GUN TESTS®

THE CONSUMER RESOURCE FOR THE SERIOUS SHOOTER

$5.95 August 2015/Vol. XXVII, No. 8



NEW 9MM COMPACTS

The Glock 43 proved to be reliable and accurate enough for most shooters' defense needs. The Walther CCP irritated us with an unwelcome takedown process and several malfunctions. **— Page 6**



BUDGET 20 GAUGES

Look closely at the photo on the left to see one reason why we can't recommend the Yildiz SPZ ME. In the inset image, we also wouldn't buy Mossberg's Silver Reserve Bantam. See why on... **— Page 12**



CONVERTIBLE REVOLVERS

We cracked some caps on a 2nd Generation Colt and a thoroughly modern Old Army from Ruger. Check out how they did on... **— Page 16**



AR-15S HEAD TO HEAD

Battle Rifle Co.'s BR4 LIT Carbine costs more, but it delivered better performance across the board than a basic CMMG MK4. **— Page 22**



SERIES 70 VS SERIES 80

We find out which of these two Colt pistols is the better buy. **— Page 27**

DOWNRANGE: 2 ● FIRING LINE: 3 ● READER SERVICE: 26 ● SHORT SHOTS: 32 ● COMING UP: 32

DOWNRANGE

GUN NEWS



Todd Woodard

I **realize** most of you aren't affected, but there was big news in my home state in June. Texas Gov. Greg Abbott signed landmark open-carry legislation, making the Lone Star State the 45th to recognize the right of modern handgun open-carry. This common-sense law expands law-abiding citizens' right to exercise their constitutional freedoms. More than 800,000 Texans currently hold concealed-carry licenses, and they will be the ones who can take advantage of the new law beginning in 2016.

HB 910 was the measure Abbott signed. The legislation removes the requirement for Concealed Handgun Licensees (CHLs) to keep their handguns concealed by giving them the option of carrying their firearm either wholly or partially visible in a belt or shoulder holster. It takes effect on January 1, 2016. Before then, it will not be legal to openly carry a modern handgun in the state of Texas.

Also, the CHL holder will only be able to carry a handgun in a shoulder or belt holder, and you must have your CHL in your possession. There is no need for additional licenses, but police can approach someone openly carrying and detain them and ask for ID.

Because so many states now allow the practice, I recently assigned a story to Roger Eckstine about evaluating open-carry holsters. I personally don't plan to open carry, but it will be nice to have the option.

Colt Defense Arranges Financing to Continue Operations. Many of us weren't shocked — but we were saddened — about Colt Defense LLC's recent bankruptcy filing. The good follow-up news is that Colt has entered into a consensual agreement under which Colt's secured lenders will provide $20 million in credit facilities to allow for ordinary course-of-business operations during the Chapter 11 process.

A company release said the financing provides Colt with adequate liquidity to meet all of its obligations to its customers, vendors, suppliers and employees during a court-supervised restructuring process.

"The financing we have secured today is an important step forward," said Keith Maib, chief restructuring officer of Colt Defense LLC. "It reflects shared confidence in Colt as an iconic American business among all of the company's key stakeholders. As we continue to prepare for and pursue a sale process in accordance with the plan we previously filed with the court, the terms of this financing also provide us with greater flexibility to reach a final consensual agreement that aligns with our ultimate goal of swiftly and surely deleveraging the company while maximizing continuity in Colt's business operations."

Despite the bankruptcy, we will continue to evaluate Colt products as part of our normal coverage, as we have on pages 16 and 27 of this issue. Supplies of Colt products may tighten, but we'll see. **GT**

GUN TESTS®
THE CONSUMER RESOURCE FOR THE SERIOUS SHOOTER

Editor.....W. Todd Woodard
Sr. Technical Editor.....Ray Ordorica
Managing Editor..... Tracey Taylor
Contributing Editors...R.K. Campbell
Roger Eckstine
Austin Miller
Robert Sadowski
David Tannahill
Ralph Winingham
Firearms Coordinators ..... Sy Ent
Kevin Winkle
Texas Custom Firearms
Social Media Editor ..... Cara Blake

TO CONTACT THE STAFF:
GunTestsEditor@icloud.com

GUN TESTS ACCEPTS NO COMMERCIAL ADVERTISING

GUN TESTS ® (ISSN No. 1042-6450) is published monthly by AG Media, Inc.; 111 Corporate Drive, Big Sandy, TX 75755-2446. Periodicals Postage Paid at Big Sandy, TX, and at additional mailing offices.

Copyright © 2015, AG Media. All rights reserved. Reproduction in whole or part is strictly prohibited.

Printed in U.S.A. Revenue Canada GST Account #128044658.

Subscriptions: $49 (U.S.) annually. Outside the U.S. and Canada $72 (U.S.) for one year, $144 (U.S.) for two years. Single copies $7.50 (U.S.). Bulk-rate subscriptions for organizations and educational institutions are available.

Postmaster: Please send address changes to: ***GUN TESTS***, P.O. Box 8535, Big Sandy, TX 75755-8535, or ***GUN TESTS***, P.O. Box 39, Norwich ON, N0J 1P0. **Canada Publishing Agreement** #40016479.

ONLINE SUBSCRIPTION SERVICE:
www.Gun-Tests.com
Click "Contact Us"
Or call toll free (800) 829-9084

BACK ISSUES:
Call (800) 571-1555

Loves His Beretta A400 Semi

Reader 'Darwin' bought his first 28-gauge shotgun based on our recommendation, and is glad he did. Online reader 'Barbarosa Guns' likewise enjoys his Evil Roy Cowboy Action-style revolver.

"28-Gauge Semi-Automatics: Legacy Sport Versus Beretta," May 2015

After reading your article on the Beretta A400 in 28 gauge, I ordered it the next business day. It was received two days later and I shot a 23 with it at skeet. This was my first-ever experience shooting a 28-gauge gun. Roger Eckstine's write-up was spot-on for this gun, now my favorite. I have added a color-coordinated bolt release and a mid-bead. Likewise, an earlier Gun Tests article prompted me to get an S&W M&P in 22 LR rather than the Walther that I originally was going to purchase. Your reviews are priceless. Thank you. **— Darwin**



Re "Cimarron Evil Roy No. ER4104 357 Magnum" on Gun-Tests.com

When looking for an Evil Roy to purchase, I found that there is indeed offered a 4.75-inch-barrel version in both blue/case hardening as well as in stainless. Not being really interested in keeping with the original look, I went with the stainless version and could not be happier. On my pull gauge, the trigger broke at a bit above 2.4 pounds, which is simply superb and may lighten further as I break it in. I have fired a variety of all kinds and weights of both 38 Special and 357 Magnum, and you do have to adjust a bit for elevation, but as the reviews in the article stated, at 10



yards the gun was right on, windage wise, with all calibers fired. Also, the workmanship is superb.

Like one of the reviewers stated, if I were to feed my revolver a steady diet of 357 Magnum rounds or use it for hunting loads, I, too, might go with the Ruger, especially if I could find one of the old-fashioned original-framed variants on the used market. It's a larger gun, but you cannot find a stronger revolver frame. You can, of course, have an action job performed on the old-style Vaquero, making for one monster of a great single-action revolver. But I have nothing but praise so far for my stainless 4.75-inch-barreled Cimarron Evil Roy. Love the gun just as it came right out of the box!

— "Barbarosa Guns"

To read the full review online, subscribers can log in and put the model name "ER4104" in the top right search field (no quote marks), or simply navigate to the August 2012 issue, page 15. — Todd Woodard

Re July 2015

In Robert Sadowski's story about Smith snubbies, while a trigger

GUN TESTS REPORT CARD GRADING

Gun Tests Grade: A

A gun with this rating functions perfectly, shoots accurately, and exhibits comfortable, easy use for its owner. We may prefer one gun over others based on its unusual accuracy, superior performance, unusual features, or nice cosmetics. We recognize such a gun for these traits without regard to its cost.

Gun Tests Grade: B

We give this ranking to a gun that functions appropriately for its category, but which might not do as well in major areas as an **A**-ranked gun.

Gun Tests Grade: C

We may have reservations about some aspect of a gun's performance or pricing. We express those reservations so the reader can balance our concerns with his or her needs.

Gun Tests Grade: D

Some aspect of a gun's performance — in particular, safety, function, or accuracy — doesn't meet our standards and isn't easily resolved.

Gun Tests Grade: F

Some aspect of a gun's performance is dangerous, inappropriate for the category, or is likely to fail.



stop may give marginally quicker reset, its primary value is limiting overtravel when the sear breaks. With a properly adjusted trigger stop, the gun's alignment is minimally disturbed as it discharges, improving one's accuracy. The shooter cannot continue to move the trigger, as its resistance suddenly drops after the break, causing an errant shot. As a long-time conventional pistol (Bullseye) and double-action-revolver competitor (Master class for both), I can attest to this. However, adjusting a trigger stop very closely, so that the trigger stops just as the hammer falls, should never be done with a handgun intended for self-defense. The smallest bit of debris can result in a non-firing handgun.

Further, with the older S&Ws having the oblong stops in a milled slot in the frame behind the trigger, if the screw loosens, the oblong stop can rotate and prevent the gun from firing. Saw that once in a DA revolver match. Bottom line: Trigger stops do not belong on a serious self-defense handgun.

In addition to the preceding point, those ridiculous short barrels alone should preclude consideration of either as a viable self-defense choice. A longer barrel, say 3.5 inches, would significantly improve not only ballistics, but also functionality by allowing full ejection of the spent cases and a longer sight radius. This would not materially affect concealment. Given the girth of either and the large grips, concealment on anyone but the largest amongst us is a real challenge, regardless of barrel length. Also, scandium-framed Smiths have longer, larger grips to counteract the enhanced (brutal?) recoil of such incredibly light revolvers. For a large 45 ACP self-defense handgun, get a 1911 or, better yet, a Glock.

Speaking of 1911s, it was good to see Robert Campbell's MAC Bullseye vs. Colt Gold Cup comparison. However, I must disagree with deducting points for the Gold Cup's grips. For match work, for which these pistols are clearly intended, one really should install proper target grips with an adjustable heel pad. That said, my Gold Cup with Pachmayr grips has shot numerous 45 ACP matches of 280+ (out of 300.) Remember, the crucial points of contact for the grip are the front and backstraps. We've proven that to many new shooters by having them shoot 1911s sans grips.

Also, criticizing the MAC Bullseye for its slower draw is ridiculous. First, it is intended to be a Bullseye competition pistol, not a carry piece. Second, it is not a wise choice for self-defense. Both it and the Gold Cup are very tightly fitted. Again, it doesn't take much grit or other foreign material to stop either cold. Finally, the recoil springs are generally weaker to accommodate target loads. This results in accelerated wear with full 45 ACP loads. And don't think about replacing the recoil spring with



a heavier one without also replacing the firing pin, sear, and mainsprings. A heavy recoil spring can slam the slide forward hard enough so that the inertia of the firing pin overwhelms the firing pin spring, resulting in uncontrollable full auto.

That said, comparing velocities and energies of the snubbies and the 1911s reveals that the 1911s deliver about 10% greater velocity, thus 20% greater (kinetic) energy for the same (or comparable) load. Which would you prefer?



Regarding Roger Eckstine's article about AR-15 triggers, this is a nice start. Given the number of MSRs out there, a more comprehensive compendium of your AR-15 trigger tests would be greatly appreciated. It would have been nice to see more about the double-stage triggers and their benefits.

For the AR-15 in high power competition, the Milazzo-Krieger is a favorite. Unfortunately, they're about as easy to find as a brick of reasonably priced 22 LR ammo. The Ruger Elite 452 sure looks like the M-K. As to other triggers, we'd like to see the CMC, Geissele, Jewell, and Timney offerings included in the compendium. **— RAJ**

In the October 2013 issue, Ray Ordorica evaluated the Timney 668-S Trigger (Small Pin, 3-pound pull), the Geissele SSA-E (Super Semi-Automatic Enhanced) Trigger, and the Geissele Hi-Speed National Match Trigger. — tw

M-14 Clones

Just started a subscription with your publication, and I enjoy it very much. Your reviews are all meat and potatoes, and no parsley. Have you done any testing of the M-14 clones against each other, or against other similar battle rifles of the 50s and 60s? If so, I would be happy to purchase your results. Thank you for your time, and once again, well done on your publication. **—JD**

Hey JD: As a paid subscriber, you have free access to our electronic archives. To read more about these battle rifles, type "M-14" and "M14" in the top right search field (no quote marks, and some makers style the names differently). Some rifles that meet your criteria are the Fulton Armory M14 and Polytech M14/S Customized in the December 2010 issue and the Fulton Armory Peerless NM M14 Rifle in the April 2010 issue. There are many others, however. Scroll the "Gun Tests Index



2014-1989 Updated" file or use the "Compare Guns" feature and choose Rifles>.301 to .400> and click all the price check marks. Some other guns that come up are FAL SA58, the Ruger SR-762 Autoloading Rifle, the Springfield Armory Socom 16 No. AA9625, the Century Arms International R1A1 Sporter Rifle, the Imbel Sporter, and many others, depending on how widely you want to consider the category. — tw

Re "Three Trail Companions We Like," May 2015

Enjoy your magazine. However, the 22/45 Ruger with slotted barrel shroud is ridiculous! I slept with an M-14 for a year in Vietnam. Monsoon weather with sand blowing on the beach and mud everywhere is hard on equipment. You want as few openings on a firearm as possible. I used to return from beach duty caked in sand. I and my M-14 went straight to the shower, and I washed all the sand off both of us, of course without its stock. **— Tom**



Hey Tom: Thank you for a mental image we can never forget. But we take your point. Still, there is a lot less area on the Ruger 22/45 barrel to be problematic, even on a trail gun that will see plenty of dirt. — tw

Over/Under Shotguns

I read with great interest your review of the Browning Citori Crossover in the April 2015 issue. I am looking to buy a gun that I can use to shoot trap, skeet, and sporting clays. Would like to find one that will serve all three, and it seemed the Crossover may work. In the review Ralph Winingham mentioned, the "Browning Crossover is nearly at the top end of what we would consider as the moderately priced category of all-round shotguns." Could you tell me what other guns you would include in this group? I ask because I have not found a dealer who has the Crossover in stock. Appreciate any guidance you can provide. Keep up the great work you all do in putting together your publication. **— Art**

Hey Art: Some other break-actions we've tested and liked include the side-by-side Beretta 471 Silver Hawk J471210 and the Weatherby Athena D'Italia; the Lanber 2097 Sporting Lux o/u, the Ruger All-Weather Red Label o/u, Browning's Citori XS Sporting and Cynergy Sporting, and others. Check our archives for "view by action" and select "break action" to sort down what we've tested over the years. — tw

Print Subscribers: How to Get Web Access to the Archives

Setting up free electronic access to our website allows you to search the **Gun Tests** archives for specific guns — and you get access to the current issue on the web before it hits your mailbox. Also, you can check the status of your subscription account, update your mailing or email address, pay your subscription invoice or renew your subscription, and communicate with the editorial staff. Current subscribers can begin activating free online access by typing this into your browser: **Gun-Tests.com/activate.**

To create your web-access login, you provide your first and last name, the ZIP/Postal Code, and your account number. That's the first 11 digits found on your magazine's mailing label just above your name. If you can't get the account activated, contact us at **Customer_Service@GunTests.info**, or call 1-800-829-9084.

