes into making anything Kalashnikov as durable as possible, I can't imagine that they cut too much away and weakened the rod. While you have it off, note that the piston, and thus the gas system, is shorter. That means, if you want to install a US-made piston for 922 (r) compliance, you have to specify a "12 gauge Saiga" gas piston. Why shorter? The 7.62X39 operates in the 40,000+ PSI range for chamber pressures. That ensures plenty of gas at the gas port. A 12-gauge shotgun hits its pressure ceiling at less than 12,000 PSI. If they left the gas port at the same spot, the port pressure would be very low, perhaps not enough to work the Saiga under all conditions. By moving the port back, they tap higher pressure gas to run the gun. Me, I think the 12-gauge might be a bit over-gassed, and the idea of an adjustable gas system is an attractive one.

Now turn it over and get another surprise: the bolt.

The bolt of an AK is clearly too small to deal with a 12-gauge shell. Instead of making an entirely new bolt, the Izhmash engineers made a new bolt head that attaches to the front of the old bolt design (with mods) and has both the extra length and the wider face needed to handle a 12 gauge.

Look at the chamber area. Whoops, no bullet guide. The bullet guide had to go, to fit the front lip of the magazine. And considering how straight-line the Izhmash engineers have made the magazine feed route, a bullet guide would be superfluous. The chamber area of the 12-gauga Saiga is pretty much just and only that: the chamber. There are two tabs that stick out from the chamber, the shell guides, that the bolt reaches in past to fully close, but that's pretty much it.



The Saiga 12 has a larger trunnion, to hold the larger barrel.

The Saiga, as an imported firearm, has to conform to the requirements of US law. That means that as a self-loader it has to remain in its imported configuration unless you change parts. Again, you have to install enough US-made parts to make it 922 (r) compliant before you can install a pistol grip, or use a magazine that holds more than five rounds. Yes, five. Rifles have a 10-shot limit, but shotguns have a five-shot. So before you can go and do things like put a larger magazine on it or install a pistol grip, you have to do some counting and swapping.

You can have no more than 10 imported parts on a rifle that is in a non-importable configuration. The list contains 20 parts. But you do not have to swap out 10 parts, because the Saiga does not use all those mentioned. Notice the list of parts mentioned, and the ones the Saiga contains in factory trim (marked with an asterisk):

(1) Receiver*

(2) Barrels*

(3) Barrel extensions

(4) Mounting blocks, trunnion (rifles only)*

(5) Muzzle attachments (shotguns w/ threaded barrels only)*

(6) Bolts*

(7) Bolt carriers*

(8) Operating rods

(9) Gas pistons

(10) Trigger housings

(11) Triggers*

(12) Hammers*

(13) Sears

(14) Disconnectors*

(15) Buttstock*

(16) Pistol grips

(17) Forearms, handguards*

(18) Magazine bodies*

(19) Followers*

(20) Floorplates*

You can see that a 12-gauge Saiga with a plain muzzle has only 13 imported parts. A Saiga with a screw-on muzzle cover has 14. So, to make your Saiga US 922 (r) compliant, you need to swap out, as a minimum, three or four parts. You need only do so if you plan on altering your Saiga from its imported configuration, such as adding a pistol grip or a magazine with greater capacity than five rounds. If you have a plain-muzzle Saiga, you could do that simply by using a larger-than-five magazine with all-US parts. If the tube, follower and baseplate were all US-made, your count would be only 10 imported parts, and you'd be fine. AGP Arms, among others, makes just such a magazine. But if your buddy with the threaded-muzzle Saiga, at the range, borrowed one of your magazines, he would not be OK. His Saiga at that point would have 11 imported parts, hold more than five rounds, and be an unlawful shotgun.



Note the locking button on the recoil spring assembly. No doubt there because of the extra recoil of 12 gauge.

Is the law stupid? Yes. Am I advising you to ignore it? Nope, no way, not a chance. So, at the very least your buddy has to find a way to swap at least one more US-made part into

his Saiga, so he can continue to sponge your magazines off you. (Make him get another US part, and then make his buy his own magazines.)

What should he swap? Whatever he wants, so long as he swaps something. The easiest way would be to buy a piston and swap out the Russian one, or if he wants to start down a longer path, buy a Tapco G2 trigger kit and swap the hammer and disconnector. That would get him two parts, and he'd be a part ahead and on his way to getting a pistol-grip conversion in the works.



The receiver cover has a much larger ejection port cut into it.



The recoil spring assembly has an addition.



The recoil spring assembly also contains part of the ejection port cover.



The carrier arm, connected to the piston, has a clearance cut for the ejecting hulls.

Stocks and pistol grips also count as parts (see above) and he could simply swap the existing stock for one just like it, but it would have to be made in the USA.

The stock presents a bit of a problem. Yes, I find it relatively comfortable to shoulder and aim. In fact, it is remarkably close to a standard shotgun stock for me. Where I have a problem is the conotur and the buttplate. The lower right rear corner of the receiver, and the stock shaped to match it, hammers the bases of my trigger finger and second finger

on every shot. With light loads it isn't a problem. But let me shoot some buckshot or slugs, and my hand starts to go numb in short order. Plus, the buttplate was obviously formulated for durability and not comfort. It is as hard as if it were metal. Again, with light loads, this is not a problem. But with buckshot or slugs, the stock hammers me, and the slick buttplate slides around. One thing you can do is change stocks; however, all the common AK stocks are set up to go onot rifles with pistol grips. And they are a bit short. So the trick is to either find a recoil pad for the existing stock or do the US-conversion/ 922 (r) compliance dance.

The handguards are easy to swap, and you can find lots of them out there. You can find Tapco and Tromix handguards for your Saiga. Or you can leave the handguards alone and swap the back end, putting an AK-type stock and pistol grip in place. That takes some work, however.

Pistol Grip Conversions

One way, the simple way, is to swap out the old stock for one that has the stock and pistol grip in one piece. You see, the Saiga has the trigger extended back from the usual location, to make it possible to reach the trigger with the non-pistol grip stock on it. The new stock (such as the one by Mississippi Arms) simply replaces the old stock and provides a pistol grip located for the existing trigger. As a short-term, or a low-cost and low-hassle, method, it is attractive. But many who want a pistol grip on their Saiga prefer that it be in the same location as "normal" AKs, right behind the magazine. For that, you have to do some metal work. (Or, you could send it off to a reliable converter, someone who has power tools, experience, and a willingness to do the grunt work for others. This person

will, of course, charge for it, but he or she will also have the experience to deal with the occasional “oops” situations that come up. For those of you who want to do it yourselves, here’s the rundown:



Thinner, but strong enough.



The piston is shorter. The gas port has to be closer to the chamber, due to the lower pressure of 12 gauge ammo.

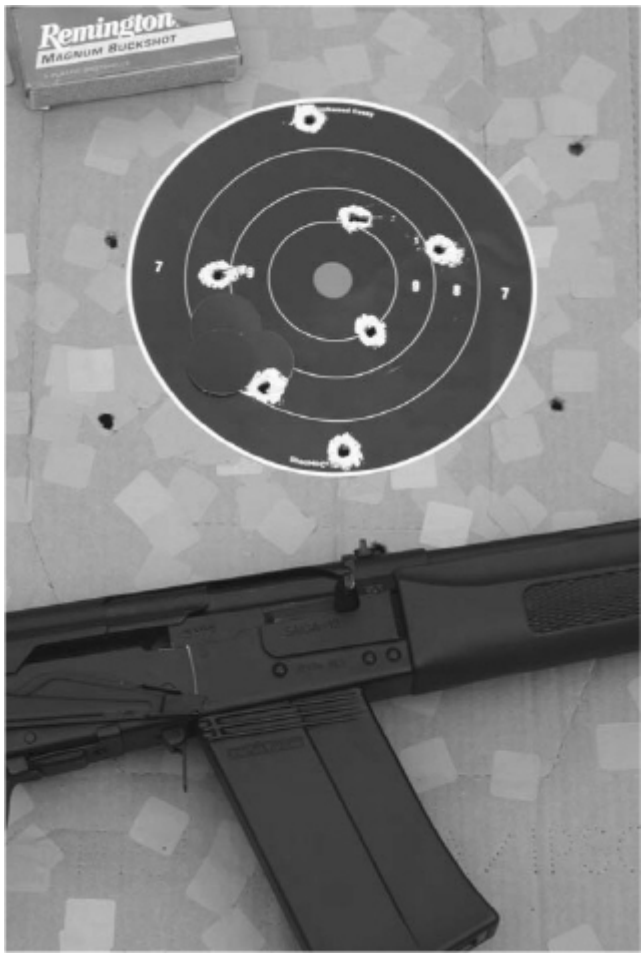


The 12-gauge bolt is a standard bolt with an added head, larger and longer.

Look at your receiver. See the two pins at the rear? They don't exist on a regular AK. They are there simply to provide the trigger a pivot point. Also, notice that the Saiga trigger guard is farther aft than on a regular AK. Since the trigger is farther back, the guard that protects it has to be, too. Since you are installing a pistol grip, your Saiga has to be made 922 (r) compliant. Get a US-made pistol grip and US-made fire control parts (the hammer, trigger and disconnector). Your Saiga has a single-hook trigger system. Those four parts alone will get you the four you need, even with a threaded barrel. While you're shopping, get a new trigger guard, complete with safety/selector lever stop and the rivets they need.



The 12-gauge bolt rotates just like the rifle one does.



Twelve pellets in just under a foot, at 15 yards. No choke at all, something to change for competition or defense.

You can joke all you want about crude Soviet technology, but the steel in AKs is not butter-soft. In fact, you would be well-served getting a Dremel tool just for the grinding tips and cutoff wheels as options for metal removing.

Drill/grind the heads of the rear rivets off, on the right side, Drift them out of the receiver from the right side. The rear rivet is the trigger pivot pin, the forward one is the location the Izhmash engineers use to hold the bolt hold-open spring in place. Wrestle out the hammer, trigger, disconnector and the springs that power them. Now rotate the selector and remove

it. Remove all other fire control parts, rivets, springs, etc., that might be lurking around in the receiver.

Grind off the rivets holding the trigger guard and safety retainer plate in place. Rip the rivet ends out, and pull the trigger guard and safety plate parts off and throw them across the room. (You do this to make yourself feel better after the effort of taking the things off. It is hard work.)



The sight radius is aobut nine inches, the handguard comfortable if different-looking.

You now need a replacement trigger guard, one with an attached safety/selector lever stop. But you do not need the magazine catch on your trigger guard. (I told you, this was something you probably should leave to the experts.) You need not only the rivets, but a bucking plate to "nail" the rivets in place. You'll need to drill new holes to locate the trigger guard and its rivets. (Let's see: drill bits, dremel and grinding tips, trigger guard and rivets; this is starting to become a real project.)

Oh, and once you've done all the work, you have two holes left on the rear of your receiver. What to do about those? You could leave them, but it really doesn't look right. You can also save yourself a lot of trouble by using a Tromix bolt-on triggerguard. You simply disassemble, then rip off, the old guard. The new one bolts right in place, and you install your

new FCG parts. You still have those pesky holes in the rear of the receiver, but there is only so much you can do yourself. Unless you're a welder. Of course, welding means refinishing, too.

Saiga Fitting

The rear of the Saiga receiver, while being the standard AK receiver conotur, is enough different from other AKs that you may find installing a new stock requires more than just a bit of hand-fitting. (Hand-fitting in an AK, so what else is new?) If you're turning your Saiga over to an experienced converter, he'll know what stocks fit, and what stocks are a pain. Ask, and if he tells you a particular stock is no fun, then either move on or expect a higher labor charge for the fitting. As the rear of the receiver is simply a fixed-stock AK with trunnion, you have a number of options, but some are clearly beyond reason. I'm sure a clever and persistent machinist could fit an underfolder stock to a Saiga, but why? The Saiga kicks hard (see below) and the underfolder is the least-sturdy stock to be found on an AK. Derived directly from the German MP-38/40, the stock is adequate for the recoil of a 9mm, barely adequate for a 7.62X39, and totally overmatched by 12-gauge recoil. If you want a folder, get a sidefolder, and not one of the Polish or Hungarian wire-stock folders. Better yet, get a solid folder.



Above the Saiga is the blur of a hull. Even at 1/125th of a second, the hulls are moving. Ejection is brisk and empties fly a good distance.



The bolt is closing, the hull long gone, and I'm back on target. Not bad for a hard-kicking shotgun.

The variability of Saigas carries over to their fitting and function. I don't know if it simply the task of making an AK work with a shotgun shell or just old habits of variable quality in "people's production," but the Saiga varies more in function and quality than any other imported rifle. Some, like mine, have proven absolute in function. Others have been downright cranky. One thing to keep in mind is that shotgun ammo does not generate much in the way of chamber pressure, compared to rifle ammunition. So if you shoot the absolute lightest loads

(one-ounce skeet and trap loads, for instance) your Saiga might short-stroke. Or the cheapest loads, meant to be muscled through pumpguns, might prove unreliable in feeding.

You also must avoid the use of shock buffers. In most instances they are marginal. I know the people who have designed and made many of them, and they are all earnest fellows. But shock buffs are not always a good idea. In the Saiga, the shock buff will shorten the stroke of the carrier, and the carrier will barely travel far enough to pick up the next shell. It also greatly reduces the time the shell has to lift into position. You'll probably find your Saiga getting into that cranky mode I mentioned earlier. Leave the buffers out, and find some other means of softening recoil.

Saiga Magazines

Magazines are gauge-dependent. If you have a 12-gauge Saiga, you need 12-gauge magazines. Ditto 20 and .410. In the 12 gauge, you can get five-round magazines from Saiga, depending on just who the importer is at the time. The 20-gauge shotguns give you a choice of two and five-round magazines, while the .410 offers four-round magazines. On the .410, you also have to distinguish between the 2.5" and the 3" guns. Just as a reminder, the Saiga magazines offer you no US-made parts for your 922 (r) compliance totals. Yes, you could install US-made followers and baseplates, but why? For the cost of the parts, you are well on your way to an US-made magazine with greater capacity.

Ten-round joy! APG makes 10-round magazines in 12 gauge (and just 12 gauge) in both black and smoke-colored clear polymer. They are a bit more than rifle magazines cost,

but keep in mind that the technology is new and the market small, and both have the effect of driving up prices. With 10-shot magazines, the capacity puts you over the import limit, so you have to have some other US-made parts to remain 922 (r) compliant. I know I keep mentioning it, but it does matter, and you should be sure you are in compliance. It isn't difficult, and in many cases the US-made parts are of superior quality and thus a wise investment anyway.



An afternoons shotgun shooting. All downrange, no malfunctions and lots of fun. Can it get any better?



The ejection port cover.



No bullet guide; a wide-open feed path.

A firearm is only as reliable as its magazines, so the first thing you should do with new mags is test them. First, with an empty shotgun and magazine, check that the mag inserts and locks in place. Hook the front lip into the mag well and pivot the mag back, just as you would on a rifle. If it does not, find out why.

Check feeding. You can hand-cycle dummies or loaded rounds at the range (be very, very careful, since you have to push the selector to "Fire" to be able to work the bolt) and see that it feeds shells. Then test-fire. Make sure you're using good ammo, and not the lightest or cheapest stuff. If your Saiga worked well with its original magazine, it should work just as well with new ones. If it didn't, don't expect a new magazine to solve your problems.

Some Trigger Time with the Saiga 12-Gauge

I spent a few weekends hammering away with my Saiga, and I discovered a few things. First of all, it kicks really briskly with stout loads. Factory full-power slugs and buckshot recoil somewhere between "annoying" and "alarming." You definitely want to be investigating some sort of recoil pad. Hard stocks like the steel buttplate of a wooden AK stock, or

the aluminum stock of an AR slider, are (to borrow from medical lingo) contra-indicated.