There are two ways to find guns we've reviewed. The Compare Guns feature (top left corner of the page under the logo) allows you to input several descriptors and narrow the search results. Or you can use the Search function. If you search for a common item, such as "22 LR," you'll get tons of references. Basically, the search function finds every instance of the searched-for topic and lists the accompanying articles the topic appeared in. The more specific and unique the reference, the better the search. We do our best to list the catalog numbers for guns we've tested, so that's usually a good place to start. There's also an "Advanced Search" area to help you narrow the results.

We welcome mail from our readers. To send us comments or questions about previous articles in the magazine, email us at: **GunTestsEditor@icloud.com.** *If you'll include the month and year of the article you're writing about, it's a big help. Also, please include your name, address, and phone number. We won't publish your personal information other than your name, but we may need to contact you about material in your letter.* **GT**

Two New 9mm Compacts from Glock and Walther Square Off

The Glock 43 proved to be reliable and accurate enough for most shooters' self-defense needs. The Walther CCP irritated us with an unwelcome takedown process and several malfunctions.

The compact 9mm pistol market is hot, and two of the newer additions to the marketplace are the Glock 43 Subcompact Slimline G43 PI4350201, $499, and the Walther Concealed Carry Pistol CCP 5080300, $452. The Glock is a long-awaited single-stack version of the other Glock pistols, but we found the G43 to be a re-engineered pistol that isn't simply a single-stack Glock 26. The frame design is a good one for personal defense if you need a pistol this size. The Walther CCP is a bit larger, so it holds two more cartridges and proved more accurate. The Walther also featured a light rail. So, in our view, we had two pistols that fit the same niche for concealed carry, but we wondered how the size and capacity issues would strike our testers.

We should mention that the raters for this test were a good mix in age and experience, from early twenties to early sixties. Among the shooters involved in this test were one with more than 40 years of shooting experience, and another has operated a respected gunsmith operation for 30 years. A third was a military intelligence officer; a fourth was a 50-ish female who carries daily, and the fifth was a college-age female who is an NRA-certified instructor.

During the firing test, both pistols were carried in a Barber Chameleon holster ($29.95, postage included, from BarberLeatherWorks.com) This affordable holster is well made of quality leather, and it offers a belt loop for use as a belt slide. There is a strong steel clip for inside-the-waistband carry. We used the holster as a belt slide for both pistols during this test.

What we didn't anticipate was the Walther getting the lion's share of attention — but not for good reasons. Because the pistol did not work to our satisfaction, we explored its operating system in depth, attempting to find remedies that we could disclose to readers who might prefer the CCP for one reason or another. Here's what we found:



Above: The Glock 43 9mm pistol, left, and the Walther CCP, right, performed similarly in close-quarters shooting. The Walther was more accurate in this test, which was nice, but the Glock was more reliable. The latter quality is more important in our testing protocols.



Right: The Walther is clearly larger, even though the slides are about the same size.



Here's the Glock 43 in a Barber Leatherworks Chameleon holster. This was a good pairing of gun and leather, we thought.

Walther Concealed Carry Pistol CCP 5080300 9mm Luger, $452

This price was from TombstoneTactical.com at the time of our test. The first impression of the Walther CCP was that the pistol is slightly larger than the Glock 43, perhaps in SIG P225 territory, although lighter. If you presently carry a Glock 19, either pistol is smaller and lighter. This isn't a bad place to be. The CCP pistol was slightly larger and heavier than the G43, as our measurements confirmed. However, the CCP wasn't a large handgun by any means, at just 6.4 inches long and 1.18 inches wide.

The pistol was supplied with two 8-round magazines. The magazines were steel units with the body crimped in place rather than welded, as many magazines are. We like that. The 8-round magazine versus the Glock's 6-round magazine gives the CCP a two-cartridge advantage over the Glock 43, but there's a trade off, and as the comparison continued, we realized this more and more. You might choose the Glock 43 9mm over the Glock 42 380 ACP, because the former offers more power for just a slight increase in size. The Walther might be chosen over the Walther PPS because it shoots better, and the same relationship exists when compared to the Glock 43. The Walther is just enough larger than the G43 that the CCP has more gripping surface and less muzzle flip. On the other hand, it is just enough larger that you may choose the Glock 43 9mm for concealed carry.

The CCP's slide was interesting. While about the same width as the Glock 43, the Walther's top flat was narrower, and the slide tapered toward the frame differently. The ejection port was smaller than the Glock. While we never had a fumble during administrative handling or firing, the CCP's smaller slide seemed less modern. The CCP featured well-defined cocking grooves, with a total of 28 grooves, seven forward and seven to the rear on each side of the slide. Forward cocking serrations are seldom seen in a handgun this size, but these came off well. The slide was monolithic, with no cut out in the front for a recoil guide, as the recoil spring is wrapped around the barrel rather than under the barrel.

We preferred the CCP's sight picture compared to the Glock, in part because the Walther's rear sight was more open than the Glock. The three white dots set in black iron sights gave a good sight picture all our raters felt was superior to the Glock's typical white-outline rear and white-dot front sight. The CCP was supplied with two extra front posts, so they may be changed for use with diverse 9mm loads to

WALTHER CONCEALED CARRY PISTOL CCP 5080300 9MM LUGER, $452

GUN TESTS GRADE: C

The CCP had features we liked, but not enough to overcome its complicated takedown process and its failure rate with ammunition that functioned in the Glock.





All raters commented favorably on the Walther's grip stippling and design.

Action	Retarded Blow Back Gas, SoftCoil Semi-Auto
Overall Length	6.4 in.
Overall Height	5.1 in.
Maximum Width	1.2 in.
Weight Unloaded	22.2 oz.
Weight Loaded	30.4 oz.
Barrel Length	3.5 in.
Barrel	Steel
Magazine	8-Rd. Detachable Box
Slide	Steel
Frame	Polymer
Frame Front Strap Height	2.0 in.
Frame Back Strap Height	3.25 in.
Grips	N/A
Grip Thickness (max)	1.1 in.
Grip Circumference (max)	5.4 in.
Sights	Plastic
Trigger Pull Weight	5.0 lbs.
Trigger Span Single Action	2.9 in.
Safety	Thumb Safety
Warranty	Lifetime
Telephone	(479) 242-8500
Made In	Germany
Website	WaltherArms.com



The Walther felt good in the hand, offering adequate purchase during firing drills.



The Walther will mount a light, the Glock will not.



The ejection port was on the small side. The cocking serrations were excellent.



Here's the Walther frame. Field-stripping did not go well for us.

change the point of aim and bring it into line with the point of impact. Because 9mm defense ammunition may range in weight from 92 to 147 grains, the ability to change the front-sight height is a plus, in our view. The rear sight may be adjusted for windage with a supplied tool, but lateral play on the slide was limited, with no advantage over the Glock in this regard.

The CCP had a polymer frame like the Glock, but the CCP featured a light rail for mounting a combat light or laser. We rated this a superior feature. While few may carry a compact 9mm with a combat light attached or even on the body, home defense is another matter. After carrying the CCP concealed during the day without the light attached, it was a simple matter to lock a Viridian combat light into place for home defense. We also preferred the Walther's grip texture and feel better than the Glock's. The front of the trigger guard was serrated and supplied more abrasion than the Glock, for shooters who like that hold. The top of the frame was smooth where it should be. The grip frame was nicely roughened with an aggressive pattern and three finger indentations, which gave excellent purchase when firing the pistol.

The magazine release was protected by a small shelf molded into the frame. There were no issues with this part; it functioned as it should. The pistol also featured a frame-mounted safety. Some users like a manual safety, others will ignore it. Some feel that the absence of a safety abrogates some of the advantages of a self-loading pistol, although they seem to be the minority. The safety gives users an option.

Another feature superior to the Glock 43, we felt, was the CCP's trigger action. The Walther trigger broke at a smooth 5 pounds. There was considerable take up; however, the trigger action was very fast once the shooter managed a short acclimation period. For safety, a self-loading pistol must have take up and reset in the trigger action.

GLOCK 43 SUBCOMPACT SLIMLINE G43 PI4350201 9MM LUGER, $499

GUN TESTS GRADE: B+

The Glock 43 is a credible addition to the Glock line. Accurate enough for personal defense, reliable, and fast handling, the Glock performed well. If you can carry a larger pistol, you should, but the Glock 43 is a good slim line pistol.





The G43 has a distinctive Glock appearance as well as features well suited for personal defense. In particular, we think much research went into shielding the slide lock from inadvertent activation (arrow).

Action	Locked Breech DAO Semi-Auto
Overall Length	6.26 in.
Overall Height	4.25 in.
Maximum Width	1.08 in.
Weight Unloaded	16.2 oz.
Weight Loaded	22.4 oz.
Barrel Length	3.39 in.
Barrel	Steel
Magazine	6-Rd. Detachable Box
Slide	Steel
Frame	Polymer
Frame Front Strap Height	1.5 in.
Frame Back Strap Height	2.5 in.
Grips	N/A
Grip Thickness (max)	1 in.
Grip Circumference (max)	5.2 in.
Sights	Plastic
Trigger Pull Weight	6.75 lbs.
Trigger Span Single Action	2.5 in.
Safety	No Manual Safety
Warranty	Lifetime
Website	US.Glock.com
Phone	(770) 432-1202
Made In	Austria



The Glock 43 frame offers good adhesion when firing. The Glock 43's combination of ergonomics and reliability garnered the pistol a solid B+ rating.



The Glock pistol field strip is easy and familiar.



Right: The Glock slimline 9mm Luger magazines proved reliable with all ammunition tested, from 95 grains to 147 grains.

RANGE DATA

Cor-Bon DPX Lead-Free 95-gr. HP DPX0995	Walther CCP 5080300	Glock 43 Subcompact
Average Velocity	1379 fps	1363 fps
Muzzle Energy	401 ft.-lbs.	391 ft.-lbs.
Average Group Size	2.4 in.	2.6 in.

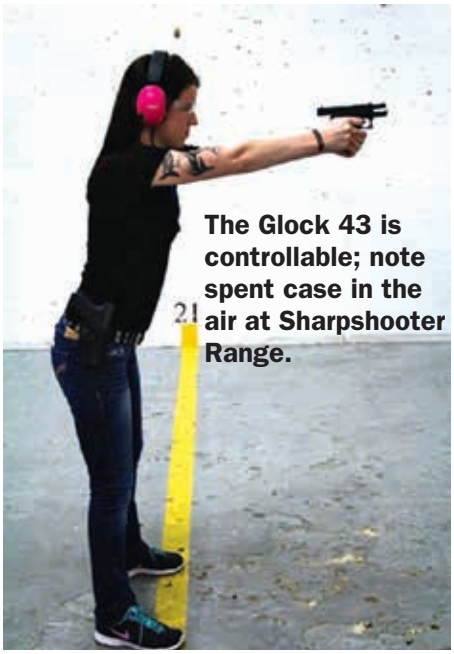
HPR XTP JHP 124-gr. 9124JHP	Walther CCP 5080300	Glock 43 Subcompact
Average Velocity	997 fps	955 fps
Muzzle Energy	273 ft.-lbs.	251 ft.-lbs.
Average Group Size	1.8 in.	2.0 in.

Hornady Critical Defense 115-gr. FTX HP 90250	Walther CCP 5080300	Glock 43 Subcompact
Average Velocity	1076 fps	1090 fps
Muzzle Energy	295 ft.-lbs.	303 ft.-lbs.
Average Group Size	1.8 in.	2.2 in.

Because of the short barrel and short sight radius of these handguns, accuracy testing was conducted at 15 yards. To collect accuracy data, we fired three five-shot groups from a sandbag rest at 15 yards. To capture velocity data, we used a Competition Electronics chronograph with the first skyscreen set 10 feet from the muzzle.

Ammunition sources: Cor-Bon DPX 9mm Luger 95-grain Hollow Point Lead-Free DPX0995/20 (MidwayUSA.com 837412, $32/20); Hornady Critical Defense 9mm Luger 115-grain FTX Hollow Point 90250, (Cheaperthandirt.com 8-HORN-90250, $20/25); High Precision Range (HPR) 124-grain Hornady XTP Jacketed Hollow Point 9124JHP (CheaperThanDirt.com 20-HPR9124JHP, $30/50).





The Glock 43 is controllable; note spent case in the air at Sharpshooter Range.

The Walther CCP featured among the cleanest trigger breaks of any polymer-frame striker-fired pistol we have tested, once the slack in the trigger was taken up. This trigger action, along with the good sights, explains the superior performance of the Walther in accuracy tests.

The Walther's lock up was much different than the Glock. The CCP isn't a locked-breech pistol, breaking convention in polymer-frame compact pistols. The CCP is a blowback design with a fixed barrel. The fixed barrel is another advantage in accuracy. The only way to make blowback operation work in such a handgun is to use a massive slide or some type of gas operation. Toward this end, the Walther borrows a chapter from the Heckler & Koch P7M8 pistol. The Walther SoftCoil design uses a vent in the barrel to direct gas to a mechanism beneath the barrel. This gas is directed to a piston inside a chamber that acts to slow down the recoil of the slide. Once the bullet has exited the barrel and pressure has subsided, the pressure from the chamber relents and allows the slide to recoil to the rear. This gas cylinder doesn't kick the bolt, as in the case of the AR-15, but rather inhibits slide movement. Walther makes claims that this system reduces muzzle flip and recoil. We're willing to grant that it may play a part in making the pistol easier to shoot well, but the larger grip and heavier weight of the CCP versus the Glock are bigger advantages, in our estimation. The system also allows easier cocking of the slide, according to Walther, because the recoil spring need not be as heavy. Most of the raters could not detect a real difference. However, one of the raters, a 50-ish female, noted that the CCP was indeed easier to rack to load. Even so, she had no problem with the Glock 43. All in, a combination of forward cocking serrations and the SoftCoil system will matter most to those who really need it. The Walther is easier to rack, load, and unload than most compact 9mm pistols, including the Glock 43. We simply did not find the difference to be profound.

To begin the process, we field-stripped and examined the CCP before firing it. We noticed the slide was well machined and finished, and the polymer frame showed quality manufacture, with no intrusive seams or stray pieces of plastic. There were no slide rails. There were metal inserts in the frame, but no true rails. To field-strip the CCP, you must manipulate a lock on the rear of the slide. This plug is depressed to clear a hook on the CCP frame to allow the slide to be removed. A tool is supplied with the pistol that is designed to be used to press on the locking tab while the tab is unlocked, allowing the slide to be removed. The supplied tool did not

work despite our best efforts. We used a screwdriver. Our team noted that they hoped the pistol would not need to be cleaned often.

When reassembling the pistol, the slide did not easily go back into place. One rater became frustrated and handed the pistol to another shooter, who saw the pin or tab was not allowing the slide to close. The assembly had turned in its tunnel, and as the slide finally snapped home, the lock and tab were ejected by the striker spring. This is part of the procedure for cleaning the striker, but we were not intending to dissemble the pistol at that time. Rather than take a chance on damaging the handgun, we took the gun to the gunsmith on our team for reassembly. This rater got the gun back together. We spent some time with experienced individuals on discussing the takedown. A simpler design, such as the HK P7M8 plunger, would have been preferred.

The takedown may be a deal breaker for some, to others it is simply something different, but we did not like the design. If Walther were going to borrow so much from the HK P7M8, perhaps they should have borrowed a bit more and used a straightforward HK-type break down. In the HK's case, the gas piston will need to be scrubbed free of carbon deposits from time to time, depending upon how dirty the powder is and how often the pistol is fired. Judging from the HK P7M8 we've owned in the past, this means perhaps every 1,000 rounds for best function. Walther could have executed the CCP better, in our view, because the field-strip was a glaring misstep compared to the Glock.

During the firing tests, we used two loads during the familiarization stage and three loads for accuracy. Initial firing was accomplished with the HPR 115-grain FMJs, an affordable loading well suited to breaking in a new firearm. We also used a smaller quantity of Winchester 147-grain Defend loads. The Walther proved reliable at the start, with no failures to feed, chamber, fire, or eject with 100 rounds of the 115-grain FMJs. The pistol was pleasant to fire. Fired offhand at humanoid silhouette targets at 5, 7, and 10 yards, the pistol gave excellent results for a handgun in this size and weight category. Combat reloads during combat shooting also went well. We wished we had more magazines on hand, as the crew enjoyed firing this pistol, only stopping to load magazines. It was clear to our shooters that the Walther was more pleasant to fire than the Glock.

However, when we began firing Winchester Defend 147-grain JHPs, we suffered four failures to fully go into battery, with much of the cartridge case exposed, before we could complete a box of 25. Was this a break-in malfunction? The pistol had fired hundreds of the 115-grain loads without problem.

In accuracy testing, we used three loads. The Cor-Bon 95-grain DPX is a superior defense load using a solid-copper Barnes bullet. With this round, we found recoil was the heaviest of any load tested. Even so, the recoil wasn't prohibitive from a load clocking faster than 1350 fps from a 3.5-inch barrel. With the DPX, the HPR 124-grain JHPs, and Hornady's 115-grain Critical Defense FTX hollowpoints at 15 yards, we noticed the CCP required attention to detail to produce good accuracy due to the short sight radius and light weight. Accuracy for five-shot groups ranged from a smallest group of 1.6 inches to a largest group of 2.6 inches. As far



Here, the Walther is malfunctioning with a 147-grain load.



Here's another Walther malfunction, this one with Cor-Bon's 95-grain DPX load.



We think the CCP is finicky, but we didn't fail it for these malfunctions. If you buy it, you must test for reliability.



To its credit, the Walther CCP isn't difficult to rack and make ready. This is a factor for shooters with limited hand strength.



The Walther lock left the slide when we did not wish it to. These problems aggregated into a C grade.

as personal-defense accuracy at this range, we thought the pistol performed well. However, the pistol failed to cycle with the Cor-Bon load on three occasions and failed to extract that round twice. The Glock functioned normally with everything.

We didn't fail the CCP for these malfunctions because of our experience with the similar Heckler & Koch P7M8, which in the hands of one of our testers has been perfectly reliable for more than a decade with 115- and 124-grain standard-pressure loads. But the P7M8 will not function with the Glaser Safety Slug at all, and +P loads are not recommended in it. Also, 90-grain JHP loads will not function, and neither will subsonic loads. Otherwise, the pistol has fired at least 5,000 trouble-free rounds with standard-pressure loads using 115- and 124-grain bullets. So, we simply say the Walther was finicky about the loads it liked, whereas the Glock wasn't — a big edge for the Austrian.

Our Team Said: The Walther CCP was accurate, handled well, featured a manual safety and a light rail, and offered two more rounds of magazine capacity. It was larger and heavier than the Glock, so it is better suited to holster carry than as a pocket handgun. But even with its positives, the malfunctions during the combat firing stage and during the accuracy stage made us doubt its reliability with the full range of defensive ammunition available today. Also, its takedown process earned it a demerit. Whether our final rating was a C or a D doesn't really matter to us. Based on our experience with it, we wouldn't buy the CCP.

Glock 43 Subcompact Slimline G43 PI4350201 9mm Luger, $499

The price as listed was from SlickGuns.com at the time of our test. The Glock 43 is a long-awaited, perhaps even heralded, handgun. The pistol will appeal to Glock fans, but also, perhaps for the first time, to concealed-carry handgunners interested in a pistol in the Kel-Tec/Smith & Wesson Shield size. At Gun Tests, each pistol must stand on its own merits, but comparisons are inevitable. We think the Glock 43 comes off better than the Glock 36 Slimline 45 and the mini Glocks in many particulars.

To begin at the top, the slide was narrow and nicely beveled. Glock did not simply stick a Glock 19 slide on a slim frame. The locked-breech operating system and trigger action are preserved. Anyone owning a Glock of any size or frame will be able to use this handgun in the same manner because the action is identical to all other Glock pistols. The locked-breech action keeps the slide and barrel locked together in recoil until the pressure of firing abates as the bullet exits the barrel. When the Glock slide is racked, it partially preps the action. Next, the trigger is pressed to move the striker to the rear, finally breaking the striker against the striker spring, firing the pistol. The small lever set in the trigger is a safety against trigger movement if the pistol is dropped and also against lateral discharge.

As mentioned above, the sights were standard Glock, with a white outline rear and white dot forward. They proved adequate for combat firing and reasonably good for accuracy work at 15 yards. In common with the Walther, the sights were properly regulated for 115-grain loads at 15 yards. The Glock did not come with additional front-sight posts. The pistol fired low with the 95-grain loads tested, but slightly high with 124-grain loads. This may be accounted for in combat shooting, but considerable practice should be expended in doing so.

There is a shelf under the slide on the frame that protects the slide lock from a finger contacting the slide lock during recoil. Here, Glock learned a lesson with the Glock 26 design, we feel. It is common for the support-hand thumb to bump the slide lock and lock the slide to the rear when firing a hard-kicking compact. The shelf seems to eliminate this problem, as it did not occur during the firing test. The slide was textured in a fashion that affords adequate purchase when firing. The Glock frame does not incorporate a light rail for a combat light. Since this is a concealed-carry piece, even a deep-cover piece, this isn't a deal breaker, but it is a consideration.

We fired the Glock with the same mix of ammunition as the Walther: HPR 115-grain FMJs and Winchester's 147-grain JHPs for familiarization. Then came accuracy testing from the bench with Cor-Bon DPX 95-grain loads, HPR 124-grain JHPs, and Hornady 115-grain FTX rounds, and combat-shooting drills, as well as an additional 50 rounds of HPR 115-grain FMJ loads for a final evaluation. The Glock never malfunctioned.

The Glock featured a spring-within-a-spring guide rod that we feel does an excellent job of containing recoil, so much so that our raters with the most extensive firing experience detected little difference in recoil until firing the Cor-Bon 95-grain DPX. At this level of recoil, muzzle flip was more noticeable with the Glock. However, the young female had no problem with the Glock . In combat-style shooting, the Glock and Walther were both fast to target, but the smaller Glock was faster from leather than the Walther. Once on target, however, the Glock was handicapped by the heaviest factory Glock trigger our South Carolina unit has tested. We checked Glock 19, 22, and 23 pistols and found most broke at 5.5 pounds. A Glock 41 in 45 ACP was 6.5 pounds. The little Glock 43 consistently broke at 6.75 pounds. In any case, the Walther fired better accuracy and combat groups than the Glock. If it is important to you, neither handgun is suited for lead-bullet handloads, the Glock due to its polygonal rifling and the Walther due to the possibility of clogging the gas port.

Our Team Said: The Glock 43 had what it takes to earn our respect: it was reliable, safe, and easy to maintain. But in many ways, it suffered in comparison to the CCP — less accurate, tough trigger, no light rail. This is a good 9mm carry gun, but its shortcomings put it a notch below an A, in our estimation.

Written and photographed by R.K. Campbell, using evaluations from Gun Tests *team testers.* **GT**

Budget 20-Gauge Over/Unders: We'd Pass On Yildiz, Mossberg

Low price translated into low performance for both of these 'bargain' over/unders. We can't recommend the $430 Yildiz SPZ ME or the $760 Mossberg International Silver Reserve Bantam.

Both the Yildiz 20 gauge, left, and the Mossberg 20 gauge did not perform as well on the clay-target range or on patterning paper as we require. While we could live without high-end hand engraving and tempered metal parts for a beginner's shotgun — as long as the firearm was smooth and effective on targets — neither of these shotguns met that standard.



Many beginning or very budget-minded shooters in today's market seem to be weighing the option of selecting a low-end over-and-under shotgun for clays or birds. Basing a purchase on "the cheaper the better" may not be the best or wisest decision. We have been asked by several of our readers to look into the performance and reliability of bargain-basement over/under shotguns that are found in the field and on clay target courses across the country. The question is, are these good bargain firearms that offer two different chokes for shooting situations and are normally easier to use than a similarly priced pump-action or semiautomatic?

A typical scenario in which these guns might be considered would be where a parent is trying to find out whether a youngster wants to become a shotgun enthusiast. The parent does not want to invest a major chunk of cash into a fine fowling piece if the youngster ends up touching off a couple of shots and then decides to go back to playing video games. So the market for low-end shotguns is alluring, particularly for over/unders that offer two different chokes for shooting situations and are typically easier to use and handle than pump actions or semiautomatics.

What the low-end buyer gives up are higher-quality parts and metal, heightened quality control, better and more attractive wood, and the hands-on touch of fine engraved checkering of the wood and metal. The tempering or hardening of metal parts used in a firearm is an expensive process and is one of the reasons many shooting tools carry a hefty price tag. However, these hardened parts do tend to hold up better and last longer than the soft metal parts of budget firearms.



Left: The silver blur just above the left knee of the shooter (arrow) is the trigger guard that has fallen off the Yildiz during our test. Only after the application of Super Glue to the front stud of the guard did the piece stay in place.

Budget-minded shooters may be working under the assumption that a $500 to $700 shotgun can be just as effective in fulfilling the shooting needs of a beginner as the offerings of major firearm manufacturers that start at about $1,800 and climb up rather quickly. One of the budget brands frequently mentioned is Yildiz, Turkish-made shotguns which are available through Academy Sports outlets. So for this adventure into low-end shotguns, we selected a Yildiz SPZ ME 20 gauge and put

it up against a substantially more expensive Mossberg International Silver Reserve Bantam, $760.

For our shooting evaluations on both the clay-target range and at the patterning board, our test ammunition was Federal Game 2.75-inch, 2.5 dram equivalent loads packing ⅞ ounce of No. 7½ shot with an average muzzle velocity of 1210 fps. We should note here that we had several misfires with the Yildiz, while the Mossberg touched off all of its shots without a hiccup. On the down side, recoil was noticeably higher when using the Mossberg both on the range and at the patterning board, although we would not consider the 20-gauge kick unacceptably excessive. Here are more of our findings:

Yildiz SPZ ME No. U38361 20 Gauge, $430

Probably one of the most commonly encountered low-end shotguns on the market today, we found this shotgun had good heft and balance. Its appearance is what a shooter should expect from a budget item — stamped checkering, laser-engraved receiver, and average-looking wood. But, as with many other elements of everyday life, beauty is in the eye of the beholder. To some on our team it looked nice; others said it looked cheap.

With its 28-inch barrels and overall length of 45.25 inches, this shotgun swung smoothly, probably due to its proper weight distribution. A shotgun with too much weight in the barrels or too much heft in the stock is not balanced. With this 20 gauge, the weight distribution was nice and even.

The Yildiz stock had a drop at the comb of 1.5 inches and a drop at the heel of 2.5 inches, with a length of pull that measured 14.75 inches. These dimensions are about average for an out-of-the-box shotgun in this price range. The fit was acceptable for most of our test team.

What quickly became unacceptable was what happened after the twelfth shot on a sporting clays course – the Yildiz's trigger guard fell off. A

YILDIZ SPZ ME NO. U38361 20 GAUGE, $430

GUN TESTS GRADE: D-

For a beginner is trying to determine if shooting clays or birds might become a hobby and wants to stay low budget, this shotgun could suffice as a basic, inexpensive and eventually disposable item. However, we don't recommend you buy one.