The thread protector is just that, and it does nothing to add choke. To add choke you'll have to scour the importers' and dealers' pages. Just in the time that I have been working on this book the supply of choke tubes has changed hands a couple of times, and is likely to do so again. What I found with my un-choked Saiga was that it certainly was a cylinder-choke barrel. Generally, an unchoked shotgun barrel will deliver about an inch of shot pattern spread per yard of distance travelled. At 15 yards, my Saiga delivers a 12-pellet OO buckshot load to just about a foot in diameter. (And with ferocious recoil, I might add.) A tactical OO buck load, 9 pellets in buffered wads, shoots tighter, but still nine to ten inches. So, for any kind of competition or defensive shooting I think I'm going to want a bit of choke on the gun.



The two extensions guide and control the shell as it lifts out of the magazine.

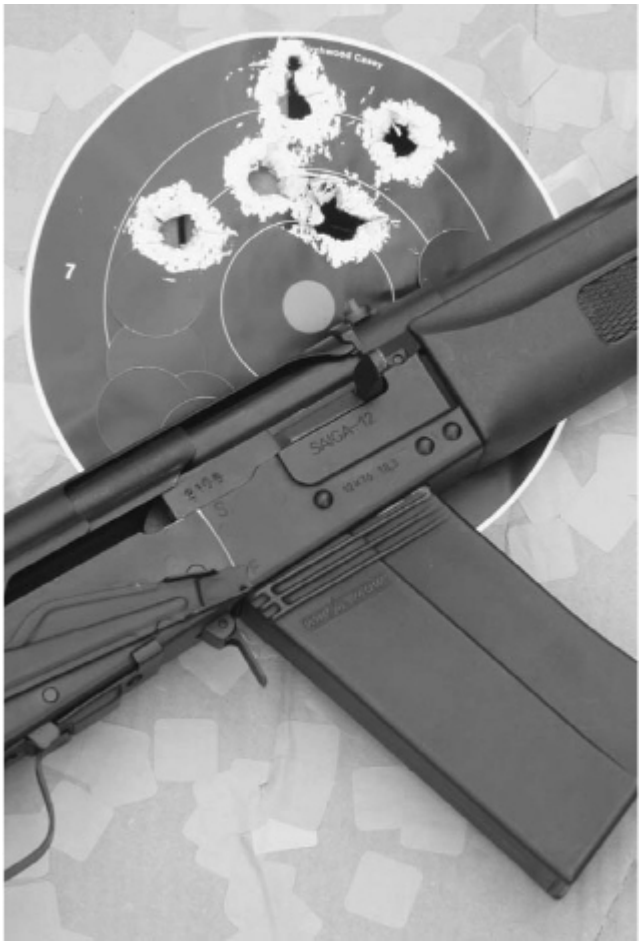


You can see that the shell starts already under the lead edges of the guide lips.



Back of the magazine well, the 12-gauge is like any other AK.

What is good about the Saiga choke tube is that the threads are on the outside of the barrel. So, if you find that you have a choke that is just a bit too tight, you can alter it without as much work as they'd be otherwise. A choke tube is a cone, and the shorter the cone (for any given rate of taper) then the less it constricts. So, take a choke tube that patterns too-tightly, chuck it in a lathe (use a hard cutting tool) and shorten the tube a bit. Try again. Those of you with higher lathe skills could try boring it out in the inside if you wish. At approximately $30 each, it might be a bit expensive experimenting, so you jump up: you get a Poly-choke for the Saiga. The poly-choke screws on and stays on. Then, you adjust the choke ring to adjust the restriction of the choke "fingers" inside the assembly.



Nice accuracy with slugs. If only this had been available earlier….



The importer of this shotgun.

The good thing about the Poly-Choke is that you have all the chokes in one. You get nine settings for your $100, and you also can change them at any time. Best of all, you always have all nine choke settings with you.

While the cylinder bore of my Saiga ia a bit too open for plates and birds, the barrel (at least on mine) is really good about slugs. My first group with slugs, from the bench at 50 yards, put five of them into a group four inches across. I tried again, and got the same-size group. Hmmm. If this had been around when Second Chance had been on, I certainly would have spent a whole lot of time fussing over it. You see, there we shot on steel plates out to 90 yards, against the clock. Four inches at 50 yards is certainly good, and with some tuning and testing of ammo I'd bet I could do better. Also, as it is gas-driven, I could have fussed over the gas system to make it work with whatever slugs I'd wanted. My favorite load in the last years of SC was a one-ounce slug trundling along at just over 1,000 fps. Soft in recoil it still had enough oomph to knock over the plates. With accuracy, soft recoil, and time to build sights up to the task, I would have been well-equipped to win loot and glory.



If you had any doubts, made by Izhmash, Russia.

Which leads us to competition.

What Uses for the Saiga Shotgun?

For home defense it might well be too much of a good thing. Not that you would be lacking in firepower or reloading, but do you really want the jury to be watching the prosecutor holding up your Saiga while talking about how "eeeevil" it is? Of course, lately the trend has been to "Castle Laws" and pre-emptive defenses against bad guys. That is, your home is your castle, and you need not retreat, nor even have to justify yourself in defense of yourself or others. And, having shot and killed a bad guy, you are immune from civil action by his family. (Check the laws in your state; they vary.) However, you still have to deal with the police and DA's office, and a Saiga (as much as it pains me to say it) might prejudice them against you.



Proof marks, as required by all European countries.

In competition, I really don't think we have to worry about the skeet and trap shooters being outraged by Saigas. Oh, they'd be outraged if anyone showed up to shoot a round with a Saiga, but I don't think that is going to be a common occurrence. It just isn't built for that sort of shooting.

Practical competition, running and gunning, is where it shows promise. As I said in the beginning of this chapter, shooting is shooting. If the stage is eight shots, and you have your Saiga with a 10-shot magazine, you have no advantage over someone with a shotgun that feeds from a tube. His 10 shots matches your 10 shots. If the stage is 12 shots, your reload is not going to be much faster than his reload. But as the stage gets bigger, the advantage tips to the Saiga. In a 20-shot stage the Saiga can have a big advantage. Some matches have stages that big, or bigger.

So, stage design will determine if a Saiga offers an advantage or not. Which is as it is for all other types of competition.

Should You Get One?

If you like to fuss, modify, test, experiment, then the answer is: certainly. The basic design is as tough as nails, and you can mill, drill, machine, weld, modify and accessorize it to your heart's content. If, as you might be thinking through the entirety of this book, that someday someone will be looking to ban their import, then of course. Once here, and with gun owners always vigilant, it would be tough to ban them. (Not that importing has always been easy.) But the best defense against gun control is two-pronged: that there be lots of guns owners with lots of guns, and that those owners always be

ready to raise the hue and cry to their elected representatives about possible gun control actions.

But the final, best, and realistic reason and answer is: if you want it, get it. Don't get sidetracked by "need" "usefulness" or "sporting use" – just get it. As my brother has been known to say more than once, to someone over-thinking a decision: "There you go, confusing want with need again."

Get one, test it, modify it, be proud of it, and if it gives you trouble figure the problem through and solve it. You'll be better for the exercise.

Chapter 15

The Mysterious Krinkov

To begin with, there is a class of firearm known as Short Barreled Rifles, or SBR for short. Federal law (your State may have their own opinion on the subject) declares that to be a plain old rifle your blaster has to have an overall length of not less than 26 inches and a barrel length of not less than 16 inches. In a momentary fit of rational thought, the Feds officially measure a rifle with the stock extended. (This causes no end of headaches for those who live in a state where the measurement is made with the stock folded.)



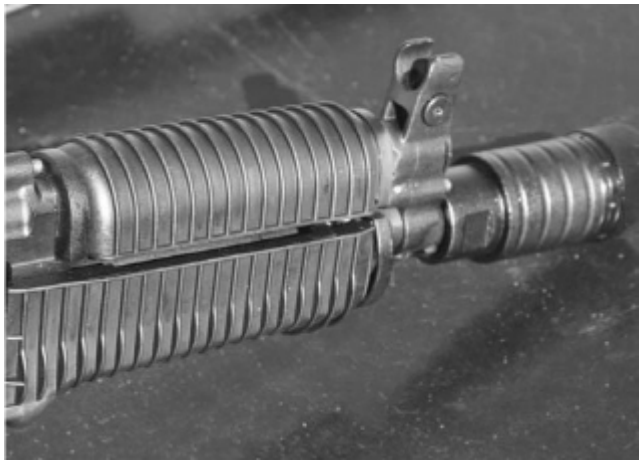
Here I am, shooting a Krink. The 7.62 model kick a lot more, as you'd expect from such a light, small rifle.

Every AK out there, in regular trim, is kosher by the Feds. The barrels are all 16 inches (they had to be, simply to have been importable) and the length of the receiver is such that the folded length is nearly 30 inches. But SBRs are shorter than that. To get an SBR, you first have to live in a state that allows them. Federal law on this subject does not trump state law. (To explain why requires a long, convoluted legal discussion that we need not get into here. Just accept the fact that if your state says "no," that's the end of it. Usually.) When it comes to an SBR in the AR-15 world, there are quite a few types: the retro XM-177, 177A1 and 177A2. We also have the M4, Colt Commando and in 9mm, the Colt buzzgun clones.

In the AK world we have one: the Krinkov. And the mystery around it is entirely about the name. The reason for the gun itself is simple: the Soviets wanted something more compact. Having scrapped or stored all the 7.62X25 submachineguns they'd won the war with, they found they needed something more compact than the AK-47. Even with a folding stock the AK, AKM, etc., can be a bit bulky. In the interests of making something shorter for their paratroopers and various special forces, the Soviets developed the short-barreled AK-74, called the AKS-74U. Once adopted in Russia, other Warsaw Pact countries made their own versions.



The rear sight on the Krinkov is attached to the receiver cover.



The shorter gas system means a shorter piston, which complicates things.

The members of the Red Army did not call the AKS-74U the Krinkov. I spent time discussing this subject with two of the publishing world's experts on the subject, Dave Fortier and Pete Kokalis, and found out that members of the Red Army have much the same sensibility as soldiers everywhere. Red Army soldiers call the short rifle the "Ksyuka," sort of a vocalization of the symbols of "AKS-74U" and sounding similar to the woman's name Xenya. Or, through the same process, they may call it "Suchok," which means "little bough." Or they may call it "Suchka" or "Okurok," which mean "little bitch" and "cigarette butt," respectively (if not respectfully). A slightly irreverent name for an essential tool,

and a tool and nickname that mark the possessor as being more than just another Soviet grunt.

But no Rooskie ever called it the Krinkov, apparently. The earliest citation anyone can find is from David Isby, in an issue of *Soldier of Fortune*. But no one knows where he got it. Peter was an editor at *S.O.F.* back then, and the source of the name either didn't come up then, or he doesn't remember. (Those who have had a chance to talk with Peter would find it difficult to believe that he'd forget something so memorable, so I favor the former explanation.) Since David hasn't said anything since, then no one really knows where it came from. One speculation is that it comes from the name of the Soviet general captured by the mujahedeen. Except, that there wasn't any such general. The highest-ranked Soviet officer captured was a captain (a pilot) whose name sounds nothing like "Krinkov," and no one with a name anything like "Krinkov" was captured or listed as missing in the Afghan War.



As you can see, the rear sight is just a notch. Even less useful than the standard AK rear sight, but you aren't shooting bullseyes at 600 yards.



This Krinkov is in 7.62X39 but has an AK-74 folding stock on it. Only in America, or the Northwest Provinces.

Another speculation was that it is the nickname given it by the mujahedeen themselves. OK, why would the Red Army soldiers call their rifle by a name their opponents use? We already know it didn't come through the soldiers. If the source was indeed the mujahedeen, that fact likely would have been mentioned in the *S.O.F.* piece. I read *S.O.F.* back then, and their style certainly would have led them to say something like "the Krinkov, the nickname the mujahedeen fighters use for the short-barreled AK in Soviet use, is a prize when captured" or some such polished-up attribute. Since the mention doesn't have such an attribution, then we are left in the dark.

In any event, be prepared to get a puzzled look if you use the word when talking to anyone who isn't an American gun owner. But the name seems to be one we are stuck with here.

So, get used to it, and get over the fact that no one knows where it came from.



The “finish” is mostly a fine, hard layer of rust.

How do you make a Krinkov? There are two aspects to making an SBR, the mechanical and the legal. Let’s take the mechanical first, since the design of the AK makes the process more involved than it is for other rifles. The shortness of the SBR barrel often precludes using the old gas port, as the AKS-74U’s barrel is a mere eight and a half inches long. That means a new port, and often a new barrel. The new port location definitely means a new piston, the old one being too long. Ditto handguards. The Soviet design work also puts the piston through a shorter piston guide/rear sight pillar. And the receiver cover is hinged, attached at the front. So, the rear sight is made as an assembly that is spot-welded to the cover. Basically, to do it right, and authentically, you replace everything forward of the magazine well.

A real-deal Soviet AKS-74U, brought back from Afghanistan. Note the correct muzzle brake.



That amounts to a lot of work if you're starting with an already finished rifle. One approach to have an SBR-ready rifle come from Arsenal. They make everything as it should be, but leave the barrel at 16+ inches, and you then simply go through the legal work and then shorten the barrel. (Or don't go through the legal work, leaving the barrel as-is and having fun.) Another approach is to start with a parts kit and replace the front end during assembly with an SBR set, a Krinkov parts kit or made-up parts kit.

Me, I think I'd rather go the from-the-ground-up route, as it is easier to build one from parts than it is to re-build one that has already been a rifle. Of course, as time goes on, and we start to see many more AKs in need of new barrels, that situation may change.



Some Afghani gunsmithing: that is an empty case welded/brazed to the charging handle. Makes it easier to deal with malfunctions in the dark.

The legal part is easier: assuming your state has no problem with it, you apply to the ATFE on a Form 1 to have your rifle put on the SBR list. Once you have the approval and the stamp itself (the tax stamp, which is legally part of your tax records and covered as such) you can then send the rifle, a copy of the tax stamp and a checkoff to an SBR specialist. In the AR world you could do it yourself, with a new barrel, but in the AK world the gunplumbing is a lot more involved. Oh, your rifle must also be marked, and properly, as to who the new manufacturer is. That is, the maker of the SBR you will be owning. If you do all the steps correctly (tax stamp, approval, mechanical work) but you do not mark your new SBR, you are in violation of the law. I'm not kidding, and when it comes to machineguns (which your SBR falls into the category of, at least at the Federal level) the ATF has no sense of humor whatsoever. Get it marked.



The handguard looks like a camel chewed on it. This poor thing saw some hard use in the mountains.

The SBR also has another interesting attribute under the law that other firearms do not. Perhaps you've heard the adage "Once a machinegun, always a machinegun"? That means that a firearm that has been made as, or been modified to be, a machinegun, can never be turned back into a semi-auto rifle. No amount of welding will be enough to turn it back to what it was. Well, SBRs can go back and forth. If you get tired of owning an SBR, you can petition to have it de-listed, that is, removed from the list of SBR items. You can make it a full-size rifle any time you want, whether or not you get it de-listed. But until it is de-listed it remains an SBR under the law, with all the sales restrictions that go with it. Once you get the approval, you can then sell your proper-length rifle just like any other.

(An interesting bit of timing here: if you wish to own an SBR that you are making, you cannot begin any of the work until you have approval. If you wish to have it de-listed, you

must do the work first, then request de-listing. Otherwise, as soon as you receive de-listing notice, your rifle is an unlawful SBR. “Hey, it’s too short, and you just took it off the list.”Whose fault is that?) The procedure is this: get approval first, then SBR, de-SBR, then get de-listing approval.

Operationally, an SBR can be a bit fussy. The shorter piston, which lies closer to the chamber port, can mean timing and functioning problems unless the work was done by an expert. Some think that a piston-system rifle is less prone to SBR problems than a gas impingement system like the AR-15. No so; they all have the potential for fussiness.

What you will have for sure is less muzzle velocity. The seven inches-plus you had whacked off the barrel will make sure of that. You can expect a 7.62X39 SBR to clock in at less velocity than a .30 Carbine whips up, albeit with a heavier bullet. The 5.45 rifles will demonstrate the same sort of velocity loss that the AR-15 SBRs will: you can expect the 60-grain surplus ammo to clock in at 2400 fps, and the 70-grain Wolf at 2200-2300 fps.