Action Type	Over/Under With Ejectors
Chamber Size	3 in.
Overall Length	45.25 in.
Capacity	2
Weight (Unloaded)	5.5 lbs.
Barrel Length	28 in.
Barrel	Blued Drilled Steel
Receiver	White Alloy, Laser Engraved
Choke Tubes	Internal (C, IC, M, IM, F)
Stock	Select Walnut, Oil Finish
Buttstock Length of Pull	14.75 in.
Buttstock Drop @ Comb	1.5 in.
Buttstock Drop @ Heel	2.5 in.
Forearm	Schnabel, Select Walnut, Oil Finish
Front Bead	Brass
Rib	7mm Ventilated
Safety	Non-automatic
Trigger Pull Weight (Bottom)	4.5 lbs.
Trigger Pull Weight (Top)	5.0 lbs.
Trigger Finish	Silver
Warranty	Three-year Limited
Telephone	(713) 932-6995
Serviced By	Briley Manufacturing Co.
Website	YildizShotgun.com
Made In/Assembled In	Turkey
Distributed By	Academy Sports



While we were concerned about the softness of the metal because of its low price, there were no signs of wear on Yildiz, unlike scratches noted on the Mossberg's jeweled action. We experienced several failures to fire during testing, which we attributed to firing pin wear.

A hard-rubber recoil pad did little to reduce felt recoil. The oil finish on the stock, just like that of the forearm, gave the wood a grainy feel. The wood-to-metal fit was much better than that on the Mossberg, we thought.



The Yildiz trigger guard fell off after only 12 shots. We found there was no retaining pin and no hole drilled through the front stud of the guard to hold a pin. Super Glue was used to hold the guard in place for the continuation of our tests.

gunsmith who happened to be among our shooting group determined that the retaining pin designed to secure the front stud of the trigger guard was missing. There were holes in either side of the tang leading to the stud hole, but no hole had been drilled through the stud to allow for the insertion of a retaining pin. As the veteran gunsmith said, it was "a clear example of a lack of quality control."

We tried to slightly bend the guard to make a tighter fit, but that failed to hold the guard in place. Ultimately, we resorted to using Super Glue to secure the guard in place to allow for the completion of our testing.

We were also uncomfortable with the feel of the shotgun's forearm and stock. The oil finish seemed to have raised the grain of the wood, making both pieces a little rough to the touch. The wood was also rather plain looking, which would be expected of a firearm on the low end of the price scale.

Checkering on both the forearm and stock was very flat. Apparently, the stamping process did not create the crisp lines and points found with hand-engraved checkering. Once again, the buyer is getting what he pays for.

On the plus side, the trigger pull for both barrels was nice, although not as crisp as we would have liked. The bottom barrel touched off at 4.5 pounds, and the top barrel touched off at 5 pounds, both with just a little slack. The mechanical trigger stages the second shot automatically, even if there is a misfire on the first shot. We appreciated the mechanical trigger in the Yildiz when we encountered a couple of misfires.

It should be noted that while there is a selectable barrel feature, allowing a shooter to fire the bottom or top barrel as a first shot, there is no symbol on the tang to indicate where the safety should be placed for the selection process. The owner's manual explains that placing the selector button (safety) to the right will fire the lower barrel first and placing it to the left will fire the upper barrel first. Normally an "O" and a

MOSSBERG INTERNATIONAL SILVER RESERVE BANTAM NO. 75457 20 GAUGE, $759

GUN TESTS GRADE: D

Although the Mossberg patterned better than the Yildiz, its poor balance, poor metal-to-wood fit, sharper felt recoil, and soft metal that showed wear after limited usage were very disappointing. Combined with its higher price, we gave the Mossberg a low grade with the caveat that it would nominally meet the needs of an entry-level firearm owner.



Action Type	Over/Under With Extractors
Chamber Size	3 in.
Overall Length	41.5 in.
Capacity	2
Weight (Unloaded)	5.75 lbs.
Barrel Length	26 in.
Barrel	Blued Steel
Receiver	Silver Scrolled Engraving
Choke Tubes	Internal (C, IC, M, IM, F)
Buttstock	Select Black Walnut, Satin Finish
Buttstock Length of Pull	13.25 in.
Buttstock Drop @ Comb	1.5 in.
Buttstock Drop @ Heel	2.25 in.
Forearm	Select Black Walnut, Satin Finish
Front Bead	Brass
Rib	0.25 in. Wide, Ventilated
Safety	Non-automatic
Trigger Pull Weight (Bottom)	7.5 lbs.
Trigger Pull Weight (Top)	7.5 lbs.
Warranty	Limited Liability
Telephone	(800) 363-3555
Website	Mossberg.com
Made In/Assembled In	Turkey



Showing signs of wear after limited usage, the gold-plated trigger was stiff at 7.5 pounds for both the top and bottom barrels, and the trigger guard was much smaller. On the plus side, it did not fall off.



The scrolled engraving and gold-plated birds on each side of the receiver were a nice touch, although rather cheap looking, in our view. We were concerned that the jeweled block showed signs of wear, indicating the parts were made of soft metal. The metal-to-wood fit was also not as smooth as we have found on moderately priced shotguns.



We liked the palm swell in the grip, and the checkering was sharper and had a better feel than the Yildiz. Felt recoil was considered excessive even with the light 20-gauge field loads used in our review.



Top: We found the forearm of the Mossberg to be uncomfortably thin, and after only a few fired rounds, we felt movement between the wood and metal. This could indicate the potential for the forearm to crack or split. Bottom: The checkering on the Yildiz's Schnabel forearm was stamped and very flat. But the pattern did offer a decent hold on the shotgun. Like we noticed on the buttstock, the oil finish caused the forearm wood to feel rough to the touch.

"U" are etched into the tang to help the shooter know which barrel will fire first.

The patterning board performance of the Yildiz was very disappointing and may have helped explain our only moderate success on clay targets. We fired the test shells using the Improved Cylinder and Modified internal screw-in chokes at patterning paper set at a distance of 30 yards. While the Modified choke produced a 51-49 pattern (51 percent above the center and 49 percent below), about 65 percent of the pellets hit on the left side of the target. There were 268 hits (77 percent of the shot) in a 20-inch circle around the center of the target and only four 3-inch holes in that pattern. However, there were thirteen 3-inch holes in the 10-inch band between the 20-inch circle and the 30-inch circle. This means that a bird or clay could have easily flown through the right side of the pattern, even if the shot was centered on the target.

The Improved Cylinder choke results were worse. There were 111 hits (41 percent of the shot) in the 20-inch circle surrounding the target center, with 26 percent of the hits above the center and 74 percent below. Also patterning heavily to the left side of the target, there were seven 3-inch holes in the 20-inch circle and 11 holes in the ring between the 20-inch and 30-inch circles.

As noted earlier, in addition to the trigger guard falling off the firearm repeatedly until we used Super Glue to hold it in place, we experienced several misfires after the Yildiz had been fired about 400 times. The firing pins' light hits on the shells would not touch off the primers. Several owners of other Yildiz shotguns alerted us to this problem, with it normally occurring after the shotgun has been fired several hundred times. The fix often requires the replacement of the soft-metal firing pins. Briley Manufacturing Co. provides warranty work for Yildiz shotguns, and our understanding is that the current waiting period for parts is about six months.

Our Team Said: When a part falls off a new shotgun, when it patterns off center, and when it begins to misfire to the point that warranty work will be needed, it is hard to praise the firearm. We can't recommend that Gun Tests readers buy the Yildiz.

Mossberg International Silver Reserve Bantam No. 75457 20 Gauge, $759

Our first impression of this Mossberg was that the cosmetic attempt to make this appear to be a higher-quality firearm was a failure. In blunt terms, it looked cheap to our shooters. Slightly heavier than the Yildiz yet with shorter barrels, this shotgun did not have a proper balance for easily and effectively moving through targets.

The Mossberg tipped the scales at 5.75 pounds, with 26-inch barrels and an overall length of just 41.5 inches. Instead of feeling short and quick, it felt unwieldy, as some of the test team described it. It had a very short length of pull of 13.25 inches, which could have been a contributing factor to the poor handling experience. Drop at the comb was 1.5 inches and drop at the heel was 2.25 inches.

The forearm of the Mossberg was very thin, and though the stamped checkering in the wood was sharper than that of the Yildiz, the small grip was not conducive to proper target acquisition. We also noted a slight looseness in the wood-to-metal fit — which in our experience can lead to cracking or splitting problems.

Despite its slightly heavier weight, the Mossberg hit us with more felt recoil than the Yildiz. While a 20 gauge is normally not noted for its recoil, we found the Mossberg produced some uncomfortable shoulder shock.

Another downside was the trigger pull, which touched off at a heavy 7.5 pounds for both barrels. A clean, crisp trigger pull is not as essential with a shotgun as it is with a rifle or handgun, but a heavy, long pull impedes properly putting shot on targets.

On the patterning range, the Mossberg produced a solid 49-51 pattern with the Modified internal screw-in choke and a nearly identical 48-52 pattern with the Improved Cylinder choke. Both patterns were fairly uniform, although slightly right of center.

The Modified choke produced 182 hits in a 20-inch circle, which was an impressive 61 percent, with only three 3-inch holes. With the Improved Cylinder choke, the hits in the 20-inch circle numbered 148, which was 57 percent of the pattern, and had only two 3-inch holes. Both chokes produced nine 3-inch holes in the 20-inch to 30-inch ring.

This paper performance was better than that of the Yildiz, but our success rate on clays was much less impressive. The Mossberg seemed clunky and unbalanced, although there were no shell malfunctions like we experienced with the Yildiz.

Our Team Said: The looks of this shotgun screamed "low end," with poor metal-to-wood fit and signs of wear appearing quickly on both the trigger and action. The triggers were stiff and what we would consider overly heavy. The Mossberg did perform better than the Yildiz on the patterning board, but it was not smooth to handle and disappointed shooters on the clay target range.

Written and photographed by Ralph Winingham, using evaluations from Gun Tests *team testers.* **GT**

Convertible Cap & Ball Models: Ruger Old Army and Colt Walker

When we cracked some caps on one of the first truly successful percussion revolvers — the 2nd Generation Colt — we wondered how it would stack up against a thoroughly modern Old Army.

The collaboration between Samuel Colt and Captain Samuel Hamilton Walker in 1846 resulted in the Colt Walker revolver, a massive six-shot 44-caliber handgun. The largest and most powerful percussion revolver ever made, it weighed nearly 5 pounds and was more than 15 inches long. Captain Walker wanted a revolver for cavalry troops that could dispatch opposing adversaries as well as horses in close combat situations. The massive Walkers were held in pommel holsters thrown over a saddle horn. Captain Walker used a pair of his namesake revolvers during the Mexican-American War and was killed in action shortly after the Colt Walkers began production. Numerous copies of the Walker are available today, with most made in Italy by companies like Uberti and Pietta. However, our second-generation Walker tested here was made by Colt Blackpowder, which was, at one time, part of Colt in the 1970s thru the 1980s. The Italian companies manufactured components, and Colt Blackpowder finished the gun. Our test item is known by collectors as one of the "black box" percussion Colts because it was packaged in a black box. Many shooters will recognize the Walker as the handgun Clint Eastwood carried in a belt rig in the movie *The Outlaw Josey Wales*.

Bill Ruger loved old guns, and his design for what he called the finest percussion revolver was the Old Army, introducing the cap-and-ball revolver in 1972. Ruger built the design around the old three-screw Blackhawk revolver. Unlike the popular open-top Colt percussion revolvers like the Walker, Ruger's Old Army uses a full frame with top strap and looks very similar to the Remington Model 1858 percussion revolver. Ruger redesigned the loading lever to be more secure and added adjustable sights. Adjustable sights on a black-powder revolver was virtually unheard of, and they take the guesswork out of shooting these revolvers, as you will see.



Multiple generations — and a pocketful of money — separated the Colt Walker, top, and the Ruger Old Army. We acquired a LNIB 2nd Gen. Colt Walker Model No. F1600, $1300, and a slightly used Ruger Old Army Model No. 1401, $450, along with cartridge-conversion cylinders by Taylor's & Co. that fire 45 Colt cartridges out of these pistols. Testing was done with ball, cap, powder and grease as well as with modern cowboy-action-shooting ammunition.



The Walker (bottom) dwarfs the Old Army. The Colt Walker is a massive and heavy pistol, and this reproduction was nicely made. Holding the Walker revolver at arms length with one hand is tiring, our testers found.

While we wanted the authentic black-powder experience, we also wanted to see how a cartridge-conversion cylinder would fare in these handguns. Taylor's & Co. (TaylorsFirearms.com) imports cartridge-conversion cylinders from Italy, so we ordered a 45 Long Colt cylinder for both the Walker ($250) and the Old Army ($240) from Brownells.com. The back plate, or rear of the cartridge conversion cylinder, is pulled off, the cylinder loaded with cartridges, the back plate replaced, and then the cylinder is inserted into the revolver's frame and the revolver reassembled. It takes longer to describe than to do in actual practice for one of these revolvers. The back plate holds six firing pins, and a pin in the cylinder and a hole in the back pate mate to ensure they are reattached the same way each time. The cartridge-conversion cylinders are not conducive for fast reloads, but they do allow shooters to fire cartridges in percussion-style guns without the fuss of loose fixin's like ball, caps, and powder. In fact the Taylor's & Co. cylinders are patterned after an original Remington design for a drop-in fit.

To check each chamber for alignment with the bore, we used a revolver range rod and rod-head combo from Brownells in 44 Special/44 Magnum (080-617-044WB, $40). We found no issues with either the Colt or the Ruger or the aftermarket cylinders. However, we did notice putting a brand-new cylinder into a slightly used revolver required the cylinder to be cycled a few times so the pawl and the bolt worked better with the new cylinder. The cylinder-to-barrel space was measured using a Brownells feeler gauge (606-950-252WB, $28). On a modern-cartridge revolver, that space should spec out between 0.004 to 0.006 inch. However, because the Colt uses a wedge pin to attach the barrel to the frame, the space between the cylinder face and the forcing-cone area of the barrel can be slightly adjusted. In the old days, shooting black powder meant the revolver fouled quickly with soot, especially with repeated fire. The wedge pin could be slightly loosened so the cylinder would still rotate even if the fouling was noticeably binding the cylinder. Likewise, if the wedge pin is too tight, even in a clean gun, it will bind the cylinder. We found the dimension on the Ruger was 0.012 inch on the percussion cylinder and 0.010 inch on the conversion cylinder. We anticipated the pair of revolvers would soon bind up with extended cap-and-ball shooting. A note on the conversion cylinders: Use only low-power cowboy loads and install them only in steel-frame revolvers, not brass-frame revolvers. Also, we reiterate that you cannot load up these old designs with Buffalo Bore cartridges and go after bears.

Investing in a percussion revolver also means investing in extra equipment like a powder flask, powder measure, capper, and nipple wrench. It also means buying the loose components to shoot them: black powder or a black-powder substitute like Pyrodex, percussion caps, lead balls, grease and wads. Percussion revolvers offer a lot of shooting fun, but they are high

COLT WALKER 2ND GEN NO. F1600
.457 BALL/45 COLT, $1300
GUN TESTS GRADE: B+

The Colt Walker was two fists full of revolver and then some. It operated equally well with the percussion cylinder and the aftermarket cartridge cylinder.

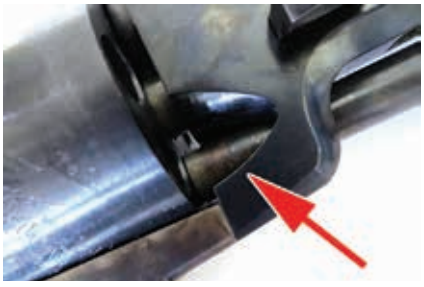




The Colt Walker field-strips down into three components, but a nylon hammer was required to separate the barrel and frame.



The Walker's loading lever is held by a small latch; during heavy recoil, the loading lever never jolted loose.



The scalloped portion of the frame allowed for easy loading. Pour a measured amount of black powder into a single chamber, then follow with a lubed wad and a round ball.

Right: A battle scene is engraved on the Walker's cylinder.

Action	Single-Action Revolver
Overall Length	15.7 in.
Overall Height	5.3 in.
Maximum Width	1.8 in.
Weight Unloaded	64.6 oz.
Weight Loaded	69.5 oz.
Cylinder Gap (percussion)	0.004 in.
Cylinder Gap (conversion)	0.004 in.
Barrel Length	9.0 in.
Capacity	6
Frame	Casehardened-Color Steel
Cylinder	Blued Steel
Frame Front Strap Height	2.3 in.
Frame Back Strap Height	3.8 in.
Grips	Smooth Walnut
Grip Thickness (max)	1.3 in.
Grip Circumference (max)	6.0 in.
Front Sight	Brass Blade
Rear Sight	Hammer Notch
Sight Radius	12.1 in.
Trigger Pull Weight	5.4 lbs.
Trigger Span	3.1 in.
Safety	None
Warranty	None Written
Telephone	(800) 962–2658
Website	Colt.com
Made In	U.S.A.



The Walker cylinder (left) dwarfs the Old Army cylinder (right).



maintenance. After shooting a percussion revolver, the entire pistol needs to be field stripped and cleaned since black-powder residue absorbs moisture, which in turn will rust the revolver.

The loading procedure for both of our percussion revolvers required them to be placed on half cock so the cylinders would spin freely. A measured amount of powder — black powder is measured by volume, not weight like smokeless powder — is poured into a single chamber at a time into the front of the cylinder, then a lubed wad is placed in the chamber followed by a round ball. We used some Thompson Center pre-lubed wads with Natural Lube 1000 Plus Bore Butter and some Ox-Yoke Wonder Wads we had on hand. The ram rod is then used to press-fit the lead ball into the chamber. The ball diameter (0.457 inch) is slightly larger than the chamber and barrel, and when rammed into the cylinder, a slight ring of lead is cut from the ball, indicating the ball is sealed in the chamber. For extra caution and so as not to ignite additional chambers when fired as well as to relieve fouling, we placed more TC Bore Butter lube on top of the ball. Some testers have used everything from Crisco and Vaseline to axle grease on top of the balls, but best practice is to use a grease specifically made for muzzleloaders. After all six chambers are loaded, then the percussion caps are placed onto each nipple. Using a capper makes this step easier. It is important to ensure the caps are securely pushed onto the nipple. The nipples are slightly larger that the caps, so the cap, too, is press fit onto the nipple. If a cap is not secure and falls off during firing, the least you will have is a loose cap that jams the rotation of the cylinder. Worse, you might have multiple chambers fire at the same time, which is dangerous. So getting the caps installed on the nipples properly is worth paying attention to.

We used real black powder, GOEX FFFg, and a black-powder substitute, Pyrodex P. We also had on hand some Pyrodex 30-grain pellets, which we used in the Ruger. The pellets offer ease of use — no measuring — but loose powder offers the ability to fine tune your charge. We prefer to load the old-fashioned way with loose powder. Here's what we found after we started cracking some caps on these smoky six-shooters.

Colt Walker 2nd Gen. No. F1600
.457 Ball/45 Long Colt, $1300

The Colt Walker was a massive and heavy pistol, and this reproduction was nicely made. The cylinder, barrel, and backstrap were blued, while the frame and loading lever were casehardened color. The cylinder was engraved with a battle scene from 1844, originally described by Walker and executed by Waterman Ormsby, an engraver whom Colt commissioned for the job. The trigger guard was squared off and made of brass. The grip was smooth walnut. Many testers liked the shape of the one-piece grip, which was thin and felt very different than the Ruger's grip panels, which reminded

RANGE DATA

Herter's 45 Colt 250-gr. LFN	**Ruger Old Army**
Average Velocity	666 fps
Smallest Group	0.67 in.
Average Group	0.81 in.
GOEX FFFg 30 Grains Hornady 147-gr. Round Ball	**Ruger Old Army**
Average Velocity	800 fps
Smallest Group	1.7 in.
Average Group	2.4 in.
Pyrodex Pellet 30 Grains Hornady 147-gr. Round Ball	**Ruger Old Army**
Average Velocity	826
Smallest Group	1.6 in.
Average Group	2.5 in.
Pyrodex P 30 Grains Hornady 147-gr. Round Ball	**Ruger Old Army**
Average Velocity	810 fps
Smallest Group	1.8 in.
Average Group	2.5 in.
Herter's 45 Colt 250-gr. LFN	**Colt Walker**
Average Velocity	710 fps
Smallest Group	0.83 in.
Average Group	1.5 in.
GOEX FFFg 50 Grains Hornady 147-gr. Round Ball	**Colt Walker**
Average Velocity	940 fps
Smallest Group	2.2 in.
Average Group	2.7 in.
Pyrodex P 50 Grains Hornady 147-gr. Round Ball	**Colt Walker**
Average Velocity	986 fps
Smallest Group	2.2 in.
Average Group	2.3 in.

To collect accuracy data, we fired five-shot groups from a bench using a rest. Distance: 15 yards with open sights. We recorded velocities using a ProChrono digital chronograph with the first screen set 15 feet from the muzzle. Special thanks to Eastern Outfitters (EasternOutfitter.com) of Hampstead, NC.



The Walker gave good accuracy with the conversion cylinder and Magtech cowboy loads.

RUGER OLD ARMY NO. 1401
.457 BALL/45 COLT, $450
GUN TESTS GRADE: B

The Old Army is an excellent percussion revolver and well suited for those wanting a cap and ball pistol with modern conveniences. Our used model needs a new hammer spring.



The Ruger field-strips into these three components.



Above: The Ruger's loading lever is removed by rotating the basepin retaining pin, which looks like a slotted screw head (arrow). Below: The loading lever latch (arrow) needs to be pulled back to use the lever. The loading lever locked up tight, our testing found.



Action	Single-Action Revolver
Overall Length	13.5 in.
Overall Height	5.2 in.
Maximum Width	1.7 in.
Weight Unloaded	48.8 oz.
Weight Loaded	53.7 oz.
Cylinder Gap (percussion)	0.012 in.
Cylinder Gap (conversion)	0.010 in.
Barrel Length	7.5 in.
Capacity	6
Frame	Blued Steel
Cylinder	Blued Steel
Frame Front Strap Height	2.1 in.
Frame Back Strap Height	3.1 in.
Grips	Smooth Walnut
Grip Thickness (max)	1.6 in.
Grip Circumference (max)	6.1 in.
Front Sight	Fixed Serrated Ramp Blade
Rear Sight	Adjustable Notch
Sight Radius	7.8 in.
Trigger Pull Weight	2.7 lbs.
Trigger Span	3.0 in.
Safety	None
Warranty	None Written
Telephone	(336) 949-5200
Website	Ruger.com
Made In	U.S.A..



Here are the Ruger's percussion cylinder (left) and the cartridge conversion cylinder (right). Those are six separate firing pins (arrow) on the conversion.

Left: The conversion cylinder was a tight fit, requiring a bit of wiggling to get it aligned.

us of a Blackhawk grip. Holding the revolver at arm's length with one hand is tiring; get a quick sight picture and touch a shot off or else the more than 4 pounds of pistol will cause your aim to waver. Also, in our opinion, the balance was off, with too much weight forward of the firing hand. The size of the cylinder dwarfed the Ruger's cylinder, and we found thumbing back the hammer took a bit more effort to rotate that massive cylinder of steel. The sights consisted of a V-notch in the hammer and a tiny brass front sight.

We first installed a cap on each nipple and fired the Walker unloaded to blow out anything in the nipples. We then used 50 grains of GOEX FFFg — the load the Colt manual recommended — and used #10 caps. The nipples of the Walker are larger than the Ruger and could have used #11 size caps, but we made due with #10 caps and used a knife to secure each one. The loading lever of the Walker provided plenty of leverage to load the lead balls, and an area near the frame and front of the cylinder was well scooped out to allow easy loading. The loading lever snapped into a latch built into the bottom of the barrel. We have found in the past that full-power loads produce enough recoil to jolt the loading lever free and impede rotation of the cylinder. We did not encounter this with the Walker. With the 50-grain powder charges, we had no issues and found the Walker shot 6 to 7 inches high. During the Civil War, it was common practice to aim at a man's belt buckle to hit him center of mass, and this Walker lived up to this characteristic. Windage was dead on.

With 50 grains, the Walker had a soft, slow recoil, not sharp like a 44 Magnum. The weight of the pistol helped absorb some of that felt recoil. When loaded up to 60 grains, we got to experience the Walker battle ready with increased recoil and velocity. We saw better accuracy results using a 50-grain load of GOEX FFFg; 2.7-inch groups when using a rest. This old horse pistol still had game. We did encounter a few hang fires with



The modern features of the Ruger (left) included the crowned muzzle and large ramped front sight. The arrow at right marks the tiny brass front sight on the Colt.





Left: This is a sight picture you don't expect on a cap-and ball-revolver; the Ruger's sights were excellent. Right: Here's the sight picture with the Walker. Below right, arrow: The rear sight on the Walker is a tiny V-notch cut into the hammer. They were tiny sights for such a large revolver. Below left is the Ruger's adjustable rear sight with an easy-to-see slot.







At right: The thinner grip of the Walker, closer, was preferred by some testers. The backstraps on both were steel, so recoil got transferred directly into the hand. Mild loads are recommended as a result.

Below left: At full cock, the Walker's hammer offered room for the web of the shooter's hand to fit without skin getting caught. At right, the Ruger's hammer offers similar clearance. Both must rest off the nipples to avoid discharges if dropped.



50-grain loads of Pyrodex P loose powder and preferred using the real black powder. After the third cylinder full, we encountered fouling and quick cleaning was needed to continue.

The rear of the frame on the Walker was scooped out so fired caps can easily be rotated out from between the cylinder and frame if they fell in the mechanism. This was a nice feature. The recoil shield on the right side of the frame was also scalloped out, allowing the shooter to place the caps on the nipples easier.

When using the cartridge cylinder, we needed to first knock out the wedge pin and remove the barrel from the frame. This took some doing, and we used a non-marring nylon hammer to separate the barrel from frame. This gun was LNIB, so we suspect that with continued use, the barrel and frame would more easily come apart. One installation note: We had to make sure we did not tap the wedge too far in because the cylinder would not rotate.

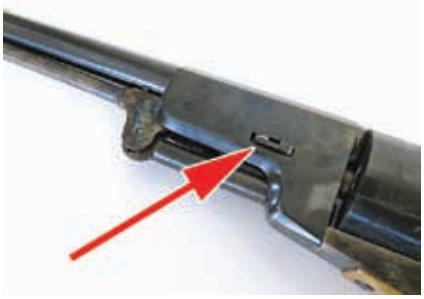
The 45 LC bullet had a bit of a leap in the cylinder before reaching the bore, but even so, we were able to shoot 1.5-inch groups at 15 yards using a rest, on average. The longer barrel and sighting radius, the weight of the revolver, and rest indeed helped accuracy. This was a fun revolver to shoot, but it was tiring to shoot for extended sessions. One tester joked you would need a hip replacement after toting the revolver around in a waist belt rig.

Our Team Said: The Colt Walker was fun, but it is massive and heavy. Changing out cylinders was a chore. For someone who needs to flesh out a Colt percussion-revolver collection, this would be an excellent addition. Because it was a 2nd Generation Colt, members of our test team opined that it would hold its value better compared to Italian name-brand reproductions. As far as availability, it is regrettable the 2nd Generation Colts and Ruger Old Army revolvers are no longer cataloged by either manufacturer, but they can be found in gun shops and online auctions.

Ruger Old Army No. 1401
.457 Ball/45 Long Colt, $450

The polar opposite of the Walker is the Ruger Old Army. What the Old Army lacks in brawn, it makes up for in modern design changes, such as the full frame with adjustable sights and loading lever. The Old Army lacks the historic appeal of the Walker, we thought, though it is reminiscent of the Remington Model 1858. Instead, it offers shooters a revolver that is familiar and much less expensive.

At one time, Ruger also made matte stainless and gloss stainless models of the Old Army, some with fixed sights and shorter 5.5-inch barrels. Our test sample was similar to the Old Army that debuted in the early 1970s, with blued metal and smooth wood grips and a 7.5-inch barrel. The nipples were made of stainless steel, which we thought was a great idea to reduce corrosion. This revolver had some bluing knocked off many sharp edges, but we didn't ding this used gun for its cosmetics.



The Walker's wedge pin holds the barrel, cylinder, and frame together. To begin field-stripping, tap the wedge pin from the left side to the right side.



The Ruger nipple (left) was much smaller than the Colt's nipple (right), making it a bit harder to cap for black powder use.





Left: The Ruger uses a modern coil spring to operate the hammer. Right: Remove the backstrap and grip to reveal the Walker's flat mainspring.