Also, the shorter sight radius will make accurate aiming more of a problem. Since there won’t be many AKS-74U owners shooting their shorties in an NRA High Power match, I really don’t see accuracy loss as much of a problem.



Here, a milled-receiver AK is getting the SBR treatment.



Look closely, and you'll see just how short a distance it is from the gas port to the muzzle. An inch? That isn't long enough to get the job done, hence the Krink's muzzle brake.



Here you see the cover hinge, on the much-shorter piston guide.

One aspect of the Krink is the flash hider – which it actually isn't; it is a gas-storer. The problem with such a short barrel, and the gas port being so close to the muzzle, is that the gas port has only a short time to do its job. Once the bullet leaves the barrel, the sealed system of gas flow is opened, and the gas escapes. Compounding the problem is the nature of the gases at the port location: high pressure. The high port pressure means the designers had to use a small-diameter gas port, or the system would be over-driven and have a short service life. But, because the gases are soon gone, a small port might not be big enough. Enter the muzzle cap. The shape of the cap acts to slow down the loss of gas through the muzzle. By doing so, it maintains a gas pressure in the bore long enough (and high enough, although the duration of any action on the part of the cap is short indeed) for the system to receive the gas it needs. The original is a cylinder with a coned muzzle on the end, with a kink between them, where they join. (Hey! "Kinkoff"– "Krinkov" – hmmm. Could it be? Nah.) The original is the one purists would want. The later one, refined by Noveske, does actually do some work as a flash hider. (But we'll keep that a secret, lest the State of California find out, OK?)

Here we have a "Krinkov" in 7.62, with a Noveske muzzle cap, and the Krebs fast-load magazine guide.



Traditionally, a “Krink” can only be in 5.45X39. That’s the one the Soviets made, and that’s the one that purists want But, you can make or have made one in any caliber you desire. Just get the tax stamp and pay for the work.

I’ve shot a few of them over the years. Invariably, I find that the 5.45 is the smoothest, as it has a slower recoil impulse to start with than the 5.56 or 7.62 versions do. The 7.62 can be a real beast, as you’re putting up with a lot more recoil, in a lighter-than-intended rifle. I’d have to side with the purists on this one, and were I able to own an SBR, mine would be in 5.45.

One Krinkov I had the pleasure of inspecting was a real-deal Soviet shortie that had come out of Afghanistan. I was in the vaults of the Belgian Army Museum in Brussels, and my host said, “Oh, you’ll enjoy this one” as he handed it to me. It was a Russian-made AKS-74U that had somehow come out of Afghanistan in the late 1990s. The condition was far from

“museum quality.” In fact, you’d have a hard time selling it anywhere but at an arms bazaar in the Northwest Provinces. The “finish,” except where traces of the original baked-on lacquer remained, was an overall even rust. On an 18th century musket, we’d call that a “patina” but on a 20th century firearm it is a sign of lack of maintenance. All the parts were there, and miraculously the stock was still solid. The handguard over the gas tube was severely worn, and some time in the past a previous owner had obviously gotten tired of dealing with the too-small charging handle. Attached to the handle was an empty cartridge case. I recall looking at it, but do not recall the headstamp except that it did not seem out of place for the location the rifle came from. The case was bright, contrasting with the rest of the rifle. It had a sling, and once they’d scrubbed it enough to stop the rust the curators planned to put it on display in a 20th-century war exhibit. I, alas, could not fire it.



Shortening a barrel, to use it as an SBR, takes a lot of delicate lathe work. Not all gunsmiths are up to the task.



A finished AKS-74U clone on a milled receiver.

A brief aside: museums do not fire the weapons they have in their collections. Shooting adds wear, and the last thing an museum curator wants is to decrease the condition of the items in the collection. Often they will be immaculately inspected, gauged and restored to like-new condition, but never fired. The idea is to retain immaculate samples for future reference, so that with a good scrubbing and proper lube they would be shootable decades, even centuries from now. However, when I visited the Imperial War Museum in London, I'm pretty sure I spotted some fakes in the display cases. But what can I say about the British and their antigun kick that wouldn't get me strip-searched the next time I passed through Heathrow?



Krinks need tactical-rail love, too. Here is a shortie with the Krebs tactical quad-rail handguards, with red-dot, light and vertical foregrip.

Oh for a bore scope, to have seen what the bore looked like in that AKS-74U after a decade or more of knocking around Afghanistan!

Should you own an SBR? Many shooters have fears of midnight inspections of their SBR by the ATF. Whispered rumors of cars parked out front at all hours and surprise checks. Get over it. It doesn't happen. When you apply, the ATF runs a background check on you, to make sure that you don't have any "dings" on your record. No criminal history, no legal problems, nothing that would keep you from owning a firearm? You're almost there. The ATF will also check to make sure you live in a state that allows SBRs. Good there?

Then you can count on your $200 check being cashed, and your tax stamp being issued as quickly as the paperwork flows through the office (which lately has been between one month and two).



The Intimidator: looking down the wrong end of the Noveske muzzle device, a bad guy has to think "What caliber is that thing?"

Get one. Get one now. Put lots of ammo through it and be the envy of your shooting buddies.

Chapter 16

The Wieger and the Inter Ordnance Stg-2000

I know I've mentioned this a few times, but let's take the subject head-on here, because it is relevant: even a socialist country needs an economy. You can't build a nation or an economy by the means of everyone trading hats in harmony, brotherhood and good-faith effort. The East Germans ran headlong into that in the late 1970s. They had obtained a license to build AK-74s, but the license had restrictions: they could make as many as they wanted for their own use, and as many as the Soviet Union needed for the East Germans to put in storage for the final conflict with the western corruptors, but none for export.



The Wieger is a nice looking AK with some non-standard furniture.

East Germany needed cash, and the only thing they could export that people were willing to pay for were small arms. So, they started a program to make a better AK, and one that skirted the license restrictions imposed by their Soviet masters.

The STG 940 program got underway. The idea was to make a family of small arms, compact and regular assault rifles, light machinegun/squad automatic weapon, and sniper variant, and to offer them in the caliber of the buyer's choice. So there were five versions, in three different calibers. (Three calibers, because the East Germans may have been socialists, but they were no dummies. There was a sizeable market segment who were locked into the 5.56 cartridge, who might be lured into buying a different rifle, but who could not forego the supply train of 5.56 they had – sort of like General MacArthur insisting on the Garand being made in .30-06: "We've got warehouses of this stuff, we can't just abandon it.")

To be attractive in the market, they East Germans had to make it more than just another clone. So, they improved the ergonomics of the rifle, at least as much as they could without a complete overhaul. The resulting rifle was called the Wieger 940. East Germany did all the design and pre-production work and managed to acquire orders from both Peru and India just before the Berlin Wall fell. I have to wonder if there were any pre-production R&D samples that made it to India, as part of the sales pitch, because India adopted the INSAS, a 5.56 Kalashnikov, soon after the fall of communism. The Indian government was interested in both buying rifles from East Germany and acquiring the manufacturing rights as well. The

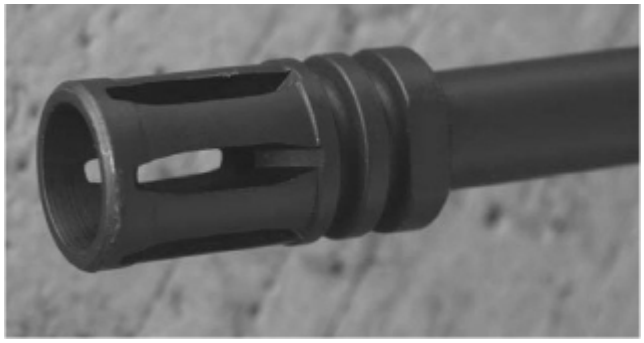
Indian arsenal of Ishapore would certainly be capable of taking an R&D sample, reverse-engineering it, and making new rifles. Hey, the GDR no longer exists, and the re-formed Germany is not interested in the old licensing agreements, so why not?



The IO Stg-2000 comes with a synthetic magazine of US manufacture.



The new handguards, which are not compatible with standard AK furniture.



The birdcage flash hider.

The left side, showing the takedown pin (up front) and the scope mount, on the receiver.



As for the Wieger, when Germany was re-formed, the government was not at all interested in pursuing the program. In fact, they cancelled the contracts, paid the penalties, and scrapped the rifles. They also scrapped lots of other rifles in invenotry, since they didn't need them and were not interested in selling icky AKs on the surplus market.

Then, in the 21st century, the company of Inter Ordnance (aka IOInc.) began importing rifles that were copies of the Wieger, called the Stg-2000. They are not, alas, GDR parts kits built up as new rifles but modified Romanian AKs with some different hardware, But, the hardware differences are the heart of the Wieger, so for that it accomplishes its task.



The pistol grip. Very comfortable, and something to look for as a replacement on other AKs.

First, the furniture is synthetic, and closely follows (as far as sources can tell us) the pattern of the Wieger 940 rifle. The stock is solid and appears to be more along the lines of a squad automatic weapon stock than an AK stock. It has a narrow wrist and a distinct flare on the bottom, so you can brace your hand against it if you're firing from a rest or bipod. The sling swivel is on the left side, not the bottom. The buttplate has a non-skid pattern stamped in it. The pistol grip is bigger without being too big, rather rectangular in profile, and has a finger swell. It is more comfortable to many shooters than the standard AK pistol grip, which in many models is almost an afterthought. If IO offers just the pistol grip, it is something to consider as a good one to select for your next build or upgrade.

The handguards are not at all like the standard AK handguards. On your standard AK, the handguards have a top and a bottom, with the top enclosing and being attached to the gas piston tube. The bottom is locked in place by the front of the receiver and the front bracket on the barrel. The Stg-2000 has a left and a right, and they are both held on by the front bracket. Where the bracket on the standard AK has a little locking lever, the Stg-2000 has a cross pin. To take the Stg-2000's handguards off, you pull the pin out, slide the bracket forward over the gas block, and lift the two halves out of the way. Easier said than done. If mine is any indication of the degree of difficulty it takes to move the pin, most Stg-2000 rifles will never have the handguards off.



The stock, with the left-hand gripping notch, if you're firing from a supported or bipod position.



A thoroughly standard trunnion and receiver marked as Romanian, made by Cugir.

Which is not a problem, as there is nothing you can put in their place. The non-standard bracket means that no aftermarket handguards will fit the Stg-2000. For most owners, this won't be a problem, as they will never be swapping stuff. But for those who cannot have a box-standard rifle in the rack, the Stg-2000 is contra-indicated. Meaning they won't like it.

All the rest of the disassembly procedures are standard AK: take the cover off, remove the carrier and bolt, curved plate, hammer and trigger, etc. as a standard Romanian receiver, the stock attachments are not going to be a problem, so if you really want a different stock, that can be accomplished.

On the left side of the receiver, the Stg-2000 has a standard com-bloc scope mount riveted in place. If you want optics, you can mount them, but be aware that while the Soviet/Warsaw pact optics are cool and period-correct, they aren't much in the way of optics.



Here is the standard scope mount, riveted on the left side of the receiver.



The handguard cup or bracket, and the hooded front sight.



The takedown lock. “Pull this from the stone, and be revealed as the king.” OK, it isn’t quite that difficult.

The sample on hand is a 7.62X39. It proved reliable and as accurate as any other AK in the racks here at Gun Abuse Central. It perked along fine with the ProMag magazine that proved a bit choosy in another rifle, but any other magazine I had worked 100 percent. Its problem with that lone ProMag was the same one my other Romanian had: it would not strip the last round out of the mag, simply closing on an empty chamber. ProMag, or Romanian rifle? You decide. The Stg-2000 came with a Master Molder/Wilson synthetic magazine

that worked just fine. I don't see the Stg-2000 giving you any problems on the magazine front.

One other change Inter ordnance makes on the Stg-2000 from the standard AK is the flash hider. Not only is it an A1 birdcage, but it is not the standard left-hand thread of your standard AK. So, if you go to put something else on it, you'll have to do two things: make sure the thread pitch is correct, and that your .223 flash hider has enough clearance for the 7.62 bullet soon coming its way. The plan is for future models to be offered in 7.62X39, 5.56 and 5.45. I wonder if there will be folding-stock versions, and if so, which pattern? The modern, ubiquitous Russian/Bulgarian sheet-metal sidefolder, or the Romanian/Polish Tantal wire sidefolder? Perhaps they'll be able to lay hands on a supply of the original-pattern East German folders?



The standard AK handguards are a top and a bottom. The Stg-2000's is a left and a right.



Standard AK handguards won't fit the Stg-2000 handguard bracket.

As an imported, US-compliant rifle, the Stg-2000 has the proper number of 922 (r) compliance parts in it from the start. So, if you want to you can modify it without having to start with a fistful of US parts. However, if you do modify it, keep track of what comes out. Take out too many US-made parts, and you could end up with a non-compliant rifle.

Should you get one? If you want a different-appearing standard AK, sure. If you want an AK you can rebuild into the tacti-cool AK of your dreams, move on. The nonstandard handguards make any kind of changes up front a real bottleneck.



The Stg-2000's muzzle threads are neither like those of the '47 or the '74, but are US-pattern ½-28, like the AR-15.

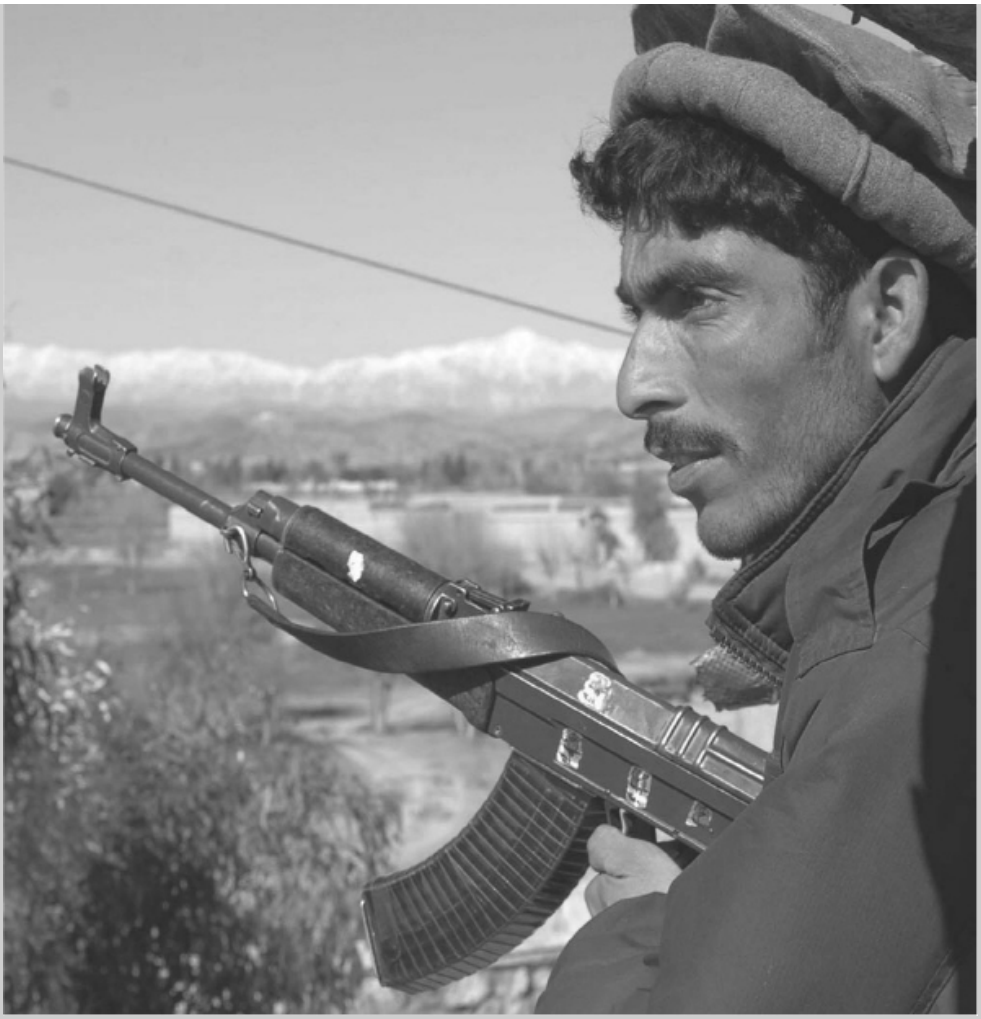
Chapter 17

The Vz.58: It Looks Like an AK, but Inside, It Isn't

When Czechoslovakia signed the Warsaw Pact in 1955 (Actually, the "Warsaw Treaty of Friendship, Cooperation and Mutual Assistance") the Czechs and Slovaks took it seriously. With the fall of the Austro-Hungarian empire following WWI, the two groups had been jammed together into a single country, and then after WWII they picked themselves up out of the rubble of the German invasion and occupation followed by the Soviet liberation. With the spring of 1945 bringing peace, they were eager for a fresh start. They quickly began designing and producing small arms for use in the defense of their own and other "worker's paradises" and for export sales. They had resumed production of existing bolt action rifle designs right after the war as well as drawing up new ones, and in 1952 they unveiled a semi-auto carbine of their own: the Vz.52. It filled the same niche as the SKS and was sort of an in-between to

the Garand and the AK. With a 10-shot magazine and weighing nearly 10 lbs., it was not going to be first choice for any paratroop brigade. It was and is, however, a reliable and reasonably accurate rifle. You aren't going to go and win any matches at Camp Perry with one, but if you happen to have one you are not poorly armed. Finding ammo for it will be another matter entirely, but that is for a bit later. Along with the Vz.52 carbine, the Czechs made the Vz.52 light machine gun, which we would today consider a SAW (Squad Automatic Weapon) rather than a GPMG (General Purpose Machine Gun).