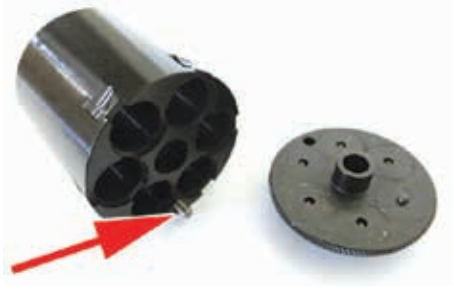


Left: The Walker's squared trigger guard is brass. At right, the Ruger's trigger guard is steel and rounded. Cosmetic points go to the Colt here. Also note the Ruger's trigger is skinny like the Colt's — unlike a Blackhawk's trigger. Also note there is no transfer-bar safety device in the Old Army; its hammer cracks caps, so it shouldn't be carried on a live cap.

The hammer was stainless. The Old Army does not have the safety transfer bar so it, like the Walker, when loaded, must have its hammer resting between nipples to avoid an accidental discharge if dropped. We found the Ruger was easier to cock because the cylinder was smaller and lighter than the Walker's. The trigger pull



With the back plate removed, the Walker's cylinder can be loaded with cartridges.



Note the pin (arrow) in the Ruger's cartridge conversion cylinder; it mates with a hole in the rear plate.

was just under 3 pounds, which we thought would have never made it past Ruger's lawyers. We suspect a previous owner swapped out the original hammer spring for a lighter aftermarket spring. We had numerous failures to ignite with Pyrodex P and the Pyrodex pellets due to weak a hammer spring. We did not experience this type of failure when firing the conversion cylinder with cartridges. We also only had Remington caps available at time of testing and perhaps a change in caps would eliminate the failure to fire. With GOEX black powder we had better ignition performance.

The loading lever latch was spring loaded, snapping into a post under the barrel. The lever did not jolt loose when fired. The basin retaining pin, which looks like a screw, is rotated counter clockwise about 160 degrees with a screw driver to remove the loading lever and cylinder pin. The cylinder is then removed from the right side of the frame. With the loading lever removed, the parts of the lever can easily fall apart since they are not fixed together. This makes for easy disassembly and cleaning, but parts could easily drop off when swapping cylinders. The Old Army was equally easy to load, albeit smaller. The nipples were sized for #10 caps.

The Ruger had excellent adjustable sights that made shooting this revolver familiar and comfortable. There was no need to compensate point of aim with the Old Army like we did with the Walker. Once we had an accurate load of black powder, it was simply a process of zeroing the sights.

The conversion cylinder was a tight fit on the Old Army, and with our first shot we experienced slight splatter, but afterward we had no issues. The Old Army was accurate with the cartridges, and we feel we would use the cylinder more with the Old Army since to was easier to disassemble.

Our Team Said: The Old Army offered a modern take on the cap-and-ball revolver, sporting usable sights and a simple takedown method. We'd swap out the hammer spring to ensure solid hits when using the percussion cylinder; that's just one of those small fixes sometimes required when buying a used gun.

Written and photographed by Robert Sadowski, using evaluations from Gun Tests *team testers.* **GT**

AR-15 Models Head to Head: CMMG and Battle Rifle Co.

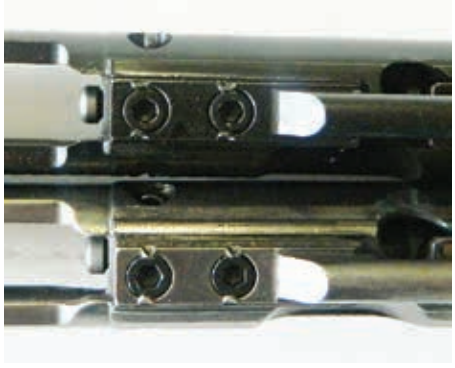
Battle Rifle Company's BR4 LIT Carbine cost more, but it delivered better performance than a basic CMMG MK4. Also, we recommend how to sort through some of the options.

It isn't unusual for a dozen AR-15 rifles from different makers to be on the shelf at most gun shops. Some are regional makers, some are giants like Colt, and a few are new companies trying to earn a good name for themselves. The modular construction of the AR-15 means that the basic receiver may be fitted with a number of different barrel types, stock designs, and other accessories. As such, the price point is flexible, depending upon whether the user wants an entry-level rifle or something more. We picked the rifles in this report to see if the details and accessory package on a more expensive rifle really offered enough performance to justify the extra money. There are literally dozens of choices to make between rifles in this price zone, so as much as anything, this was a test of accessories and set-up, culminating in our advice on how to buy an AR that's a flexible platform for growth as possible.





These are CMMG's Mk4LE 55AE160, $825, a basic rifle as designated by the company, top; and a Battle Rifle Company BR4 LIT Carbine, both in 5.56 NATO/223 Rem. The latter is $1495, and it came with added factory-available upgrades. With this price spread, it should be no surprise that the more expensive gun won. The CMMG is a good solid product, but when it's shot next to a better-equipped product like the BRC, it was still eye-opening as to what a little money can buy.



The gas key in an AR must remain flush with the bolt. Otherwise, gas will flow around the bolt and not operate the action. Staking keeps the keys in place. Both rifles were adequately staked, but we liked how the BR4's gas key, bottom, was staked better.

The Contestants

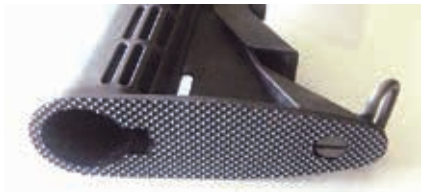
The Mk4LE 55AE160 5.56x45mm rifle, $925 MSRP, is what CMMG says is "our basic rifle." The Mk4LE is available in 5.56 NATO, as tested here, as well as 300 AAC Blackout, 9mm Luger, and 22 LR. All versions feature a nitrided 16.1-inch-long 4140 Chrome/Moly steel barrel in an M4 profile, except the 300 Blackout has a M300 multi-role barrel profile. The standard configuration includes a "F" marked front sight base and a MBUS rear sight. The muzzle had an A2-style flash hider on top of ½x28 threads, in case you want to add another flash hider or suppressor. Furniture included M4-type two-piece handguards, an A2-style pistol grip, and an M4 6-position buttstock on a Mil-Spec receiver extension. The upper receiver was a forged 7075-T6 AL M4-type with a Carbine-length gas system. The lower was a standard AR-15 type. The trigger was a single-stage Mil-Spec style unit that broke at 6 pounds. The gun weighed 6.8 pounds unloaded. The W.A.S.P.-treated barrel finish (Weapon Armament Surface Protection) is a salt-bath ferritic nitrocarburizing surface conversion more commonly referred to as nitriding. The nitriding conversion is applied to the barrel inside and out, along with the front sight base on CMMG's LE rifles and uppers. CMMG claims nitriding offers improved wear, abrasion, and corrosion resistance when compared to hard-chrome lining or phosphating. We found this model in stock recently for $782 at CheaperThanDirt.com, $790 at ImpactGuns.com,

CMMG MK4LE 55AE160 5.56 NATO/223 REM., $825

GUN TESTS GRADE: B

Accuracy was acceptable, and the rifle seems well built. Completely reliable in our tests. This model lacks the ability to accessorize, which some shooters prefer. We think it's smarter to get an entry-level rifle with a few more bells and whistles.





The CMMG buttplate offered good stability, but the modern flat-bottom butt plate was preferred by our team.



Here, one of our shooters prepares to fire a shot at 100 yards. The CMMG carbine comes to the shoulder quickly, and the sights offer both speed and accuracy. Not a bad gun.



By a trick of the optics, the front sight wasn't visible through the M223. Still, we think a flat-top model like the BR4 is a better opening design for most.

Action	Carbine Length Semi-Auto
Overall Length (Min/Max)	32.0 in./35.75 in.
Barrel	16.0 in. M4 Profile, 4140 CrMo Steel; 1:9 in. Twist, Black Nitride Finish
Muzzle Device	A2-Style Flash Hider, 1/2-28 Threads
Sight Radius (Max)	15.0 in.
Overall Height w/o mag	9.25 in.
Length of Pull (Min/Max)	10.0 in./14.5 in.
Weight Unloaded	6.8 lbs.
Capacity	30+1
Receivers	Forged 7075-T6 AL M4 type upper; AR-15 Lower, Black Anodized
Magazine Type	Detachable Staggered Column
Buttstock	M4 6-Position Adjustable; Mil-Spec Extension
Pistol Grip	A2-Style Plastic
Handguard	M4 Type 2-Piece Polymer
Trigger Pull Weight	6.0 lbs., Single Stage Mil-Spec Style
Warranty	1 Year
Telephone	(660) 248-2293
Website	CMMGInc.com



The BRC's buttstock, bottom, is from Mission First Tactical. The indented buttplate was better than the M4-style pointed metal version on the CMMG. In prone position particularly, the pointed buttplate wasn't as stable as the flat butt surface of the BR4's MFT stock.

$800 at HinterlandOutfitters.com, and $885 at NelsonTactical.com, so we listed it in this comparison at $825, not including the various charges businesses tack on to get you the gun.

This was a gas-impingement rifle with a flat-top receiver, but it retained the standard gas-block-mounted front sight. The MK4LE's handguard differs little from the original M16 furniture. In our experience, this handguard is fine for most shooting. We found the CMMG handguard did not limit the shooter in firing tests, but it does limit choices for mounting accessories, such as a light. The pistol grip was also a standard type, with serrations on the back of the handle and a finger groove in front. The rifle featured a good-quality pop-up MBUS sight that fit directly on the rail, and which could be used with the existing front post as the primary sight. The 6-position stock featured the pointed-toe design, which worked fine for us except in prone fire.

We ordered a Battle Rifle Company BR4 LIT Carbine 5.56 NATO/223 Rem., $1495, which came with added factory-available upgrades. The most noticeable difference in the BR4 compared to the CMMG product was the handguard, a Midwest Industries KeyMod-type rail that's lighter than a Picatinny-style front, but to which the shooter can attach accessories with a special connector. A quick look at the MI website shows that this rail would cost about $200 to add to another rifle. The fold-down Magpul MBUS front and rear sights were good examples of the breed, and the front sight mounted on a small front section of Picatinny rail. The BR4 also featured a six-position Mission First Tactical Battlelink stock with an angled bottom piece. The Battlelink Minimalist features an enhanced cheekweld and a non-slip rubberized buttpad, which is angled for faster presentation and a sure mount for the gun, even when wearing body armor or a tactical vest. There was a quick-detach sling-mounting point under the buttstock to allow for ambidextrous use. The pistol grip was an Ergo Grips soft-

rubber design. The flash hider was a BRC model that was about three-quarters of an inch longer than the CMMG rifle's hider.

The charge given the team was to compare these rifles as personal-defense, 3-Gun competition models, and hunting rifles. Recreational shooting is probably the use to which most AR-15 rifles are put, but we want a reliable and accurate platform irrespective of the task.

Internal Execution

To get started, the rifles were field stripped and inspected. The BRC had a chrome-lined bore and chamber, which we prefer over the CMMG's nitriding coating. A properly staked gas key is even more important, and all AR-15 rifles are not properly staked. These keys may still be removed with enough elbow grease, but proper staking to keep them from coming loose is essential.

The bolt carrier of the AR-15 rifle has a protruding part along the upper area of the bolt. This is the gas key. During firing, the gas key accepts firing gas that is bled from the barrel. The gas key directs this gas to the piston chamber of the bolt. The bolt unlocks, and the bolt-carrier group is forced to the rear. This cycles the action. The gas key must remain flush with the bolt. Otherwise, gas will flow around the bolt and not operate the action. Both bolt carriers exhibited proper carrier-key staking. However, the bolt group of the BRC rifle showed superior staking, in our view. Also, the bolt group of the BR4 is boron-coated. The advantage will be recognized by those firing prodigious amounts of ammunition. When cleaning each rifle in this test, one bolt cleaned up as well as the other.

How We Tested

Ammunition was divided into three types: burner, service or hunting grade, and match grade. The rifles would be fired at least 300 rounds each, using a combination of PMags and Brownells, magazines which we have previously rated highly in head

BATTLE RIFLE COMPANY BR4 LIT CARBINE
5.56 NATO/223 REM., $1495
GUN TESTS GRADE: A-

This was a well-made rifle with upgrades that we liked. It needed a better trigger to get that extra half a grade.





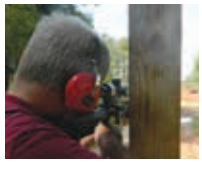
Firing offhand at 100 yards, the combination of features on the BR4 gave excellent results.



The Battle Rifle Company rifle exhibited a longer sight radius than the CMMG due to the KeyMod rail and sight arrangement.



The Mission First Tactical buttplate was rated superior to the standard M4 by all raters.



Firing the LIT, we made many long-range hits using a braced position.

Action	Rifle Length Semi-Auto; Micro Gas Block; Nickel-Boron Coated Bolt Carrier Group
Overall Length (Min/Max)	33.2 in./36.5 in.
Barrel	16.0 in., 1:9 in. Twist, Black Phosphate Finish; Chrome-Lined Bore & Chamber
Muzzle Device	BRC Flash Suppressor
Sight Radius (Max)	17.0 in.
Sights	Magpul MBUS
Overall Height (w/o Mag or Sights)	7.75 in.
Length of Pull (Min/Max)	10.5 in./14.5 in.
Weight Unloaded	7.0 lbs.
Capacity	30+1
Receivers	Forged 7075-T6 AL M4 type upper; AR-15 Lower, Black Anodized
Magazine Type	Detachable Staggered Column
Buttstock	Mission First Tactical Battlelink; 6-Position Adj; Mil-Spec Extension
Pistol Grip	Ergo
Handguard	Midwest Industries MI 12-in. KeyMod MI-LWK-12
Trigger Pull Weight	8.75 lbs., Single Stage
Warranty	1 Year
Telephone	(281) 777-0316
Website	BattleRifleCompany.com



The modern KeyMod-type forend was a defining feature and a great advantage.



The BR4 rifle is ¾-inch longer than the CMMG rifle, but it is 1.5 inches shorter, due to the flat-top receiver and folding sights.

RANGE DATA

Black Hills Match 223 Rem. 52-gr. Hollow Point M223N3	**CMMG Mk4LE**	**BRC BR4 LIT Carbine**
Average Velocity	2888 fps	2860 fps
Muzzle Energy	962 ft.-lbs.	944 ft.-lbs.
Average Group (50 Yards, Open Sights)	2.4 in.	1.8 in.
Average Group (100 Yards, Scope)	1.5 in.	1.1 in.