The original work had begun from the Stg-44. From this remove of time, we look on the Stg-44/45 as an interesting museum piece, one we see in books, rarely if ever handle, and never shoot. But in 1945 it was the cutting edge of small arms progress. The Germans had shown that bolt actions were on the way out, and that the power and recoil of the Garand was not needed. In 1945 there were plenty of Stg-44/45 rifles to be found, sometimes literally lying in a field or propped in the corner of a house. There was plenty of 7.92X33 ammo, too, so that was the ammo the Czechs first used to develop their new small arms with, and the Stg-44/45 was the starting point for new models. Why not simply adopt the Stg? First, the Czechs had plenty of forging and machining capacity, but little or no stamping production. All such machines captured in Germany were being loaded onot trains and shipped back to the Soviet Union. Finally, the idea of simply adopting the caliber of the hated and defeated Germans was anathema. So, the Vz-52 was a forged and machined carbine in an improved version of the brand-new Soviet caliber.



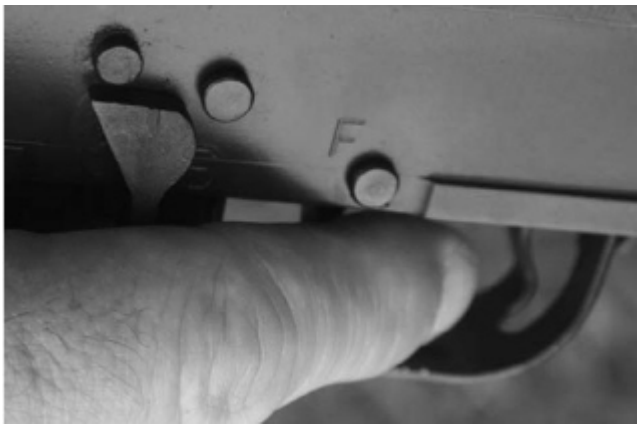
An Afghan policeman keeps an eye on his town, a Vz.58 in hand.



The Vz.58's muzzle cap and front sight assembly.



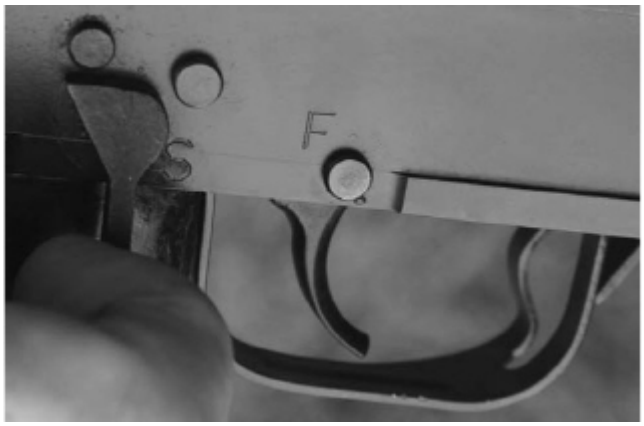
The selector. Smaller, but a bit more ergonomic than the AK-47's.



While it is close to your trigger finger, it isn't really handy.

The designers then turned their efforts to producing their own AK, the Vz.58. But there was a fly in the ointment: the Czechs didn't know the Pact should have been better named the "Warsaw Treaty of Friendship, Co-operation and Soviet Support." The Soviet Union wanted "mutual assistance" but they wanted more of what they had and needed, and that was AKs. Designs that were not compatible in all aspects were not desired. In fact, they would have to be changed. That meant the new Czech cartridge had to go. The Vz.52s were initially chambered in the Czech 7.62X45, a medium-bore .30-caliber round with less taper and more length than the 7.62X39. Some authorities list it as equal to, others say slightly superior to, the 7.62X39. Regardless of its performance, it and rifles chambered for it were not compatible with the 7.62X39, and

that had to be changed, and the Czechs had to change it right now. So, The Czechs sent everything back to the armory and rebarreled all their old VZ-52 carbines, as well as their light machine guns, to the Soviet round. Then they made the new Vz.58 in 7.62X39. Some Vz.52 carbines escaped the change. The new ones are marked (either re-worked, or built new) as Vz-52/57. You can tell the difference by the magazine: the 52 has a magazine with a more-or-less horizontal baseplate, while the 52/57 baseplate is angled up towards the muzzle.



To reach the selector you have to curl your finger back. A lot.



The action open, showing how wide-open it is, to the detriment of fingers that might get in the way.

In function, the Vz.52 has an interesting collection of features. The gas piston surrounds the barrel and pushes/ smacks the operating bar, which then pushes the bolt carrier. The Vz.52 piston is similar to that of the Remington 1100,

except that the Vz.52 piston is not attached to the operating bar, where the 1100's is.

As part of their assistance to indigenous revolutionary efforts around the world, the Czechs shipped lots of Vz.52 and Vz.52/57 carbines overseas. (One wonders how much actual cash these shipments generated and if the shipments were used in the accounting offices of the Soviet Empire to "offset" the "expenses" the Russians had incurred in "liberating" Czechoslovakia. But then I've been accused of being just a tad cynical at times.) I can only imagine the frustration on the part of local revolutionaries, having been shipped Vz.52 carbines, to find that the most common rifle ammunition in the world, 7.62X39, didn't fit their rifles. But we risk wandering too far from the subject of this chapter.

U.S. Marine Chief Warrant Officer Charles Major shows an Iraqi woman how to handle a Vz.58 as part of Sisters of Ferris training in Ferris, Iraq. *U.S. Marine Corps photo by Lance Cpl. Albert F. Hunt.*





The rear sight block also holds the tappet that actuates the bolt carrier.



Looking straight down into the action, you can see the locking slots for the hinged locking block.

Since the Vz.58 used the common Soviet round, the Czechs were allowed to keep making the non-standard Vz.58 and were not required to simply make AK clones. Good for collectors, because the Vz.58 is oh-so different. We're going to be doing a lot of comparing here to the AK, so hang on and be patient. It looks like one, it does the job of one, the average Joe at your gun club wouldn't know one from the other just glancing at it, so get used to the comparison.

Let's start with the magazines, which are not interchangeable and offer something the AK does not: a hold-open device. That's right, the last shot on your Vz.58 locks the bolt back. The magazines are also made of aluminum. Yes, aluminum makes them a bit less durable than a steel AK mag,

but for the weight savings I'll have to vote with the Czechs. After all, the weight of a magazine isn't just the weight of a magazine, it's the cumulative weight of all the magazines you're packing. For someone shooting at the gun club, one mag is no big deal. For someone shooting in a 3-gun match, one mag in the rifle and another as a reload, is again, not a big deal.



The carrier slides back inside the cover.



The rear sight elevation curves are machined into the sight tower. That had to tax even the best Czech machinist.



The magazine has a hold-open tab on the follower.

But just think about walking out the door with 10 mags on, plus all the tactical gear and team gear you'd need, going on patrol. Add to that the gear bag you're hauling out to the vehicle, part of the extra supplies you need while driving the convoy. More mags there. A pound per magazine adds up.

The Vz.58 uses a milled receiver. Now, in the AK universe, and for a lot of other rifle designs, a milled receiver means one thing to most shooters: an anvil. As in, "Oh god, this thing is heavy." Not for the Czech designers and machinists.

The milled-from-a-forging Vz.58 receiver is lighter than that of a stamped-receiver AK. When the guys at CZ-USA told me that, I put it down as a bit of puffery. It couldn't be true, right? When the Vz.58 arrived I hauled out a pair of AKs, and slapped those and the CZ-USA 58 each on the scales. Generally speaking, I haven't found milled-receiver AKs to be all that heavy. I know people like to complain about the extra weight of a milled receiver, but they must have different receivers than my rifles do. Mine weigh only a few ounces more than a stamped receiver gun. And so it was with the first of each milled and stamped I grabbed off the rack: they had identical weights of seven pounds, eight ounces each. The

Vz.58 weighed in at six pounds, twelve ounces. Add in the extra pound of a steel magazine versus the aluminum one, and the Vz.58 with magazine weighs almost two pounds less than a similarly-equipped AK does. The guys at CZ-USA were right, and I should not have doubted them. The Vz.58 is also markedly lighter than the Vz.52, or the later Vz.52/57. At first glance you wonder why they didn't just equip the Vz.52 with a 30-round magazine instead of a 10. The weight, that's why. A Vz.52 or 52/57 weighs in at a smidge over eight pounds. Add the steel (or aluminum) of a 30-round magazine, and you could have a Vz.52-30 (if I might coin a designation) that weighs two full pounds more than the later Vz.58. Obviously a non-starter.



The magazines are aluminum, don't fit AKs, and weigh significantly less than an AK mag does.

Originally manufactured in Ceska Zbrojovka in Uhersky Brod, the Vz.58 came in two versions. For us, it comes in one of three configurations; the Tactical Sporter, the Military

Sporter and the Folding Stock. The Tactical Sporter features new furniture made of black Zytel and is not the version originally made. Zytel is one of the modern polymers developed by DuPont, and the fiberglass incorporated into it means that it is not only impervious to all known solvents but has a very high degree of impact resistance. The Tactical stock is the design known as a "thumbhole" style even though it looks more like a modernistic approach to the SVD Dragunov stock. Why that? I'm sure it's to sidestep the irrational legislative attempts at banning rifles with pistol grips on them. That, and some shooters like the look.

The furniture of the military model is right out of the 1950s: a synthetic composite with wood chips mixed into the slurry. The slurry is injected into molds and then cured to strength. They look wild to the modern eye, but they are tough. The use of resins and wood chips was pioneered by the Germans in the closing period of WWII. Instead of having to search for straight-grained, tough wood sections large enough to create stocks from, they could chip any hardwood, mix it into the slurry, inject it into moulds, and create stocks quickly.

The folding stock version differs from the AK also. First, like the Polish Tantal, it folds to the right side of the receiver. It is a sheet metal stamping and simple hinge with a lock. It is not designed for marksmanship but to provide a place to brace the stock on your shoulder and provide some sort of place for your face to be while aiming. As Soviet Army infantry doctrine called for short, controlled bursts on the assault, the idea of a solid cheek weld was not high on the list of design considerations. It isn't bad, and is for a lot of people better than the AK underfolder, but it certainly isn't designed with

target shooting in mind. Also, it is short. Not in the length of pull, which comes in at an AK-standard almost 12 inches. No, when you fold the stock, the resulting rifle is only 25 inches long. Not a problem with Federal regulations, as the Feds measure a rifle with the stock extended. There, it is over 33 inches long, and with a 16.14- inch barrel is it all kosher. Just a rifle. However, some States have differing length regulations or statutes, and 25 inches may be on the short side for them. So you'll definitely want to find out how long is "long enough" for your home state before you go and order an uber-cool folder Vz.58.

An Iraqi policeman, on patrol with US Marines in Rawah.*Photo by Cpl. Ryan C. Heiser, USMC.*





To diassemble, make sure it is unloaded.



Dry fire, then press the pin on the rear to the side. Lift the cover off.

The Vz.58 safety is a lot more ergonomic than the AK, but still not up to the standards of the AR-15. The safety lever is on the right side, above the trigger, and you need to teach your trigger finger knuckle to deal with it. While it is a bit more ergonomic than that of the AK-47, it is a lot smaller, and you'll have to do more practice with it to be sure you can push it to "Fire." The charging handle is part of the bolt carrier, attached on the right side, and it reciprocates with the bolt carrier. The extractor is high on the right side of the bolt face, and the ejector is at the six o'clock position, so ejection is vigorous and more up than to the right. If you are under some

kind of overhead cover, to keep the sun or the rain off, you may have your empties smacking the ceiling.

Inside is where the real differences become apparent. To get the Vz.58 apart, first make sure it is unloaded. Then dry-fire the striker. That's right, the striker. The '58 does not use a hammer and firing pin, but a heavy striker driven by a stout spring. The carrier has its own even stouter return/ drive spring. With the striker forward, pull the little knob on the right rear out to the side. Then push the rear cover forward and up. If you do not dry-fire the rifle, the spring strength with them cocked will be too great, and you won't be able to move the cover enough to get it off.



The piston assembly is held in by the pin on the sight tower.

Once open, look at the hard chrome-plated bolt and its locking cam. Looks a lot like the locking system of the Beretta

92 or Walther P-38, doesn't it? As the carrier moves forward and back, it cams the locking block into and out of engagement with the locking shoulders machined into the receiver. All very different for a rifle, and 'way cool. Up top, the carrier is not connected to the gas piston. Unlike the AK, the 58's gas system does not have the piston pinned to the bolt carrier. The piston gets driven by gas, pushes out from its housing (also the rear sight tower) and pushes the bolt carrier onot its journey. In that, the piston system looks very much like (and obviously pre-dates) the various piston systems being touted as improvements on the gas impingement system of the AR-15/M-16.

The Vz.58 stayed in production for 25 years, during which the armed forces of Czechoslovakia took delivery of over a million of them. After the fall of the Soviet Union and the dissolution of the Warsaw Pact, the two sides in Czechoslovakia took a few minutes to think it over, and then went their separate ways. So the Czech Republic and Republic of Slovakia have each found themselves with the heritage of the Warsaw Pact to deal with. That is, catch up economically to the rest of Europe while upgrading/ improving/replacing all the obsolete stuff, which was just about everything. Since then they have found that the Vz.58 is just as suited for use by the armed forces as it had been before. (And a lot of other ex-Soviet designed military equipment, too: Old, heavy, relatively reliable (some more than others) – and already paid for). But they really didn't need half a million Vz.58s each. The Czech Army has fewer than 60,000 active personnel, and the Slovak Army fewer than 25,000. A million rifles is a whole lot. So naturally, the idea of bringing this unique rifle to us Americans

seemed like an easy deal. Except it took a lot of work. First, there is the matter of the receiver. As far as the ATFE is concerned, “once a machinegun, always a machinegun.” So the original, select-fire Vz.58 receivers could not be used. The Czech firm of D-Technik a. s. had to redesign the receiver as a semi-only one, and make it so none of the full auto parts could be installed. Internal parts had to be altered or re-fabricated. Also, as one of those nasty, eeeeevil “assault weapons” they have to be 922 (r) compliant, so some parts have to be made here and installed here.