Hornady Training 223 Rem. 55-gr. Jacketed Soft Point 80255	**CMMG Mk4LE**	**BRC BR4 LIT Carbine**
Average Velocity	2914 fps	2874 fps
Muzzle Energy	1036 ft.-lbs.	1008 ft.-lbs.
Average Group (50 Yards, Open Sights)	2.5 in.	1.75 in.
Average Group (100 Yards, Scope)	1.4 in.	1.25 in.

Fiocchi Exacta 223 Rem. 77-gr. Sierra MatchKing HP 223MKD	**CMMG Mk4LE**	**BRC BR4 LIT Carbine**
Average Velocity	2701 fps	2639 fps
Muzzle Energy	1247 ft.-lbs.	1190 ft.-lbs.
Average Group (50 Yards, Open Sights)	2.0 in.	1.4 in.
Average Group (100 Yards, Scope)	1.2 in.	0.8 in.

To collect accuracy data, we fired five-shot groups from a bench using a rest. Distance: 50 yards with open sights and 100 yards with a Nikon riflescope. We recorded velocities using a ProChrono digital chronograph with the first screen set 15 feet from the muzzle.

Ammunition sources: *Black Hills 223 Rem. 52-Grain Match Hollow Point M223N3 (MidwayUSA.com #577672, $41.25/50); Hornady Training 223 Rem. 55-Grain Soft Point 80255 (MidwayUSA.com #366197, $30.99/50); Fiocchi Exacta 223 Rem. 77-Grain Sierra MatchKing Hollow Point 223MKD (MidwayUSA.com #784835, $19.70/20.*







to head testing. We assessed general handling, reliability, bench rest, and position shooting, including offhand fire. Off the bench, we used the iron sights as supplied at 50 yards. At 100 yards, we fitted a Nikon M-223 3-12x scope with 42mm objective and a corresponding one-piece M-223 mount that mated with rails on both rifles. M-223 3-12x42SF BDC 600 riflescope with side-focus parallax adjustment. The BDC's see-through ballistic circles offer an advantage for long-range shooting, yet allow a normal sight picture for shorter-range shots where the crosshair itself is the aiming point. The various aiming points built into the BDC reticle allow hunters to hold dead-on up to 600 yards, taking the guesswork out of figuring elevation and bullet drop compensation.

The majority of the loads used in testing in offhand were the Black Hills 55-grain FMJ load in the blue-box remanufactured line, which cost $28 per 50 rounds at Surplusammo.com. We also used a variety of bullet weights and styles for accuracy and function testing, including 52-grain Black Hills Match loads, Hornady 55-grain jacketed soft points, and Fiocchi 77-grain Exacta loads.

Reliability & Accuracy

There were no rifle-related failures to feed, chamber, fire, or eject during the tests and side trips by raters. Both rifles were reliable with a variety of ammunition. Each rifle demonstrated good accuracy, but the Battle Rifle Company rifle was more accurate at every range and with every load.

Triggers

A considerable difference was noted in the trigger action. The CMMG rifle's trigger compression broke at 6.0 pounds. The action was good, and reset as rapid as an AR-15 should be. The Battle Rifle Company trigger was heavy at 8.75 pounds — a noticeable difference. The CMMG trigger certainly had the better trigger action. However, that advantage didn't translate to better accuracy.

Sights

Most of the firing was done in combat-type drills on silhouettes at 25, 50, and 100 yards. Though the sight pictures on both were fine, we soon noticed the shorter sight radius on the CMMG wasn't as accurate when fired side-by-side with the BRC. This was due to the Battle Rifle Company's sights being mounted further forward on the KeyMod rail.

Handling

The CMMG demonstrated all of the good points of the

GUN TESTS
THE CONSUMER RESOURCE FOR THE SERIOUS SHOOTER

1. To Change Your Address

If you are moving, please attach your present mailing label to this form, and enter your new address here:

Name

Company

Street

City

State Zip

2. To Order/Renew

To order, or extend your current subscription, enter your name and address above, and check the subscription term you prefer:

__ One year: $49
__ Two years: $98
__ New subscriber
__ Renewal

These rates are good in U.S. and Canada only. For all other countries: 1 year $72 (air), 2 years $144 (air).

3. To Give a Gift Subscription

Enter your name and address above and your giftee's name and address below. The subscription rates stated above apply to gifts.

__ Send a One-Year Gift
__ Send a Two-Year Gift

Name

Street

City

State Zip

Return this coupon (or a photocopy) to:

GUN TESTS
P.O. Box 8535
Big Sandy, TX 75755-8535



The Nikon M-223 rifle scope and one-piece mount were rock-solid and moved from gun to gun easily.



Fast offhand fire at these water jugs at 100 yards was punishing to the target, even with iron sights.

AR 15 — fast handling, light recoil, rapid fire hits on target, and reliability. The CMMG's polymer handguard was fine for most shooting; after all, the AR-15 does not kick much. The BRC likewise handled well at short range, our shooters said. The appearance of the rifle and the handguard give the impression of a longer rifle, but this isn't true. Only the long muzzle brake makes the rifle 0.75 inch longer than the CMMG rifle. Our testers said the BR4 was as lively in the hand as the CMMG. The Midwest Industries forend received high marks. It was light, comfortable when firing, and allowed many options in mounting accessories.

Buttstock and Grip

The BRC's buttstock, from Mission First Tactical, received high marks for its release, which we deemed the superior type, and for superior rigidity. The indented buttplate was also better than the M4-style pointed metal version on the CMMG, in our view. In more detail, our military rater went prone and really homed in on the 100-yard target with both rifles. He did not like the design of the CMMG's stock. Its pointed buttplate wasn't as stable as the flat butt surface of the BR4's stock, he noted. The stock of the CMMG had slightly more play, which varies from stock to stock in the AR-15. It would cost about fifty bucks to upgrade the CMMG with the MFT buttstock. This was a clear edge for the BRC.

A minority of the team liked the serrations and feel of the pistol grip of the CMMG better. One noted that it was less sticky when moving from firing to rapid magazine changes. However, most raters preferred the Ergo Grip, which may be added for about $30.

Our Team Said

When the CMMG rifle is available for about $825, it's hard to knock it. It was accurate enough and seemed well built. But when we shot the Battle Rifle Company LIT Carbine side by side with the basic CMMG AR, it was easier to see how the more expensive gun's superior handguard, buttstock, grip, and sight radius added up. The BRC's boron-coated bolt adds even more expense.

We felt that with a better trigger action, the BRC rifle would have performed even better, but in the end, its heavier trigger was not the detriment to accuracy we first thought it might be. The forend of the Battle Rifle Company was superior on the grounds of comfort in firing, not only compared to the CMMG, but also to various quad-rails with sharp edges. The BR4 forend also allowed better control in firing, so its comfort and control received high marks. The buttstock was likewise superior.

If we were just entering the AR market, we'd choose to pay for as much gun as we could stand from the get-go. In this case, the Battle Rifle Company BR4 LIT Carbine costs a lot more, but it's a better gun in nearly every way. That isn't always the case with other handguns, rifles, and shotguns. Oftentimes, we've found, the less expensive gun outshoots and outhandles a supposedly better product that simply winds up costing more. In this case, however, if you were to shoot these rifles side by side as we did, we think you'd agree with our ranking.

Written by R.K. Campbell, using evaluations from Gun Tests *team testers.* **GT**

Colt Versus Colt 45s: Series 70 Competes Against the 1991A1

Some would say the Colt 1991A1 and the Colt Series 70 are as different as night and day. The purpose of this test was to determine how dissimilar these two self-defense guns really are.

When other makers put market pressure on Colt by introducing a bevy of inexpensive 1911A1 handguns, Colt responded with the 1991A1, replacing the expensive Colt high-polish bluing with a matte finish. Walnut grips were deleted in favor of plastic or rubber, although recent Colt 1991A1 production features good-quality wood-grip panels. Features these more affordable 1991A1-Colt pistols kept were the flat mainspring housing and long style trigger of the original 1911 handgun. The usually accepted justification for having a flat mainspring housing is that it is easier to fit a custom-grade beavertail safety. The 1991A1 also featured a scalloped ejection port and sights that are an improvement over GI-model handguns. There was no full-length guide rod, so the pistol was easily field stripped. In the eyes of many, Colt successfully turned out a basic 1991A1 that was affordable for those who would prefer to own a Colt rather than other brands.

However, there was a bone of contention concerning the 1991A1. If a company is going to make institutional LE or other agency sales in this century, the pistol must have a firing-pin lock or drop safety. The Series 80 firing-pin block used in the 1991A1 adds four parts in comparison to the Series 70. The parts are the frame-mounted trigger-bar lever and plunger and the slide-mounted firing-pin plunger and driving spring. Simplicity must be better for reliability, some said. The firing-pin block keeps the firing pin in place until the trigger reaches its rearward travel maximum and releases the firing-pin block and the firing pin. Also, shooters soon learned that care must be taken in disassembly and reassembly with this design so that the plunger is not damaged.

Why was the firing-pin block introduced? If the 1911 handgun were dropped on the muzzle from a sufficient height, the inertia of the firing pin could take a run forward against spring pressure and crack the primer, firing the pistol. This problem is not unique to the 1911; many pistol designs have been updated with firing-pin blocks. Some makers solve the problem with a lightweight firing pin and heavy-duty firing-pin spring. In fact, Para Ordnance (now Para USA) and SIG use the Series 80 firing-pin lock by license. Once Beretta and SIG incorporated the firing-pin block in production, competitors had to follow the same path in order to compete in the law-enforcement market. Even though the majority of accidental discharges are negligent rather



The choice is personal when it comes to these two Colts, but our team expressed a preference. Top is the Series 70 style pistol, Model No. O1970A1CS in the Colt catalog. Bottom is the 1991A1 No. O1991. The flat mainspring styling in the less expensive 1991A1 and the heavier trigger put it behind its more expensive stablemate, in the views of our testers.



Each handgun gave good results in rapid handling drills when drawn from the S&S holster. This is the Series 70 cocked and locked.

than accidental and are caused by shooter error, the firing-pin block is here to stay in the 1991A1. And therein was the problem for many Colt fans.

In short, they feel that Colt ruined the trigger action by adding the drop safety, and that the resulting Series 80 designation was inferior to the Series 70. Others felt that the assembly could lead to problems if it malfunctioned. The fact is, a Series 80 design may malfunction if a trigger job isn't done correctly or if a lightweight trigger is added to the pistol and not adjusted correctly. In any case, many Colt shooters believe the Series 70 is a better set-up than the Series 80 design.

The way we see it, the only way to determine if the Series 80 design is inferior to the original Series 70 design is to shoot them side by side with a team of testers who love to nitpick. So we acquired a high-grade current-production Colt that is similar to the original Series 70 — that is, a pistol with good finish and excellent fitting but without the firing-pin block — and shot it against a 1991A1 Series 80 pistol. Each pistol was supplied with two Colt magazines. We normally use a good supply of 1911 magazines during testing, but to thoroughly proof each pistol, only Colt factory magazines, as supplied with the pistol, were used. Most important, there were no malfunctions of any type with either handgun.

So, beyond that, is it worth it for Colt fans to go to the gun show, cash in hand, searching for a Series 70 pistol, or for non-Colt shooters, a similar 1911 handgun without the firing-pin block? Side-by-side shooting determined just how great an advantage, if any, the Series 70 has over the 1991A1 with its Series 80 internals. Here's what we found:

Colt 1991A1 O1991 45 ACP, $745

The first character in the model number is a capital "O" and not a zero. The price listed is from ImpactGuns.com, but we also found this model

COLT 1991A1 NO. O1991 45 ACP, $745

GUN TESTS GRADE: B+

The 1991A1 is a great handgun, accurate and reliable. We wish we had shopped a little more because some of the 1991A1 pistols have a nicer trigger.

Action	Semi-Auto Series 80; Locked Breech Single-Action
Overall Length	8.5 in.
Overall Height	5.4 in.
Maximum Width	1.5 in.
Weight Unloaded	38 oz.
Weight Loaded	42.5 oz.
Barrel Length	5.0 in.
Barrel	Steel, 1:16 Twist
Magazine	8 Rd. Detachable Box
Slide	Blued Steel
Frame	Blued Steel
Frame Front Strap Height	2.6 in.
Frame Back Strap Height	3.2 in.
Grips	Wood
Grip Thickness (max)	1.3 in.
Grip Circumference (max)	5.4 in.
Sights	High Profile Sights with Dots
Trigger Pull Weight Single Action	7.0 lbs.
Trigger Span Single Action	2.5 in.
Safeties	Slide Lock Safety, Grip Safety
Warranty	Limited Lifetime
Made In	USA
Website	ColtsMfg.com
Telephone	(800) 962-COLT (2658)





The 1991A1 is available in stainless, which some prefer.



The Series 80 ejection port is larger than the Series 70. This ensures the case will be ejected properly, but a greater advantage is in unloading a loaded cartridge or clearing a malfunction.



For a lot of shooters, this is pure heaven — a Colt 1991 Series on a blue company box. The 1991 is a direct descendant of the original Colt M1911, with a long trigger, flat mainspring housing and original-style recoil spring system remaining from the original M1911 design. Upgrades from the original include white-dot sights (shown right) and a lowered ejection port.





The Colt's Series 70 firing pin, top, is the same as the Series 80, which was a surprise. Upon further review, it makes perfect sense. Why make two versions of such a basic part?

At right is a detail of the mainspring housing's texture. We tended to shoot low with this flat housing.



COLT SERIES 70 O1970A1CS 45 ACP, $953

GUN TESTS GRADE: A

The Series 70 offered excellent trigger action, good accuracy, relatively light weight for a steel frame 1911, and top-quality fit, finish, and appearance. This is a good all-round hard-use pistol.

Action	Semi-Auto Series 70; Locked Breech Single-Action
Overall Length	8.5 in.
Overall Height	5.4 in.
Maximum Width	1.5 in.
Weight Unloaded	38 oz.
Weight Loaded	42.5 oz.
Barrel Length	4.25 in.
Barrel	Steel, 1:16 -Twist
Magazine	8 Rd. Detachable Box
Slide	Blue Steel
Frame	Blue Steel
Frame Front Strap Height	2.6 in.
Frame Back Strap Height	3.2 in.
Grips	Checkered Rosewood
Grip Thickness (max)	1.3 in.
Grip Circumference (max)	5.4 in.
Sights	Fixed Iron
Trigger Pull Weight Single Action	4.75 lbs.
Trigger Span Single Action	2.5 in.
Safety	Slide Lock Safety, Grip Safety
Warranty (Used)	None
Warranty (New)	Limited Lifetime
Website	ColtsMfg.com
Telephone	(800) 962-COLT
Made In/By	Hartford CT/Colt's Mfg. Co.