Take the handguard off.



Pull the piston back, lift and pull forward.



The piston comes out.



Don’t lose the piston return spring.



To reassemble, you have to push the cover in place. Taking AKs and Vzs apart takes a lot of thumb work.

Light and handy, too bad the selector is so awkward.



Then there is the matter of the barrel. All references I've ever read of the Vz.58 mention the barrel length at 390 mm. For those who don't have metric-to-real measurements conversion tables memorized, that is fifteen and one-third inches. The imported Vz.58s had to have new, sixteen-inch-plus barrels made and installed. The new ones are listed as 410 mm, or 16.14 inches. There is no flash hider; instead the

muzzle is counter-bored. That probably provides some flash hiding capacity, but it acts mainly to protect the crown from damage.

The result of all this is a light, handy rifle that takes the common and inexpensive 7.62X39 ammunition of all types. In the course of firing both the original sample the CZ-USA guys had to show (probably one of only a few in the country at the time) and the one they sent me, I've put a couple of cartons of steel-cased 7.62X39 ammo through them. At no time did I have any failures. One interesting design problem the Czechs had with the prototypes came from the shooting style some sample shooters used. The testers had occasional misfires. It turned out to be a problem with trigger-pressing style: if you fired by the usual military method – i.e. snatch that trigger all the way back, let go and repeat as-necessary– things worked fine. If you tried to ease the trigger off, shooting target style, the trigger/striker/disconnector timing got thrown off, parts caught on each other, and the rifle wouldn't fire. For you, what that would have meant (had they not fixed it) was when firing in a plinking session you would not have had a problem. But if you settled down on the bench to shoot for groups (say, to see which brand of ammo was most accurate in your Vz.58) you might have had a problem. So D-Technik went and made a change in the design of the internals, and that trigger issue was no longer a problem. I like hearing of good engineering practices prior to shipping to customers, especially in small arms. It is so very encouraging, and CZ should get full marks for telling us of this interesting situation.

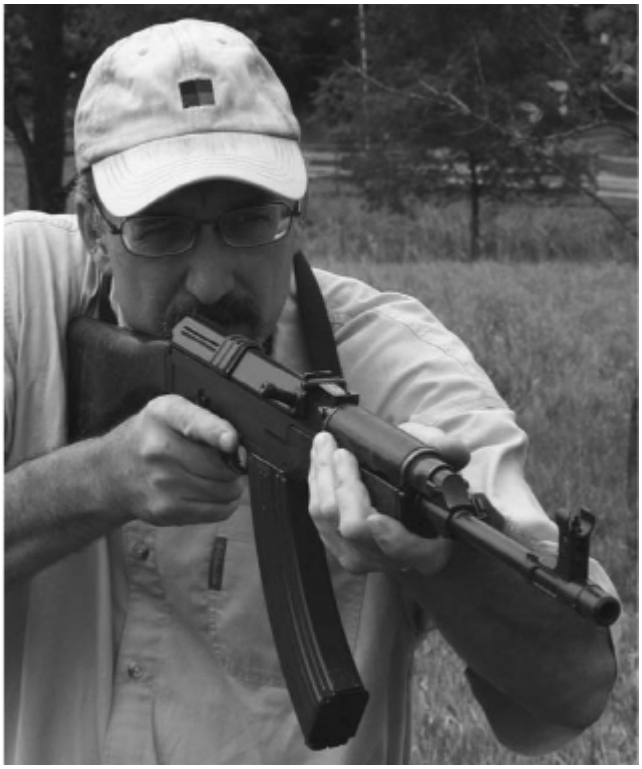


Still considering the weight savings in mags, the selector isn't worse than an AK.

The recoil is not bad, for a lighter-than-an-AK rifle.

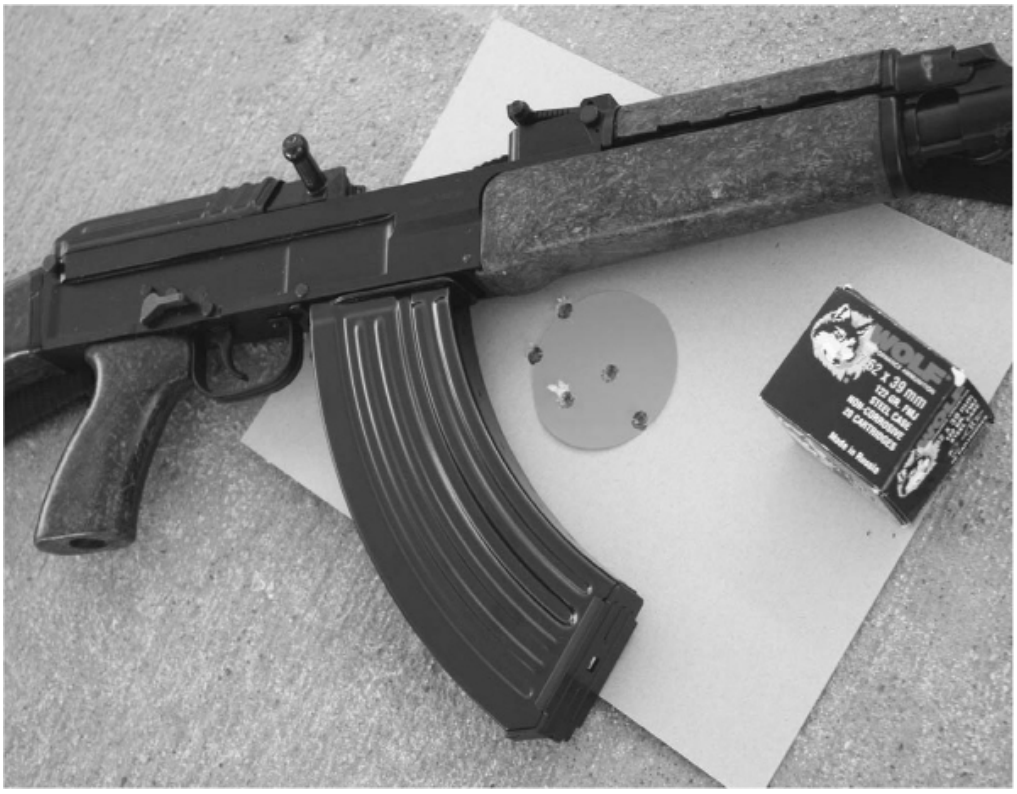


After all the blasting and close-range drills, I finally managed my first bench shooting only after it got cold. On a bitterly cold winter day, despite the frigid temperatures the Vz.58 worked like a champ. It also shot quite well, with greater accuracy than a lot of AKs I've had a chance to shoot. The best group was three inches at 100 yards, and considering the open sights and slightly spongy military trigger, I'll take it. Considering the potential accuracy, if you fed the Vz.58 brass-cased ammo with match bullets, it could post some really interesting groups. However, when the Vz.58 was being designed no one in their right mind had any intentions of mounting optics on a machinegun. (That same attitude almost kept a scope mount off the M-14, and kept scope mounts off of the AR-15/M-16 for decades.) It's a shame the receiver has no provision for a scope mount, because it would be fun to try. Since the Vz.58 didn't go through a product improvement program like the AK did, resulting in the AK-74, there was no opportunity to design and install one on later models. You wonder, don't you? A Vz-74, in 5.45X39, with scope mount. What could that do?



You simply can’t do snap-shooting and manage the safety.

The gas system also makes for softer recoil than an AK, despite the lighter overall weight of the rifle. With the piston smacking the carrier, but not cycling along with it, the recoil feels softer. If that was kept in a Vz-74, where would the Czechs have been? If they had also made a .223/5.56 variant for export, what might it have led to? Well, we’ll never know. Since the Vz.58 and AK-47 magazines are not interchangeable, even considering rebuilding a Vz.58 to 5.45 or 5.56 is out of the question. Although I would not be surprised to learn of someone who had done extensive measuring and has a method of fitting AK mags (of whatever caliber) to a Vz.58.



Not bad, on a freezing cold day, with iron sights and a sandbagged rest.



"New guns for old, new guns for old." The Iraqi Army is trading in AKs for M-16s. *Photo by LCpl. Sean P. McGinty, USMC.*

If you're used to AKs that are as cheap as dirt, or making your own from parts, the Vz.58 may seem a bit pricey. At the moment they are listing for around $800, and magazines run twice what AK mags do. But, you don't buy a Vz.58 because you want another AK. You buy it because you want something different than what the other guys at the gun club have. My experience with bottom-end AKs is that while they may be cheap they are also often less than accurate, and some aren't reliable. ("An unreliable AK? Not possible!" you say. You haven't seen some of the home-assembly jobs I have.) For your money you get CZ quality, and you get different, and you get the quality of a top-grade machined receiver and properly-fitted parts in that receiver. You also get the difference of having something that few others at your gun club will have, plus shooting in the club matches with something with a higher CDI score.

Additional magazines will be a bit more costly than AK mags, but you have to consider the simple math of it: so many steel and composite AK mags have been made, you'd practically get one free with every gas fill up. There just aren't as many Vz.58 magazines, but don't worry. The old People's Republic of Czechoslovakia made plenty, and the new Czech Republic still has half of them, and is eager to sell them to us. Me, I'm going to go out and get some. You should, too.



Three Iraqi policemen stand post at the entrance of the Haditha City Police Station. Notice that the ground-floor police officer is packing a Vz.58. *Photo by: Lance Cpl. Shawn Coolman, USMC.*

The Vz.58 can be seen in photos from Iraq. As it shoots the same ammo as all the Kalashnikovs over there, it would seem to be a good choice. However, I've heard from some in the field that it is not well-liked. I found that curious and asked around. It seems that the magazines are the real sticking point. Since they are not the same as the AK, and cannot use AK magazines, if you lose your Vz.58-only mags you don't have a self-loading rifle. With all due respect to the Iraqis who are fighting for their country, if keeping magazines straight (and not losing them) is a problem, then I'm not sure what to suggest. However, the problems with the Vz.58 probably didn't end there. Like its design predecessor in many regards, the Ljungman, the Vz.58 action does not have a cover. The open mechanism slaps back and forth. If your finger is in the path of the bolt then the bolt goes forward (easy to do the whole action is open on top) then your finger will suffer. Troops who find that their weapons are more trouble than they're worth have simple solutions. My father and his

comrades did it in 1944-5; they simply lost the key parts, and requested replacements of something else.

So, I would not be the least bit surprised to find that Iraqi troops, police, and citizen volunteers who have the VZ, and who find the open action more than they can deal with, will simply “lose” the magazines in action. No mags, no VZ, issue AKs again.

Then again, with the whole Iraqi Army going to M-16s, the pressure to also change the police armament can’t be too far behind.

Chapter 18

The SKS:
the “Other” Soviet Rifle



Up until now, this book has been all about the AK-47 and its variants. But it hardly seems fair to discuss the AK and the 7.62X39 cartridge without tipping our hat to the “other” great Soviet import, the SKS.

What with the adoption of the M-43 cartridge, the Soviet Union now needed a firearm in which to chamber it. The idea of putting it into the Mosin-Nagant is patently absurd, and I can’t imagine it was considered for more than the time it takes to hold up an M-43 and a 7.62X54R cartridge side-by-side. It also couldn’t be wrestled into any of the smgs being made, even with the willing efforts of the designers and production teams. The ballistics of the M-43 are just too much to shoehorn into a blowback design. It is one thing to fit a V-8 engine into a small truck like a Ford Ranger. (I’ve seen one such conversion, hit the throttle too heavy and the torque threatens to roll the truck upside-down.) At least there there is

enough room (barely) in the engine compartment in such conversions, and the driver can be judicious in his/her use of the throttle.

But firearms have much more restrictive limits. Each round fires at the full force with which it was made; no throttling is permitted. Even with the steel case of the M-43, a blowback firearm would not work very long, nor probably very reliably while it was working. The M-43 needed a locked-breech design.

The SKS, or Simonov 45, or Samozaryadniy Karabin sistemi Simonova, was adopted in 1945. Designed by Sergei Gavrilovich Simonov, it is a self-loading carbine that fires from a 10-round magazine fixed to the carbine. To load, put the safe to “Safe” (forward, where it can be felt in the trigger guard) and pull the operating handle back. It will lock open. Grab stripper clip or clips (five or 10-shot variety) and place them in the slots machined in the head of the bolt carrier. Strip the rounds down into the magazine, remove the clip, pull the charging handle back slightly and let the bolt drive forward under its own power.



The uncluttered top cover of the SKS makes it an easy-to-machine part, and also lacks sharp edges that can hook on equipment.



Grab the little lever at the rear of the cover and pivot it up and to the rear.

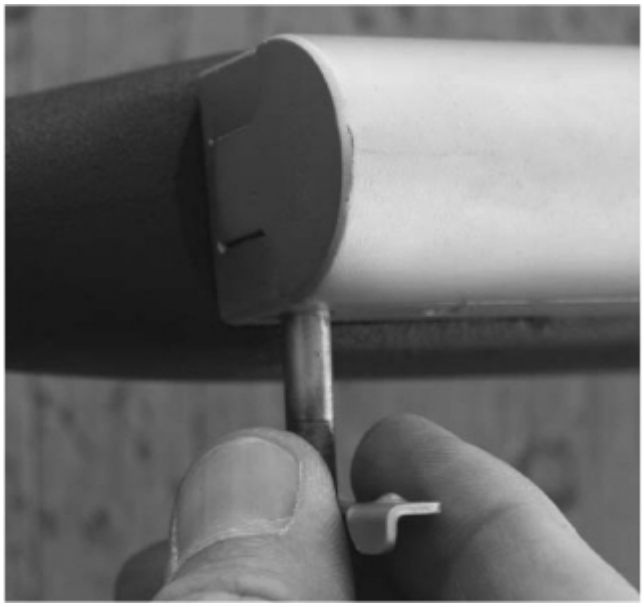


Once it is pivoted far enough, you can wrestle it to the side.

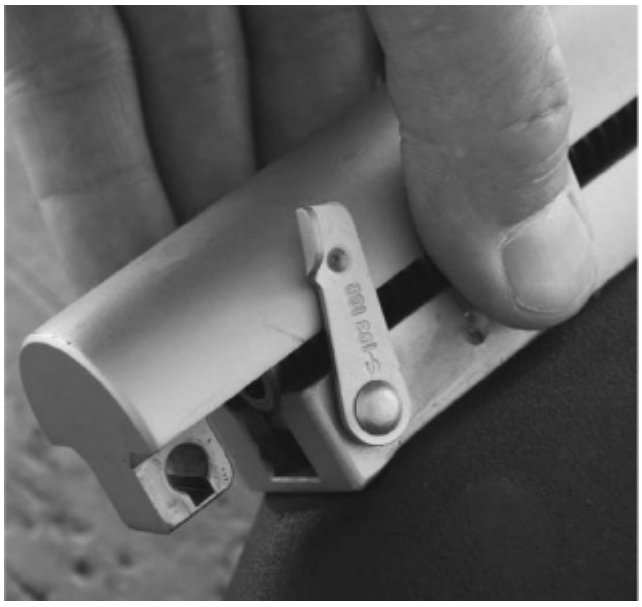
Push the safety off, aim and press the trigger. Each trigger-press will produce one shot (unless someone has been screwing with it, in which case you should get it fixed immediately) and the huge extractor grabs each steel-cased empty, hauls it out of the chamber where the ejector can fling it into the tall grass. Once the ammunition is exhausted, the bolt will lock open, whereupon you can reload and repeat.

SKSs in the USA

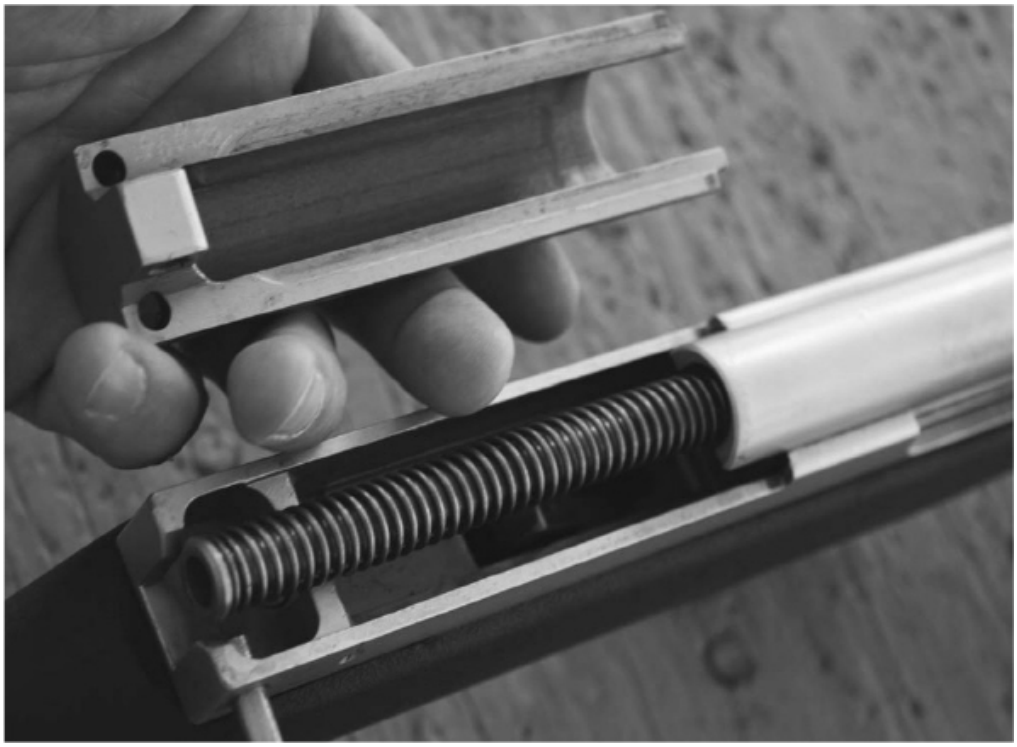
The SKS used to be a relatively rare collectors item. They were allowed as bring-back souveniers during the Vietnam War, and so some came back that way. But not a whole lot, and combined with the lack of ammo (who would shoot a $100 SKS with $2-a-shot Lapua ammo in 1980? Only crazy gun shop workers learning the biz.) There was some interest in collectible SKSs back then. I recall that our shop manager John had one. It was (as I recall) a Russian-marked bring-back, complete with papers. Not many Russian SKSs appeared then, and this one was in pretty good shape. John's dad asked to borrow it, and John relented, reminding his dad of the rarity, and asked that he be careful. When his dad finally returned the rifle, I thought there was going to be bloodshed. Dad had "sporterized" the SKS for a hunting trip. Bayonet, gone; lug for same, ground off; cleaning rod, gone; stock, shortened, sanded, stained and lacquered; collectors value, gone. I vaguely recalled that he'd also done some permanent alterations to the sights. John almost made some permanent alterations to his dad.



It is captured, so you can’t lose it.



Once the latch is clear, you can remove the cover.



Here you see the cover and the recoil spring underneath.

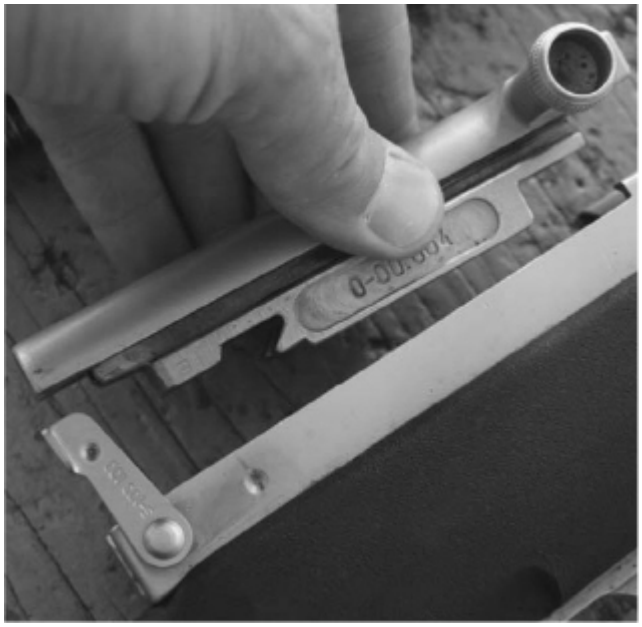


Pull the spring out.



Run the carrier back to the rear and lift.

If it had been just a couple of years later, John could have simply handed his dad a Chinese SKS as a gift, and avoided the whole situation. You see, when the Chinese were swamping the market with AKs, they were working overtime to get an SKS into the hands of everyone with even the slightest interest. So much so that now, you can see in some rural areas that the SKS has replaced the lever-action .30-30 as the common hunting/work gun. For a while during the first import tsunami, you could go to almost any gun show where you had your choice of any SKS from the stack on the gun dealer's table, and a case of ammo, for not much more than $150. For that kind of money, a whole lot of shooters overcame their dislike of "commie guns" and "cheap Chinese imports" and learned to like the SKS. They also learned "like to shoot" and spent years consuming vast quantities of cheap imported ammo.



The carrier comes out without the bolt.

Contrary to some “experts,” the SKS is not just an AK with a fixed magazine. The operating systems differ greatly. First, the gas system. The SKS uses a free-floating piston that rides in the gas tube. The gas from the cartridge is diverted through the gas port and strikes the head of the piston. The piston, acting like the tappet on the M1 Carbine, works through the piston extension, which strikes/pushes the bolt carrier. The three parts (piston, piston extension and carrier on the early designs) are not attached, and when the piston and piston extension each reaches the limits of its travel it stops, while the carrier keeps moving. Later, the fussy extension and spring were dropped, and the piston became a simple headed rod, extending from the gas port to the carrier. The carrier has a wedge-shaped claw on the bottom. That claw contacts a similar (but upside down) claw on the rear of the bolt. The angles of the claws act to lift the rear of the bolt, up out of the locking recess in the receiver, and then push the bolt to the rear.

When the bolt uncovers the cartridge stack, the lifter in the magazine pushes the stack upwards. After running out of room, the bolt stops, and pushed by the recoil spring, runs forward. It pushes the top round ahead of it, and chambers it. The carrier continues to run forward even after the bolt stops, and a small angled surface on the top rear of the bolt gives the carrier the leverage to cam the bolt down into its locking recess. The carrier then continues to run over the top of the bolt for a short distance, trapping the bolt down in the locking recess. Before the carrier can return, and the bolt strip and feed a round, the piston extension has been pushed back out of the way by its own return spring.

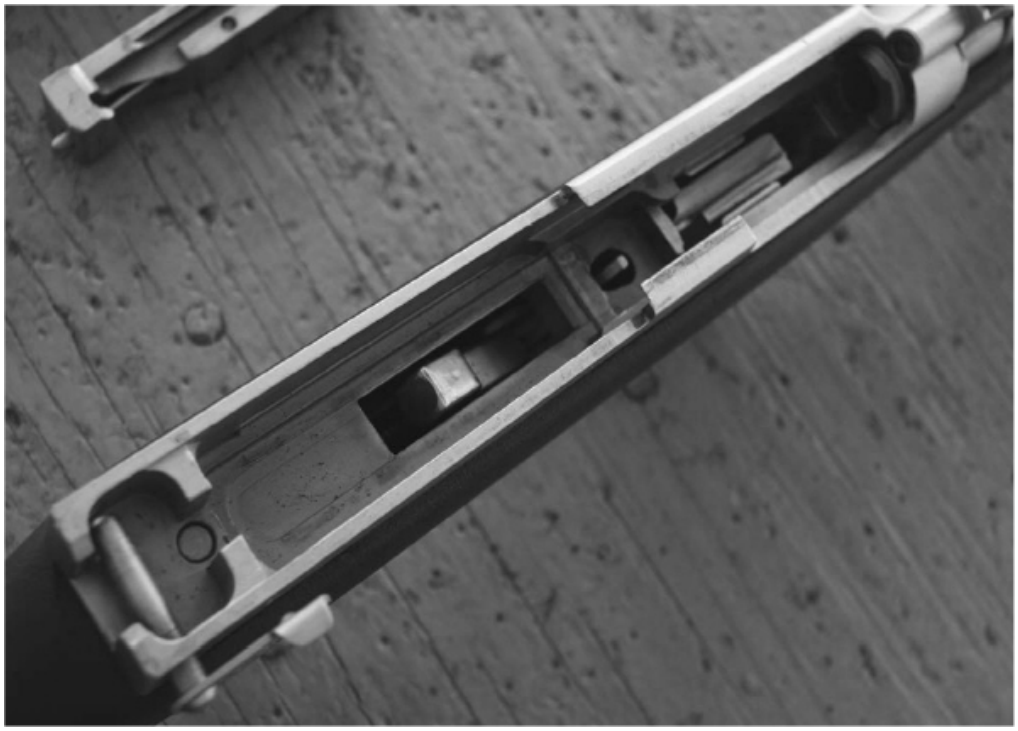


You have to fish around in the receiver to get the bolt out.



Note the extractor, big, strong and heavily-sprung.

The design should sound familiar, as it is basically the same system used in the FN SAFN-49 and FAL. Lest you think Simonov thought of it first, the SAFN-49 is a design that FN had just prior to WWII; but just before the Germans rolled into Liege, the designer, Deudionne Saive, fled the country with his drawings. (A good thing, too, as the SAFN-49 could easily have been made in 7.92X57 and provided the Germans with a reliable, rugged, self-loading rifle from the beginning of the war.) The FAL uses a single piston, rather than a piston and extension, but the tipping bolt, lifted and shoved down in the back end by the carrier, is the same design.



The receiver is a pretty simple thing to machine: just a big, square channel.

Disassembly

Taking the SKS apart is not too difficult, for the most part because there isn't that much for you to work on. Make sure it is unloaded. On the rear of the cover you'll see a little lever. Rotate it up and to the rear, and pull it to the right. It will stay attached to the receiver, and at that point you can lift the cover up and back out of the way. The recoil spring will help you move the cover.

Pull the spring assembly out. Then run the carrier back until you can lift it up and out. Then you use your fingers to fish the bolt out of the rear portion of the receiver.

On the rear sight pillar is the same kind of lever holding the gas tube on as you'll find on an AK. Unlatch and pivot this lever up. Once it clears the tube, you can pivot the tube up. Note that the piston is held in the tube and if you point the front end of the tube downwards, the piston will fall out.

Doing so can result in varying degrees of difficulty: you can damage your reputation at the gun club by having the tube clang on the pavement and clatter across the firing line. Or you can damage your relationship by having the piston slip out of the gas tube and crash though the glass top of the coffee table that your wife/girlfriend/significant other is so fond of.

Scrub the bolt, carrier, piston and tube.



To lower the magazine, or unload the magazine, press the latch forward.

A quick look at the magazine: The latch is at the rear. Pull the latch to the rear and the magazine cover pops open and hinges down. The magazine cover, and the follower/ lifter and its spring are all attached to the receiver. As a rifle issued to the illiterate and unwashed masses, such a design has its benefits. Since the magazine can't detach, it can't be lost. It does, however, limit reloading to stripper clips.

The SKS can be modified to have the magazine removable, but you have to attach the magazine interior to the cover, or the parts will simply fall out separately when you push the latch. Self-contained magazines will also fit, but they all have a singular drawback: since the bolt travels on the inside of the feed lips, you have to have the bolt back to insert or remove such magazines.



The magazine will hinge down, but stay put unless it has been modified, as this one has been.



Here is the dastardly trigger assembly catch. This spring is amazingly strong.



Yeah, good luck with that.

Still, if you want one, Tapco makes a removable 20-round magazine that works just fine, in your choice of colors. Other makers offer 30-round magazines, and for those who want to hunt with an SKS, 5-round magazines are easy to find. You can also block your existing magazine. Simply open the magazine, and insert a suitable block of wood between the cover and the follower, such that the magazine won't hold more than five rounds, and you're done. Of course, if the block falls out in the course of cleaning your rifle in hunting camp, you'd have an unlawful hunting rifle. So a lot of shooters simply pony up the less than $20 for a five-round magazine from Cheaper Than Dirt, install it, and be done with it.

The Chinese also made a series of SKS rifles that were made at the factory to accept AK magazines. As these were all imported before the change in importation laws, you do not have to add US-made parts to put a hi-cap magazine into them.



A Tapco piston, later one-piece.



The Tapco muzzle brake.



Even stout, steel-cased ammo sometimes isn't up to the task. Many shooters simply leave the trigger housing in place.



The gas tube latch is identical in function to the one on the AK.



Lift and pivot.

The magazine is held in place on regular SKSs by the trigger assembly. Removing the trigger assembly can be such a hassle that on some rifles the owners have never taken it off. If you want to try, here's how: empty chamber, then push the safety to the Safe (upwards) position. Behind the trigger guard is a button with a bullet-tip dimple in it. The idea is that you use a bullet tip to compress the spring holding the trigger assembly onot the receiver. This must be some sort of commie joke, because the spring is stronger than some people's hands. Once you've pushed the spring far enough out of line to release the trigger assembly, use your third hand to yank the trigger assembly out of the receiver. Once you do that, the magazine assembly is free to fall out on its own.



Once it swings far enough, the tube will clear.



Simply lift the gas tube, but don't drop the piston out the front end.



Here the piston extension is protruding through the rear of the tube. It does not travel as far as the carrier does.

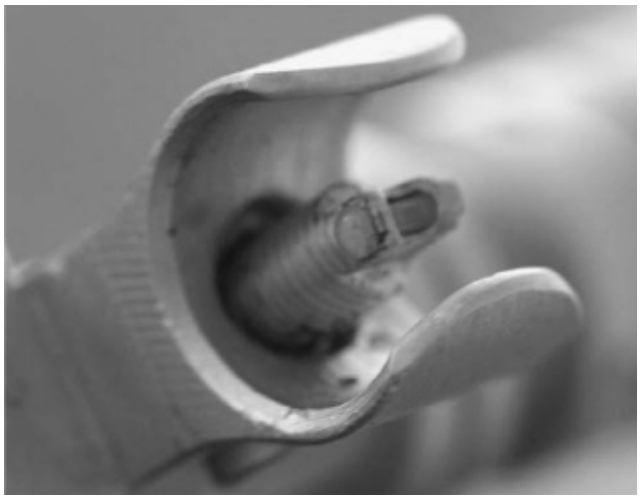
To reassemble, insert the magazine assembly. Make sure the front of the trigger assembly catches and traps the magazine body, then lever the trigger assembly back into place until the wretched little spring latches it back in place.

Up top, put the bolt in the rear section of the receiver and place the carrier over it. Then run the carrier forward until the bolt is locked in the fire position. Insert the recoil spring assembly into the rear of the carrier, push the cover down and

forward, line up the holes and push the latch back across. Rotate the lever, and you're done.



The fiber-optic rear sights Accurate Plating installed on one of the test SKSs.



The fiber-optic front sight. Red, green, yellow, you have a choice of colors.

SKS Legalities

I've heard people express the opinion that the SKS isn't covered by 922 (r) because "it isn't an AK." Sorry, wrong there. As an imported, self-loading rifle, it is indeed covered by 922 (r) and if you bring it to an un-importable status you have to do the same sort of parts-swapping that you do with your AK.