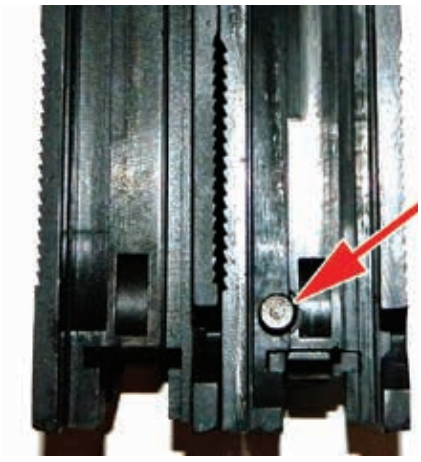




The tall rear sight of the Colt pistols is good for most uses and is an improvement over the sights on GI guns. Likewise, the front post of the Colt pistols is larger than GI pistols.



This roll mark means a lot to Colt fans. It is well done, well cut, and the finish is nicely polished.



At left is the Series 70 slide. The slide at right is the Series 80. The extra Series 80 parts are a frame-mounted trigger-bar lever, plunger (arrow) and the slide-mounted firing-pin plunger and driving spring.



This is an original Series 70. Note the plain grips and small sights, which are improved on the current model of the gun. Inset: The Series 70 is available in stainless. Purists prefer blued steel and walnut.

in stock at BudsGunShop.com for as low as $717 cash price and for $725 at TombstoneTactical.com. Our test gun was purchased very lightly used and appeared unfired. The grip safety indented in a positive manner, the magazine release worked properly, and the trigger compression, while heavy at 7.0 pounds, broke cleanly. We were perhaps expecting a slightly lighter break because one of our tester's 1991A1 breaks at 5.0 pounds out of the box.

In our sample, we noticed little play in the frame-to-slide fit. The barrel bushing was finger tight, and because there is no full-length guide rod, the pistol is easily field stripped without tools. The finish was dull but even. The grips were OK, but unlike some of the earliest examples of the 1991A1 grips, these supported the plunger tube. An examination of the feed ramp pointed out similarities in each pistol. Each had the requisite 1/32-inch gap between the two parts of the feed ramp, the frame section and the barrel section. This ensures feed reliability. Feed ramp polish seemed equal. The 1991 pistol featured a lowered or scalloped ejection port, an upgrade, we believe, to the original-style ejection port of the Series 70 Colt. In handling the Series 70 side by side, we noticed spent cases ejected just fine, but during administrative handling, it was more difficult to eject a loaded cartridge than with the 1991A1. An important consideration with the Series 70 is to never use a shock buffer if the pistol is destined for personal-defense use. With the shock buffer, the slide will not retract sufficiently to clear a loaded cartridge from the chamber if the magazine is locked in. In the event of a dud round, this could leave one in a predicament. So, all in, the 1991A1 slide window is superior in this regard, in our opinion.

Another advantage of the 1991A1 is the cut-out in the frame. Originating with the 10mm Delta Elite, this modification strengthens the frame, although it would take many heavy loads to prove the advantage. Over the years, our shooters have seen

RANGE DATA

Asym 185-gr. JHP	Colt 1991A1	Colt Series 70
Average Velocity	969 fps	982 fps
Muzzle Energy	385 ft.-lbs.	396 ft.-lbs.
Smallest Group	2.6 in.	2.2 in.
Largest Group	3.0 in.	2.6 in.
Average Group Size	2.8 in.	2.4 in.

Cor-Bon 230-gr. +P	Colt 1991A1	Colt Series 70
Average Velocity	890 fps	916 fps
Muzzle Energy	404 ft.-lbs.	428 ft.-lbs.
Smallest Group	2.4 in.	2.3 in.
Largest Group	2.8 in.	2.6 in.
Average Group Size	2.6 in.	2.5 in.

Winchester M1911 230-gr. JHP	Colt 1991A1	Colt Series 70
Average Velocity	862 fps	877 fps
Muzzle Energy	379 ft.-lbs.	392 ft.-lbs.
Smallest Group	2.8 in.	2.4 in.
Largest Group	3.4 in.	2.8 in.
Average Group Size	3.1 in.	2.6 in.

Notes: Average velocity readings were recorded by firing five-shot strings over a Competition Electronics Pro Chrono. The muzzle was 10 feet from the first skyscreen. Ambient temperature: 45 degrees. Elevation: 815 feet above sea level. The accuracy figures are the average of three five-shot groups fired from a benchrest at a 25-yard target.



The Cor-Bon 230-grain JHP gave impressive results and should be a capable load.

many 1911 handguns with cracked frames, although most still functioned fine. The usual culprit is the owner shooting heavy "pin loads" and doing lots of shooting.

During the firing tests, the 1991A1 never failed to feed any type of ammunition. The combat firing test, accomplished primarily with Winchester USA 230-grain ball ammunition, showed that this handgun, like all 1911 handguns, is fast from leather and offers excellent first-shot accuracy. We drew from an S&S Belt Scabbard holster (SSHolsters.com) with both handguns. This scabbard exhibited a good balance of speed and retention. During the range work, raters ventured into subjective comments that are more difficult to quantify than firing for accuracy. But this is what the test was all about. We fired the pistols together, one string with one pistol and another string with the other, and it seems the targets bore out their observations. The long trigger and flat mainspring housing were not as friendly to those with small hands, and the flat mainspring housing seemed to result in lower hits on the target. It took a conscious effort to accommodate this, and this tendency was more noticeable after firing the Series 70.

We took great pains to focus in on the 1991A1's trigger action. It received favorable comments, being described as smooth and free of grit creep or backlash. It felt lighter than its scaled 7.0 pounds. Reset was rapid. In firing for accuracy off the benchrest, the 1991A1 gave good results, including a 2.4-inch 25-yard group with the Cor-Bon 230-grain JHP +P, a powerful defense cartridge. All groups were not as small, probably attributable to the heavy trigger.

As a utilitarian handgun to defend the home and person, the Colt demonstrated good performance. We feel that the gun's characteristics on target would also give the user more than a little satisfaction and real pride of ownership. We originally intended to rate the gun down based on a heavy trigger compression, but then considered the scalloped ejection port and the frame stress relief slot.

When field-stripping the pistol for images, it took two hands to release the firing pin to remove the firing-pin stop for images, with one tool pressing the firing-pin block to release the firing pin and the other depressing the firing pin to release the firing-pin stop. This was more complicated than the Series 70. However, on reassembly, the firing pin was pressed in and locked. There was no danger of it taking flight. Simply slip the firing-pin stop in and press the firing pin in. Different, but probably slightly easier, than the Series 70, in our estimation.

Colt Series 70 O1970A1CS, $953

This is Colt's answer to those clamoring for a Series 70 pistol. The price as listed was from BudsGunShop.com for an in-stock product. Cash price was $925, so the cash-price-to-cash-price margin from the same retailer puts the difference between the two guns at $208. So it is safe to say, on average, the Series 70 pistol will set you back $175 to $200 more than the 1991A1.

Our examination of a NIB version of this gun was that

it was nicely fitted and finished. The flats of the slide were darker than the polished-blue frame and side of the slide, and the result is an attractive handgun. Trigger compression was smooth at 4.75 pounds and crisp. The sights were identical to the 1991A1. The pistol did not feature a lowered ejection port, as mentioned, and would not have the appearance of the original Series 70 anyway, so consider this subject when purchasing either Colt for tactical use.

Elsewhere, the Series 70 pistol was appointed with nicely checkered wooden grips. These grips feature the double-diamond pattern that makes for greater strength where the grips are attached to the grip bushings. The Series 70 was finished in a manner more similar to the production Colt pistols of the 1960s than the original Series 70. A member of the test team has produced two books on the 1911, and he states without reservation the new gun is a better pistol than the original Series 70 in fit, finish, and performance.

This Series 70 featured an arched mainspring housing and short trigger. The arched mainspring housing seems to hold the muzzle higher, and this resulted in faster combat hits. The pistol did not demand a break-in period, as was common with original Colt pistols. The slide stop was noticeably tighter than on the 1991A1, and so was the barrel bushing. The firing pin stop was not only tight, there was a dimple at the base to prevent the slide stop from falling. This was once a common problem with well-worn GI pistols. We have never seen this on another factory gun. The various 1991A1 and Series 80 pistols do not have this dimple.

In combat shooting, most of our shooters said that the arched mainspring housing gave better control than the 1991A1, and combined with a short trigger reset, the pistol ran better in rapid-fire strings. There was a well-defined shorter travel to press the trigger and to achieve reset. The consensus is that the long trigger and flat mainspring housing are more target features than combat features. All in, the Series 70 pistol exhibited high-grade fit and finish and feeds modern ammunition without hesitation. Good sights make it easy to align on target as well.

In firing off the bench, few shooters realize that good quality grips (stocks, grip panels) will help direct fire and keep the hand in place to center the sights. The stocks of the Series 70 do so better than the 1991A1, in our view. When firing off the bench, however, the 1991A1 gave the impression of greater comfort. Perhaps the arched housing of the Series 70 drove the palm into the grip safety tang? It wasn't a huge deal, but the sensation was something that the raters agreed upon.

The Series 70 was narrowly the more accurate handgun, with a best group of 2.2 inches with the Asym 185-grain JHP. Even after fitting Bar-Sto Precision grips on the 1991A1, the consensus remained the same.

We have to stress that the Series 70 isn't a true reproduction of earlier models, but is instead a considerably improved pistol over the original. As an example, the barrel bushing isn't the collett type and proved slightly tighter than the 1991A1. The action does not have a half-cock notch, as was the case with the 1970s Colt. The new Colt action, beginning with the Series 80, uses a shelf in the hammer rather than notch. This shelf will still catch the hammer if you slip while cocking the pistol. If the pistol is slightly cocked and the trigger pressed, the hammer will fall from this shelf, but not fire. In the original action, there was a condition called false half cock, which would allow the hammer to fall from half cock if the trigger were pressed. We are glad that the Series 70 has the new action.

When field-stripping the pistol, we noted that the firing pin is a Series 80-style piece, with the notch for the firing pin block. This makes sense for Colt, so be certain when ordering parts, you differentiate between an older Series 70 and the new one.



This 1991A1 has been fitted with Katana grips from Lance Larson studios and otherwise is stock, long-serving and reliable.



The Series 70 often is chosen as a base for custom guns such as this one from 10-8 Performance. If built on a Series 70, such guns have much better resale value.

Our Team Said:

The current Series 70 is not a copy of the original Series 70. The grips are superior, and so are the sights. The Series 70 in its current version is a nice carry gun, accurate, reliable and pleasing to look at. In fast combat shooting, it seems to have an advantage over the 1991A1. The 1991A1 costs less, is equally reliable, almost as accurate, and features a scalloped ejection port. The firing-pin block was not proven in our tests to be worth worrying about, and may be a good idea in a true hard-use handgun. In our view, the 1991A1 is the better buy as a workhorse handgun, and it would be the pistol to go to war with today.

But the Series 70 caters to a discriminating crowd, and if you consider it closely, the no-frills shooter is paying more for the Series 70 to have some things deleted. Our shooters gave the nod to the Series 70 in this head-to-head match-up.

Written and photographed by R.K. Campbell, using evaluations from Gun Tests *team testers.* **GT**

GUN TESTS
THE CONSUMER RESOURCE FOR THE SERIOUS SHOOTER

SHORT SHOTS

Mission First Tactical Introduces TEKKO Free Float KeyMod Rail System



Mission First Tactical, a USA-made rifle/carbine accessory maker, has released the $200 TEKKO Metal AR Free Float 13.5-inch KeyMod Rail System. This all-metal free-float rail system (TMARFF13KRS) allows secure mounting for KeyMod accessories such as MIL-STD 1913 Picatinny Rails, tactical accessories like vertical grips, bipods, lights, lasers and other rail mounted kits. The free-floating nature of the rail allows for less torque on the barrel, making it easier to shoot tighter groups. The rail is made out of Type 3 hard-coat-anodized aluminum.

The rail was designed to accommodate most suppressors while allowing use of the KeyMod mount locations with 1.7-inch internal dimensions. It comes with a patent-pending mounting, indexing, and lock-up system that utilizes a standard barrel nut. It has a monolithic top rail that eliminates the gap between the receiver and rail. Minor assembly and a low-profile gas block (MFT E2LPGB) are required. It utilizes a standard barrel nut. The rail is available in black and scorched dark earth colors and features a lifetime warranty.

COMING UP IN GUN TESTS

- Less felt recoil and better handling ability are the main selling points of two 20-gauge tactical shotguns we put through their paces: the Remington Model 870 and the newcomer Legacy International Escort Gladius Magnum semiautomatic.
- For those who are not in restricted states, magazine-fed shotguns can quickly switch from sporting to home defense to competition with only minor adjustments. The previously tested Saiga by Izhmash is a great gun that costs a lot of money, so we looked at Century Arms's Catamount Fury and Fury II to see how we felt about these less-expensive Saiga copies.

GUN TESTS
THE CONSUMER RESOURCE FOR THE SERIOUS SHOOTER

Customer Service Contacts

If you have a problem with your magazine subscription, damaged or missing issues, need to change your mailing or email address, or renew your subscription, visit Online Customer Service at:
Gun-Tests.com
Click "Contact Us"

CALL TOLL FREE: 800-829-9084

SUBSCRIPTION DEPARTMENT
Gun Tests (US)
P.O. Box 8535
Big Sandy, TX 75755-8535

Gun Tests (Canada)
Box 7820 STN Main
London ON
Canada N5Y 5W1

QUANTITY REPRINTS
Reprints of **Gun Tests** articles are available.
Minimum Order: 1,000.
Contact:
GunTestsEditor@icloud.com

EDITORIAL OFFICES
Gun Tests *welcomes letters or email concerning our articles. Please include your name, telephone number, and hometown.*

We will respect your request not to publish personal information. Email comments to
GunTestsEditor@icloud.com.
Or "Like" the **Gun Tests Magazine** Facebook page.
Twitter: @GunTestsMag

Because of daytime testing requirements, the writers and editorial staff can't answer phone inquiries. But the staff responds to email. If you have a question or comment about Gun Tests evaluations, please email individual writers at: GunTestsEditor@icloud.com. Thanks for your understanding.