I'll spare you a recitation of the legal boilerplate again, The list of parts, as you'll recall, are (SKS-relevant parts in

bold):

(1) Frames, **receivers,** receiver castings, forgings or stampings

(2) **Barrels**

(3) Barrel extensions

(4) Mounting blocks (trunions)

(5) Muzzle attachments

(6) **Bolts**

(7) **Bolt carriers**

(8) Operating rods

(9) **Gas pistons**

(10) **Trigger housings**

(11) **Triggers**

(12) **Hammers**

(13) **Sears**

(14) **Disconnectors**

(15) **Buttstocks**

(16) Pistol grips

(17) Forearms, **handguards**

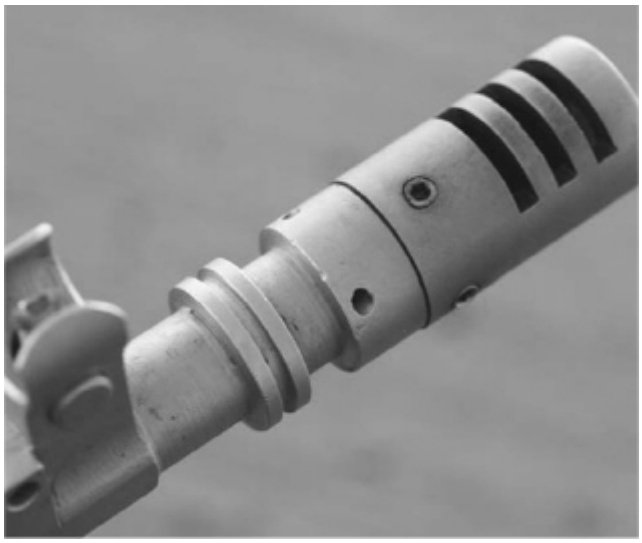
(18) **Magazine bodies**

(19) **Followers**

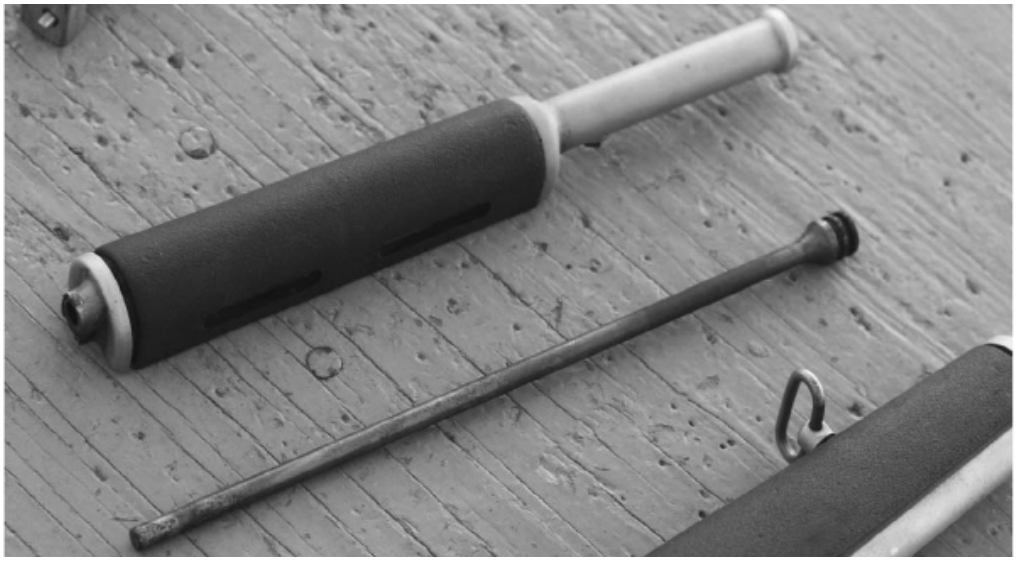
(20) **Floorplates**

You can see, in imported trim the SKS only has 15 parts (16 for the Yugos, with their grenade launchers) and the US

parts quotient isn’t onerous. The easiest way to get an otherwise non-importable condition SKS up to the correct parts count is to use an all-US made hi-cap magazine. If you go from a 10-shot non-detachable magazine, to a 20-shot detachable, and the magazine is all US-made, you’ve just swapped three parts: body, follower, floorplate. If you then change out the piston and the handguard, you’ve made it. You can then add a US-made pistolgrip stock, and a muzzle device such as a muzzle brake or flash hider, and your count stays even or goes down. (The new stock adds a pistol grip to the count, but turns an imported stock into an US-made one, dropping the imported parts count by one.)



One of the muzzle brakes APW can install on your SKS.



Here a one-piece piston design from an SKS.

So far there aren't any makers of hammers, triggers and disconnectors for the SKS, for several reasons. First, working on the SKS trigger assembly is royal pain in the butt. It was not designed with the idea of easy assembly, maintenance or, apparently, ease of changing parts. Looking at it from the viewpoint of a gunsmith, I suspect that the designer intended for defective, worn or damaged trigger assemblies to be swapped out and replaced whole. Then the old units cold be handled at a higher echelon of repair, or even back at the arsenal. The AK, on the other hand, is clearly designed to be easily parts-swapped in the field, to keep rifles working by scavenging parts out of damaged weapons. Second, the parts fit of trigger, hammer and other trigger assembly parts on the SKS is minimal. Early on in my gunsmithing I worked on a few, and the parts were hopeless from an interchangeability viewpoint. I'd guess that for rifles that came from the same arsenal there would be some limited interchangeability, but throw SKSs from different countries or even continents into the mix, and it is a colossal waste of time.



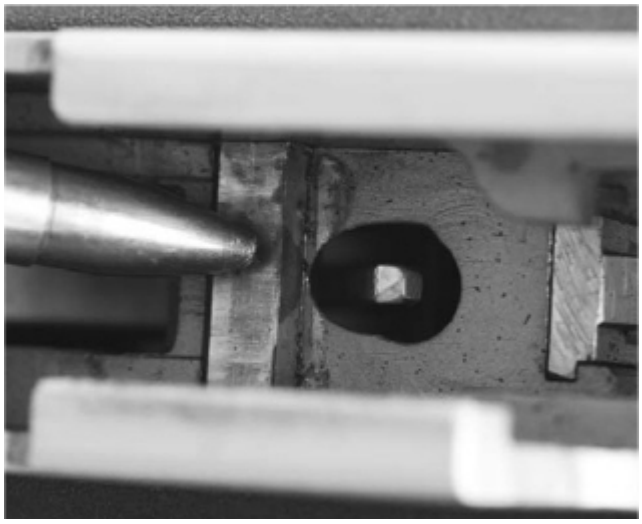
Here is the relationship of the carrier and bolt, when the bolt is locked. The rear cam of the carrier holds the bolt down into the locking recess.



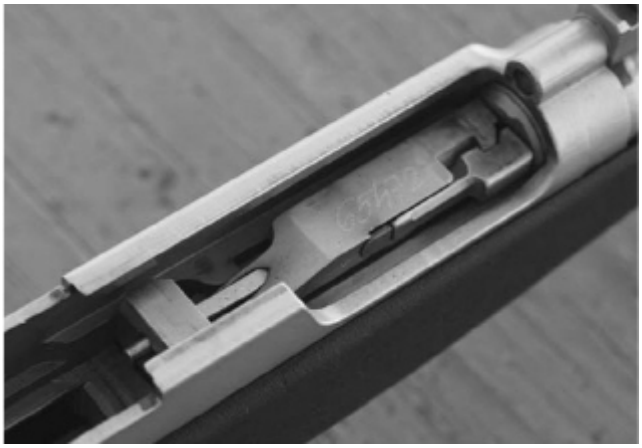
As the carrier goes backwards, the cam angles contact, and the carrier lifts the bolt out of locking.



Here is the bolt, unlocked, and in the position it will be in as the carrier takes it back to open, extract, eject and then begin feeding.



The locking recess. Forward of it (to the right) is the disconnector and the bolt hold-open.



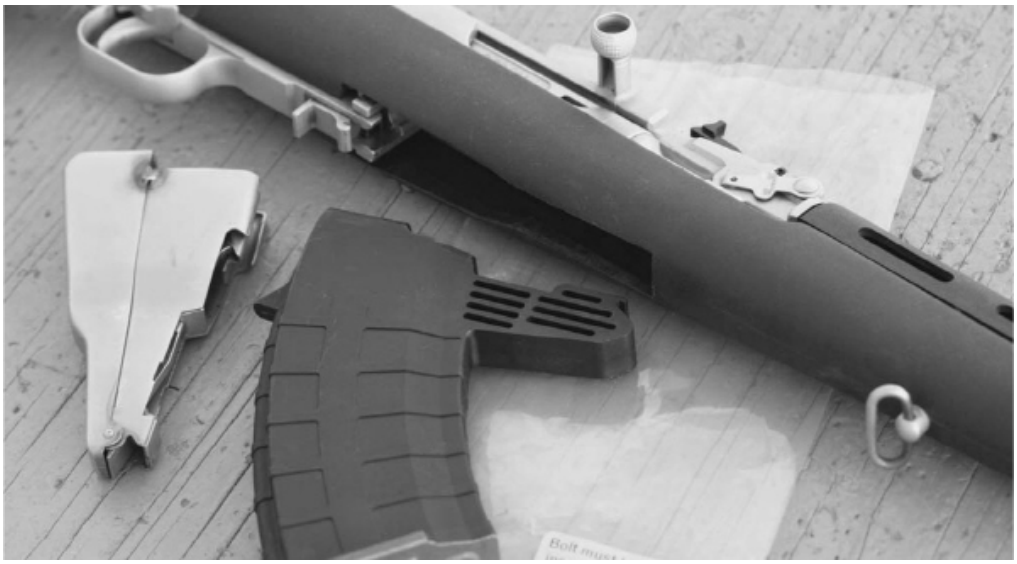
The bolt in its locked position, without the carrier, cover or recoil spring.

Finally, for the new historical cost of SKSs, why bother? Why incur $100 in gunsmithing for a rifle that can be replaced for not much more than that? Because you can have some verrry interesting rifles that's why.

Accurate Plating

When I last visited Bob Cogan, he was in St. Petersburg, Florida, right near where my grandmother used to live. When he set up shop there (and when I was visiting Grams on vacation), St. Pete was not so big. It grew to the point that there were too many retirees and yuppies willing to spend

inordinate amounts of money for crappy little condos, so Bob packed up and left. He's now in rural Alabama, with no neighbor hassles, lower taxes, and a bigger shop. He sent me a raft of SKS rifles he'd worked on, to show just what you can do with a basic rifle.



The Tapco 20-round magazine that replaces your standard 10-shot mag.

Now, be aware that the full-out efforts to make an SKS into something interesting can result in spending several times on custom work what you spent on the rifle. But it's nothing like a 1911, where you can buy a $500 pistol and spend $3000 getting custom work done on it.

He sent a camo-painted synthetic stock SKS that had been brought in with the AK-mag modification. Up front he'd added his own muzzle brake, to make the already cushy SKS a softer shooter. To make it as soft as possible, he'd installed a recoil pad on the buttstock. The pistol grip had been sculpted to provide finger grooves. A lot of people like finger grooves but my hands must be un-normal. I've never found a grip yet with finger grooves where the grooves fell correctly for my hands. But if it works for you, it is golden. Shooting this one

was about as soft an experience as you can get, launching 123-grain bullets at 2300 fps. If you rustled up some five-shot magazines for it, you could have a super-soft hunting gun for kids or the little lady or for you manly types who are recoil-sensitive.

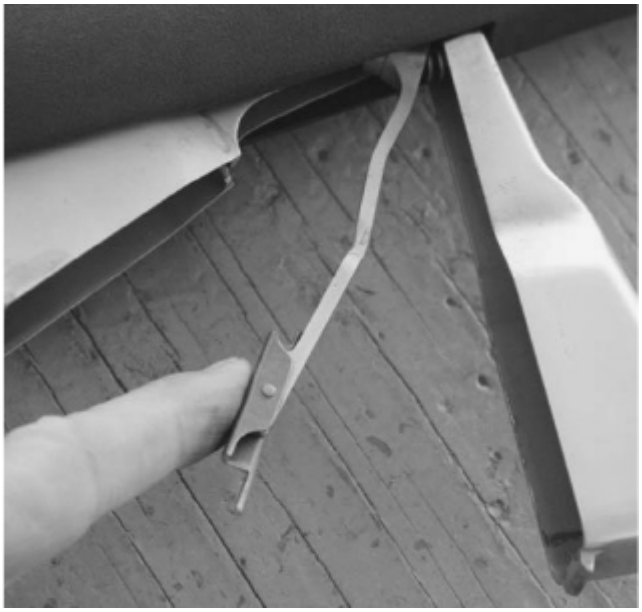
He sent another that had the rear sight replaced with a base for red-dot scopes and there he had bolted on an early-model Aimpoint. To get someone hooked on shooting, there's not much better than a red-dot scope. The ease of aiming with a red-dot makes hitting a cinch, and once new shooters start hitting, they really start liking shooting.



You can see that there is a price for more ammo: the magazine is longer.



An unmodified magazine, showing the mag cover and the hinged follower.



The spring that drives the follower/lifter is up near the hinge.



Here is a chi-com SKS with a 30-round magazine.



Here is the APW hunting special, camo, magazine and three-dot sights.



Some Chinese SKS rifles were imported all ready to take AK magazines.

Another one had a different muzzle brake on it, and fiber-optic sights front and rear. Again, soft in recoil, and for those who are going to use iron sights, fiber optics create a glowing set of dots that you can't fail to see.

You can have your SKS hard-chromed, as Bob has done to several of those he sent me. Or you can apply paint in whatever scheme appeals to you. Or you can send your SKS off to Bob for the heavy-duty work that requires metalwork and the like, and once it returns do the extra mods that appeal to you and can be done on your workbench.

One aspect of the SKS that has never enthused me is the sights. Open sights are just not that great. Yes, you can hit what you're aiming at, but it is a lot easier and faster to do so with aperture sights. One company that is offering aperture sights for the SKS (and the AK, once they get the production details worked out) is Tech-Sights. Their plan is to attach the aperture sight to the rear of the top cover, where it offers several benefits. First, it increases the sight radius. Here, more is definitely better. Second, it is properly close to the eye. Third, it can be installed and removed depending on if you find it useful or not. There are a lot of shooters who don't like aperture sights (never learned how, too much time with the old sights, whatever) and you can try and remove if you don't like them.



The recoil pad. A 7.62X39 rifle hardly needs it, but if you're teaching a new shooter, all the better to get them hooked.

Despite the limitations on the mechanism, the appeal of the SKS is multiple: it is so incredibly cheap, both to buy and feed, that it is hard to resist. If you get too enthusiastic and knarf something irretrievable, you can buy a new part, or a

new rifle. And as long as it is running, and ammo is cheap, shooting it is fun and won't break the bank.



The Tapco piston extension, for those with two-piece systems.



Note that the pistol grip has been sculpted to make it more comfortable for some shooters. I'm not one of them, but many of you are.



The bayonet lug is gone, but the muzzle brake makes it a soft shooter.



Side-by-side, a standard SKS (with hard chrome) and a Chi-com built to take AK mags. Note that Bob Cogan took a regular replacement stock and made it fit the AK-mag variant.



The camo version is less flashy, which works in the woods. On the range, flashy is sometimes the idea.

Collectors

OK, you want the complete rundown of markings, dates of manufacture, variations and values. Pick up *Standard Catalog of Military Firearms* by Phillip Peterson. Or an SKS-specific collectors book, like the Joe Poyer volume. Whatever you do, avoid like the plague one of the AK/SKS polemics written by "respectable" journalists. What you'll get there are screeds blaming the AK (and tangentially the SKS) for everything from decreased industrial output, increased Viagra consumption, world poverty, global warming and the price of name-brand coffee beverages.



If you have an AK-mag variant, you can use any of them: 10, 20 or 30 rounds.



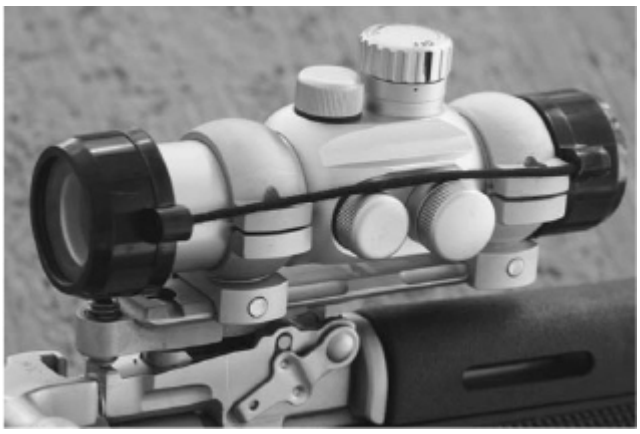
Here is a Choate folding stock. US-made, and 922 compliant.



Here you see the tack welds that allow this 10-shot magazine to be detachable.



Scope mount on an SKS, anyone?



With a red-dot scope (this is an early Aimpoint) shooting gets to be even easier and fun.



For those who must, original sights work just fine. Please note that the sight is marked to an absurd 1,000 meters.

As with the AK, the SKS has been made for a long time, in many countries, and in a number of variants. I'm sure someone out there is trying (or may well have succeeded) in collecting them all. If you have, contact Krause Publications. Dan Shideler just might want you to do a book on all the variants and what they look like.

Chapter 19

The Future of the AK

You'd think a firearm that has had 100 million produced would have a secure and rosy future. (We've been through the AK production numbers, but for the purposes of illustration, I'll go with the high estimate.) Not so. As I pointed out in the beginning, there are many politicians who equate the tool with the situation the tool is used in. That third-world despots arm their thugs with AK-47 rifles is proof enough that the AK is in-and-of-itself evil, and must be removed from "polite society."

However, it is long past putting that particular genie back into the bottle. Here in the U.S. the AK has gained more than a foothold, it has a following. Too many shooters own one for the inanimate object to be vilified and expunged. Not that the attention-grabbing, vote-buying, perk-seeking politicians won't try.

Prognostication is a tricky business. Often, wrong predictions will be trumpeted to prove the predictor is an idiot. With that risk in mind, here's my take on the AK-47: it will be with us for a long time. The initial efforts to ban the AK fell apart on the very anvil that was trying to be used to eliminate them: politics. The effort to ban the AK in the early years ran

headlong into the desire to extend Most-Favored-Nation trade status to China. In the 1980s and early 1990s, China did not have an industrial base sufficient to make laptop computers. In fact, laptop computers really didn't exist as such back then. (Oh, there were compact computers you could run on a battery for a short while, but nothing like what we have today.) No, what they had, that we were willing to spend American dollars on, were AKs, SKSs and the ammunition for them. So, the country soon was awash in AKs and ammo for them.

In trying to stuff the genie back into the bottle back then, politicians simply made it clearer that there was a market for AKs. The harder they tried to ban or eliminate them, the harder we strove to acquire them. After the "wandering in the wilderness" of the Clinton years, the shift went to importing parts kits. The collapse of the Soviet Union and the Warsaw Pact meant much the same thing to Eastern Europe that it had to China just a few years before then: the only thing they had that we wanted were AKs. (No-one wanted a Lada, even to display as a curiosity. MIGs were another matter, but who could afford them, even at former-Soviet fire-sale prices?) So, they sold parts kits. However, the receivers could not be imported since they were select-fire. Remember, the driving attitude in political circles is "once a machine gun, always a machine gun." But of all the parts a stamped-receiver AK is composed of, the receiver is by far the easiest to fabricate. I can't imagine that it took a competent sheet metal stamping engineer more than a couple of evenings on his home computer to determine the basic dimensions of the flat. The first were probably not stamped, but water-jet cut, and then bent on home-made jigs. Once the details of hole position and

such were ironed out (that theory vs. practice thing again) the basic AK flat dimensions spread like a virus. Flats are cheap, and flats can be stamped out of a number of materials, primarily steel.



The SCAR, by FN, is meant to use modern materials to make a new rifle easier to use, repair, overhaul and maintain.

I have to admit the SCAR is a very nice rifle. But it will take some time to warm up to it.



So we learned to bend flats and build guns. We got used to cheap AKs (take a $99 parts kit, a $10 flat, $50 in extra US-made parts and an afternoon, and you had an AK) and shot them until we wore them out. Where AKs had been rare, they became common. Where an AK would have been an object of curiosity at the gun club, it became rare to not see one on the line or at a match. Americans learned to love the AK. In fact, they became so common that ranges had to learn to deal with them. My home club tried various steel-case picker-uppers until we just learned to rake the empties up and shovel them into bins.

The government wised up and prohibited the importation of AK barrels. They, after all, weren't really being used to replace worn barrels on existing AKs and thus were suspect. Parts kits now are offered with US-made barrels.

Were I trying to cause the building of an AK-manufacturing infrastructure, I could hardly have come up with a better method than the path that got us here. Look at the parts that go into an AK: barrel, bolt, op-rod/gas piston, trunnions, receiver, stock-pistol grip-handguards, gas block and front sight. (We'll ignore for the moment the various pins, rivets, etc. that go into it.) Most of those are now US-made. As long as we can get trunnions, op rods and gas blocks cheap from the former communist countries that made/make them, we can still assemble AKs. Of the parts left, the trunnions are easy to fabricate from billets on CNC machines, and the op rod is a simple investment casting. That leaves the gas block. I'd bet that either the trunnion-machining company or the op-rod casting company could easily make gas blocks as well. Which one of them is first depends solely on the energy and industry of the owner of the company.

At that point we'd have an entirely US-made AK. Who'd have though, even a few years ago, that there was a quick arrival of US-made AKs?

There will be complainers, mostly those who are accustomed to cheap AKs, but the purists will complain also. The former: "How much for an AK? Why, I remember when we could buy all the parts kits we wanted for [fill in the blank]." Spending more than half of what an AR costs, to buy an AK, will outrage them. Spending nearly as much as an AR costs, to purchase an entirely US-made AK, will give them an attack of the vapors. The purists will complain that the cosmetic details aren't correct. "The rivet-head diameters on your US-made AK are 2 millimeters larger than the correct size." But they'll get over it, for we'll have AKs. The higher

prices, made necessary by American manufacture, will also mean a change in quality. Since we'll be spending more for the rifles, and shooting better ammo (the surplus ammo won't last forever), we'll expect better performance. The AK makers won't be able to sell 6+ MOA AKs at real prices, so they'll have to make AKs that deliver 2 MOA when fed good American ammo.

To steal a quote from my friend Dave Fortier: "It will be glorious." It will also be rocky. There will be different factions, different dimensions. The 1911 industry has been spending the last two decades trying to resolve the minor dimensional differences between major makers. The US-made AK industry will have the same problem. Parts will differ by a small amount between one maker and another. Assemblers, gunsmiths and custom makers will have to figure out how to fit the differing parts into a harmonious whole. And we will have to get used to the end of the dirt-cheap AK.

All that time, the AK will still be in competition with the AR-15, and we'll have to fend off the misguided politicians who want to ban it and all other military-grade rifles. Meanwhile, in the background the military itself will be attempting to replace the AR-15/M-16 and jump up to something better. One such possible rifle is the SCAR (Special Operations Forces Combat Assault Rifle), in Light and Heavy versions. The Light is a 5.56, the Heavy the .308, and the idea is to take advantage of the advances in materials to produce a rifle that works more reliably, and can be maintained at a lower unit level, than is possible with either the AR or AK.

We'll see how it works out. In the meantime, build, shoot, service, overhaul and improve your AKs. You never know

when someone might want to freeze them, or take them away.



About the Author

Often imitated but never equaled, Patrick Sweeney is the author of several best-selling book by Krause Publications, including *The Gun Digest® Book of the AR-15, Vols. I &II, The Gun Digest® Book of the Glock, The Gun Digest® Book of the 1911, Vols. I &II,* and *Gunsmithing: Rifles.*

Appendix

List of Manufacturers & Suppliers

AK-USA

3112-1 Palm Avenue

Fort Meyers, FL. 33901

239-334-4231

www.ak-103.com

Arsenal

5015 W. Sahara Ave.

Suite 125

Las Vegas, NV. 89146

702-643-2220

www.arsenalinc.com

Century Arms, International

430 South Congress Ave.

Suite 1

Delray Beach, FL. 33445

www.centuryarms.com

CZ-USA

P.O. Box 171073

Kansas City, KS. 66117

800-955-4486

www.danwessonfirearms.com

DKG Trading

(Dealers Only)

www.dkgtrading.com

Elite Firearms

411 Bedford-Euless Road

Hurst, TX. 76053

817-285-8663

www.elitefirearms.net

Hammerstone Arsenal

42 N. Fabrication Drive 102

Pueblo, CO. 81007

www.hammerstonearsenal.com

Inter Ordnance

P.O. Box 847

Monroe, NC 28111

866-822-1479

www.ioinc.com

K-Var

5015 W. Sahara Ave.

#125 PMB-136

Las Vegas, NV. 89146

702-384-8880

www.k-var.com

Krebs Custom

1000 Rand Rd.

Wauconda, IL. 60084

847-487-7776

www.krebscustom.com

Missouri Custom Armament

104 S. Pine

Holden, MO. 64040

www.mcarms.com

Saiga

Russian-American Armory Company

677 S. Cardinal Lane

Scottsburg, IN. 47170

877-752-2894

www.raacfirearms.com

Tactical Response

P.O. Box 385

Camden, TN. 38320

877-753-8425

www.tacticalresponse.com

Tactical Response Gear

3350 Hwy 70 East

Camden, TN. 38320

866-822-4327

www.tacticalresponsegear.com

Tapco

P.O. Box 2408

Kennesaw, GA. 30156

800-554-1445

www.tapco.com

Wolf Ammunition

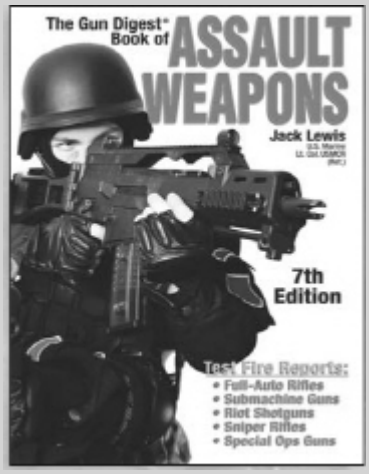
P.O. Box 757

Placentia, CA. 92871

888-757-9653

www.wolfammo.com

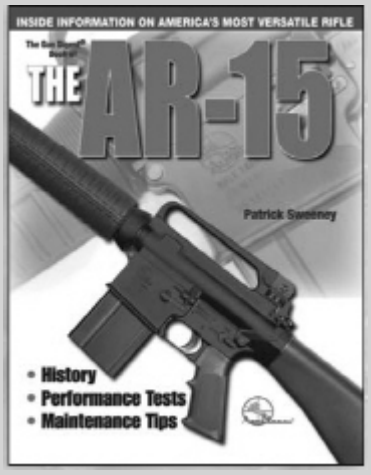
MORE TACTICS AND TECHNIQUES TO TURN TO



The Gun Digest® Book of Assault Weapons
7th Edition

by Jack Lewis
Review optimum coverage of the most common and available assault weapons on the market with more performance results, hard to find application data, and the latest trend information.

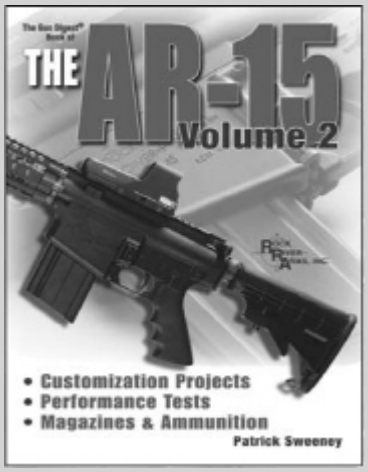
Softcover • 8-1/4 x 10-7/8 • 256 pages 350 color photos
Item# Z0769 • $26.99



The Gun Digest® Book of the AR-15
by Patrick Sweeney
Delivers details on function, barrel options, caliber, and weight for various

models, plus, tips on cleaning and maintenance, information about myths surrounding the AR-15, key legal information and results of product tests.

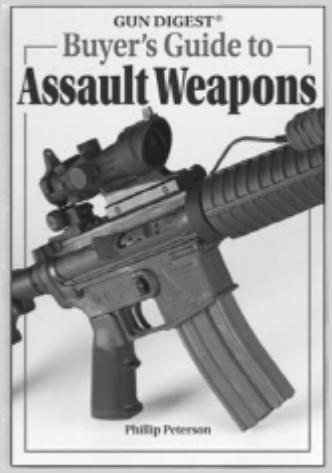
Softcover • 8-½ x 11 • 288 pages 500 b&w photos
Item# GDAR • $27.99



Gun Digest® Book of the AR-15 Volume II

by Patrick Sweeney
Get more shooting performance truth about the AR-15, as well as details for enhancing your rifle in this fact and function packed guide to the AR-15, and its ammunition and magazines.

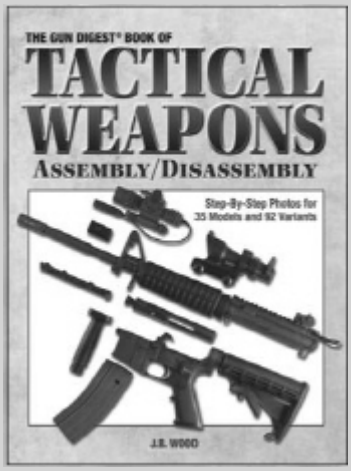
Softcover • 8-1/4 x 10-7/8 • 288 pages 600 b&w photos
Item# Z0738 • $27.99



Gun Digest® Buyer's Guide to Assault Weapons

by Phillip Peterson
The only buyer's guide to the firearms gaining the most attention today, this book spells out the differences between civilian and military weaponry, identifies what makes each weapon collectible, includes relative value influences, and clear photographs.

Softcover • 6 x 9 • 304 pages 275 b&w photos • 8-page color section
Item# Z2209 • $24.99



The Gun Digest® Book of Tactical Weapons Assembly/Disassembly

by J.B. Wood
This book will help you save money with steps for maintaining, cleaning and handling minor repairs of your own tactical firearms, and strengthen your shooting performance with a deeper understanding of how your weapon works.

Softcover • 8-1/4 x 10-7/8 • 304 pages 1,200 b&w photos
Item# Z2297 • $24.99

Order directly from the publisher at
www.gundigestbooks.com

Krause Publications,
Offer **GNB9**
P.O. Box 5009
Iola, WI 54945-5009
www.krausebooks.com

Call 800-258-0929 M-F 8 a.m. - 5 p.m. to order direct from the publisher, or from booksellers nationwide or firearms dealers and outdoors outfitters.

Please reference offer **GNB9** with all direct-to-publisher orders

Get the latest gun news at
www.gundigestmagazine.com

Everything You Need to Know About the Most Popular Weapons in History!



For more than half a century, the Kalashnikov AK-47 has been the most famous battle rifle in the world. Today, the AK-47 continues to be the rifle of choice, not only for many of the world's armed forces, but for thousands of civilian shooters in the United States.

In *The Gun Digest® Book of the AK & SKS: A Complete Guide to Guns, Gear and Ammunition*, best-selling author Patrick Sweeney gives the complete lowdown on the AK-47 and its variants. It's all here: tips on building an AK, choosing ammunition and accessories, keeping your AK perking for years to come, and much more. As a bonus, there's also a section dealing with the "other" great Soviet rifle, the Simonov SKS!



The One Book on the AK and SKS That's Got Everything You Need and Much More!

- Hundreds of detailed photos
- Step-by-step gunsmithing procedures
- Money-saving tips and techniques

Written as only Patrick Sweeney can, *The Gun Digest® Book of the AK & SKS* is a must-have volume for anyone who's interested in the SKS and Cold War weaponry!

About the Author

Patrick Sweeney is an internationally recognized expert in tactical and assault weapons. He is the author of several best-selling book by Krause Publications, including *The Gun Digest® Book of the AR-15*, Vols. I &II, *The Gun Digest® Book of the Glock, The Gun Digest® Book of the 1911*, Vols. I &II, and *Gunsmithing: Rifles.*

UPC 0 74982 00678 3

Gun Digest® Books
An imprint of F+W Media, Inc.
www.gundigestbooks.com

Z2207
US $24.99
(CAN $27.50)
ISBN-13: 978-0-89689-678-9
ISBN-10: 0-89689-678-1
52499
EAN 9 780896 896789